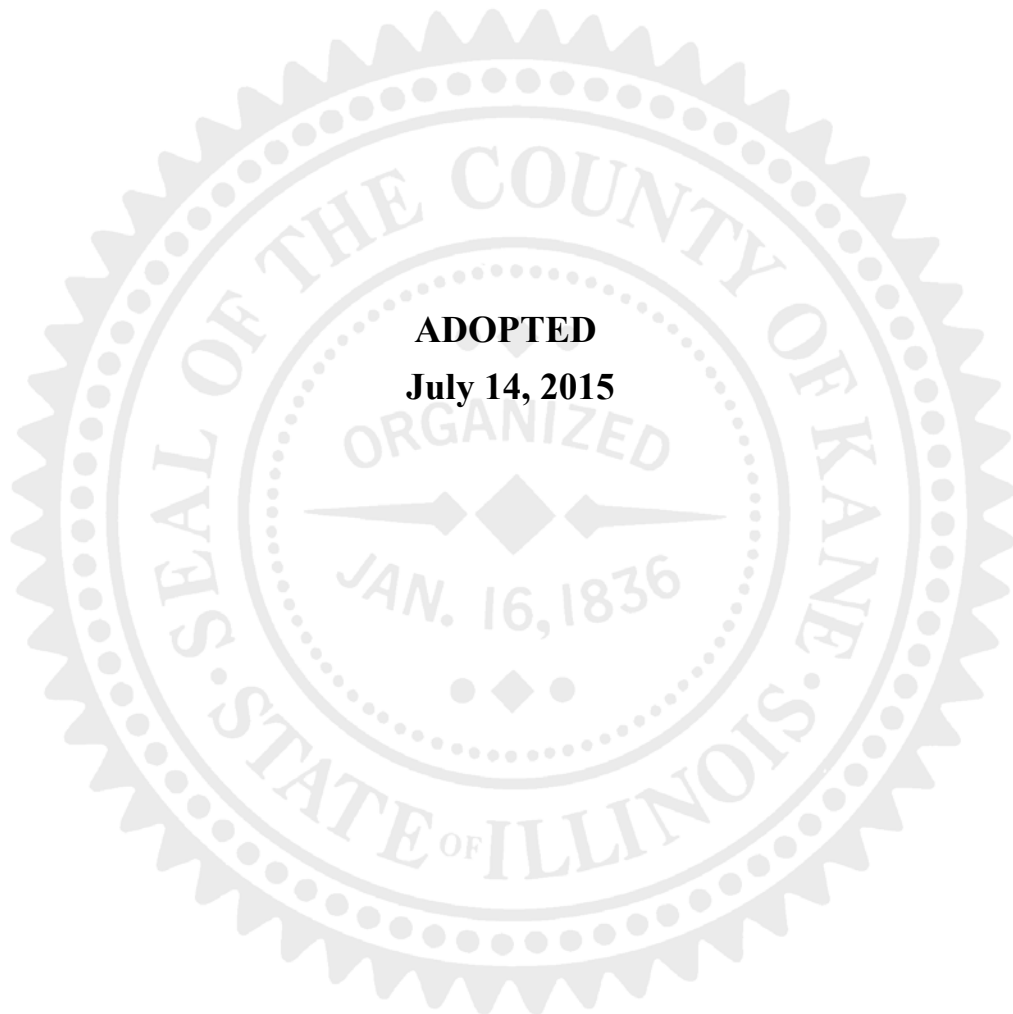


**KANE COUNTY**

**SOLID WASTE MANAGEMENT  
AND RESOURCE RECOVERY PLAN**

**2015 UPDATE**



**ADOPTED**

**July 14, 2015**

**Prepared by the  
Kane County Division of Environmental and Water Resources  
And Development & Community Services Department  
Geneva, Illinois**

# 2015 KANE COUNTY BOARD MEMBERS

Christopher J. Lauzen, Chairman

Myrna Molina  
District 1, Aurora

Theresa Barreiro  
District 2, Aurora

Don Ishmael  
District 3, Aurora

Brian Pollock  
District 4, Aurora

Bill Lenert  
District 5, Aurora

Ron Ford  
District 6, Aurora

Monica Silva  
District 7, Aurora

Maria Vazquez  
District 8, Aurora

Thomas (T.R.) Smith  
District 9, North Aurora

Susan Starrett  
District 10, Batavia

John Martin  
District 11, Geneva

John J. Hoscheit  
District 12, St. Charles

Philip Lewis  
District 13, St. Charles

Mark Davoust  
District 14, St. Charles

Barbara Wojnicki  
District 15, St. Charles

Michael Kenyon  
District 16, South Elgin

Deborah Allen  
District 17, Elgin

Drew Frasz  
District 18, Elgin

Kurt Kojazarek  
District 19, Elgin

Cristina Castro  
District 20, Elgin

Rebecca Gillam  
District 21, East Dundee

Douglas Scheflow  
District 22, Elgin

Maggie Auger  
District 23, Carpentersville

Joseph Haimann  
District 24, Carpentersville

Kane County Board  
Energy and Environmental Committee

Barbara Wojinicki, Chairman

Michael Kenyon

Deborah Allen

Don Ishmael

Myrna Molina

Douglas Scheflow

Maria Vazquez

Kane County  
Division of Environmental & Water Resources  
And Development & Community Services Department

Kenneth N. Anderson, Jr.; Division of EWR Director

Jennifer Jarland; Recycling Coordinator

Brett Hanlon; Development Planner

# TABLE OF CONTENTS

EXECUTIVE SUMMARY		4
SECTION 1	INTRODUCTION AND BACKGROUND	6
1.1	Planning Background and Purpose of Update	6
1.2	Plan Development Process	6
1.3	Terminology and Scope	7
SECTION 2	PLAN UPDATES AND IMPLEMENTATION	8
2.1	History of Plan Updates	8
2.2	Implementation status of the 2009 Plan Update	10
SECTION 3	SOLID WASTE GENERATION AND MANAGEMENT	12
3.1	Demographic Trends	12
3.2	Waste Generation	13
	A. Generation	13
	B. Composition	14
3.3	Materials Management	15
	A. Changing Paradigm: From Waste Management to Materials Recovery	15
	B. Waste Minimization	16
	1. Trends in Waste Minimization	17
	C. Traditional Material Recycling & Disposal	18
	C.1. Collection and Processing	18
	C.2. Ordinance	19
	C.3. Recycling	20
	a. <i>Recycling Goal and Diversion Rates</i>	20
	b. <i>Residential Sector: Municipal, Multi-Family Dwellings</i>	21
	Unincorporated Areas, Drop-offs	22
	c. <i>Commercial Sector</i>	23
	d. <i>Construction and Demolition Sector</i>	25
	C.4. Organics	26
	a. <i>Landscape Waste</i>	26
	b. <i>Food Scraps</i>	27
	C.5. Disposal	28
	D. Non-traditional	29
	D.1. Appliances	29
	D.2. Electronic Equipment	29
	D.3. Household Hazardous Waste	29
	a. <i>Collection Methods: Permanent Facility, Home Collection Service</i>	30
	One-Day Collection Events	31
	b. <i>HHW Materials: Batteries, Fluorescent Bulbs, Motor Oil</i>	32
	Mercury-Containing Devices	32
	Paint, Pharmaceuticals	33
	D.4. Kane County Collection Event Materials: Bikes; Books	33
	Carpet and Padding; Confidential Documents	33
	Textiles, Clothes, Shoes	33

	Tires; Other Materials	34
3.4	Capacity	34
3.5	Infrastructure	36
	A. Siting Approval	37
	B. Host Community Benefit Agreements	38
3.6	Alternative Technologies	38
3.7	Public Education and Information: Public Education	40
	School Programs	41
<b>SECTION 4</b>	<b>ECONOMICS AND FUNDING</b>	<b>41</b>
4.1	Conditions Effecting Waste Quantities	41
4.2	Waste and Recycling-based Economic Activity	41
4.3	Funding Sources	42
<b>SECTION 5</b>	<b>RECOMMENDATIONS</b>	<b>43</b>
5.1	Waste Minimization	43
5.2	Recycling	43
5.3	Ordinance Enforcement	43
5.4	Organics	43
5.5	Textiles	44
5.6	Construction and Demolition	44
5.7	Electronics	44
5.8	Household Hazardous Waste	44
5.9	Infrastructure	44
5.10	Alternative Technologies	44
5.11	Public Information and Education	44
 <b>APPENDICES</b>		
	<b>Appendix A</b> Regulatory Component: Local Ordinances, State Legislation	<b>45</b>
	<b>Appendix B</b> Required Content of Applications for Local Siting Approval of Transfer Stations to be Located within Kane County	<b>46</b>
	<b>Appendix C</b> Host Community Benefit Agreements/ County Board Resolution 05-216 (attached)	<b>51</b>
	<b>Appendix D</b> Requirement for Host Agreement/ County Board Resolution 05-462 (attached)	<b>73</b>
	<b>Appendix E</b> Waste to Energy Summary 2013 (attached)	<b>83</b>
	<b>Appendix F</b> Public Comment Record (attached)	<b>88</b>

## EXECUTIVE SUMMARY

All Illinois counties are required by state law to plan for the management of solid waste generated within the County. Kane County adopted its first Solid Waste Plan in 1992 and has since adopted the required updates in 1997, 2004, and 2009. Kane County's many accomplishments related to the 2009 Plan recommendations are recorded in this plan for review.

The county's population has grown from 317,471 in 1990 to 521,561 in 2012.<sup>1</sup> By the year 2040, the County is projected to be home to 802,231 people, a 54 percent increase<sup>2</sup>. The impact of this population growth will be significant on the County's resource management infrastructure because it will continue to increase the demand for managing solid waste, recyclable materials, and compostable materials generated within the County.

Kane County does not have an active landfill; therefore all of the solid waste that is landfilled leaves the county. The farther that solid waste must travel, the greater the economic cost and environmental impact. As it applies to Kane County, regional landfill capacity is at 11 years average remaining capacity, and two (2) of the six (6) landfills used have less than ten (10) years remaining. This is relevant to the County in that, as one facility reaches capacity, other facilities will see an increase in waste intake and therefore a reduction in life. Kane County has two (2) permitted transfer stations and several reuse oriented businesses within its boundaries, and in surrounding counties it utilizes a number of municipal solid waste transfer stations, landscape waste transfer stations, construction and demolition waste processing facilities, and recycling facilities. Additionally there are a number of opportunities for recycling and reuse through drop-off and collection programs provided by the County, municipalities, townships, agencies, organizations, and private businesses.

The residents of Kane County have historically been and continue to be very interested in solid waste management and recycling. Kane County has a current overall recycling rate of approximately 38%, which exceeds the state recycling standard of 25%. Yet there is room for improvement in that over 80 percent of the material that is landfilled as trash is potentially recyclable or compostable<sup>3</sup>. The overall recycling rate is a combination of traditional curbside residential, commercial, and construction and demolition debris recycling rates. Annual tonnage data is collected from the licensed waste and recycling haulers in order to estimate and track diversion rates. The diversion rate has plateaued over recent years and methods need to be employed to increase recycling both residentially and commercially.

To address recycling opportunities for residents of unincorporated areas and multi-family dwellings, the Kane County Board adopted a mandatory recycling ordinance in 1994, and amended it to include commercial businesses in 1995. This ordinance requires that licensed haulers must provide service for the collection of recyclables from all single-family and multi-dwelling residences and commercial businesses to which they provide trash service. The ordinance also provides for annual reporting of tonnages of residential, commercial, and construction and demolition sources of recycling and waste. This ordinance has been difficult to enforce, but recent state legislation requiring haulers to offer recycling to all accounts to which they provide trash service will make it easier to promote and enforce.

---

<sup>1</sup> U.S. Census 2012 American Community Survey, 5-year estimates

<sup>2</sup> Chicago Metropolitan Agency for Planning's GO TO 2040 Plan

<sup>3</sup> 2009 Illinois Commodity/Waste Generation and Characterization Study

Recycling and reuse programs have evolved substantially in the last five (5) years, necessitating that this 2015 Update include discussions on several non-traditional (non-curbside) materials now commonly collected for recycling or reuse via drop-off or collection events. Further, it seeks to introduce current trends and best practices for topics such as waste minimization, food-scrap diversion, and alternative technologies.

As the solid waste topography shifts and landfill space dwindles, the definitions and priorities around waste management evolve. On an industry level, the meaning of the term “waste management” has come to refer to a broader effort that includes resource recovery and sustainable materials management. Residents are more concerned with minimizing waste and reusing resources than ever before. Another important trend in this regard is Product Stewardship, which promotes manufacturer “take-back” programs for end-of-life recycling of products.

One of the emerging topics presently in the resource management field is food scrap recovery. Food scrap constitutes a significant percentage of waste sent to landfills in Illinois, and is therefore an important focus of many waste management and resource recovery program managers. There are efforts being made to advance food scrap composting in the state by the Illinois Food Scrap Coalition and a broad base of stakeholders that includes generators, haulers, processors, and landscape professionals. This is a developing industry and in the next five years may continue to evolve.

Alternative technologies include disposal methods that reduce the volume of waste disposed in landfills, such as those that convert waste-to-energy or waste-to-fuel. To the extent that alternative disposal technologies are demonstrated to be viable in the future, these technologies do not displace recycling or reuse and should be considered as one part of a comprehensive solution. It is recommended that Kane County monitor and assess developments in alternative technologies during the years covered by this Plan to ensure that opportunities are not missed.

Public education is critical to the continued success of recycling programs, especially in areas such as Kane County that are experiencing high rates of population growth and turnover in existing homes. Important educational messages include reminders of what materials can (and cannot) be recycled in the household recycling bin and at various drop-off locations, the benefits of recycling, and results of current recycling programs.

This plan update makes 20 recommendations in the following categories: Waste Minimization, Recycling, Ordinance Enforcement, Organics, Textiles, Construction and Demolition, Electronics, Household Hazardous Waste, Infrastructure, Alternative Technologies, and Public Information and Education.

# SECTION I

## INTRODUCTION AND BACKGROUND

### **1.1 Planning Background and Purpose of Update**

With the passage of the Illinois Solid Waste Planning and Recycling Act (SWPRA) (415 ILCS 15/) in 1988, all Illinois counties were required to plan for the management of solid waste generated within their borders, and were required to update their plans every five (5) years. Kane County adopted its first Solid Waste Management Plan (SWP) in 1992, and has since adopted required updates in 1997, 2004, and 2009.

The 2015 Plan Update includes all required plan elements, such as current solid waste generation and management practices, demographics, infrastructure, capacity, and educational efforts. In addition, because recycling and reuse programs have evolved substantially in the last five (5) years, this Update provides an important opportunity to include discussions on several non-traditional (non-curbside) materials that are now commonly collected for recycling or reuse via drop-off or collection events. Recommendations for the next five (5) years are discussed in the final chapter of the plan document.

The 2015 Plan Update will assist Kane County Division of Environmental and Water Resources staff with strategic planning and will guide development of future policies and programs.

### **1.2 Plan Development Process**

The Kane County Recycling Program Coordinator is responsible for implementing the recommendations in the Solid Waste Management and Resource Recovery Plan and for producing five (5)-year updates to the plan. In taking a minimal cost approach to the non-funded mandate for these updates to the Solid Waste Management Plan, Kane County did not contract with a consultant to write the plan as many surrounding counties have done. Instead the County produced the update in-house, in partnership with staff members of the Division of Environmental and Water Resources and the Development & Community Services Department.

When drafting the plan, staff reviewed current research, analysis, and best practices from local, regional, state, and national programs. Staff also studied Illinois' most current County Solid Waste Plan (SWP) updates (including the Cook County SWP Update 2012, the DuPage County SWP Update 2012, the McHenry County SWP Update 2012, the Solid Waste Agency of Northern Cook County SWP Update 2014, and the Lake County SWP Update 2014). The content of these plans helped inform the writing of the Kane County's SWP Update and provided an understanding of policies, programs, and practices in place and proposed throughout the region.

Data for this update was sourced from internal county program reports and surveys, regional reports, state reports, and national census information.



The Director of the Division of Environmental and Water Resources along with the Energy and Environmental Committee reviewed this plan update and advised throughout the process. The plan was reviewed publicly during a 45-day review period. The public review period running from March 11, 2015 to April 25, 2015, was advertised through public notice, website posting, and email to all municipalities, townships, solid waste districts, waste haulers, and interested parties.

At the April 15, 2015 public meeting of the Energy and Environmental Committee, a call was made for comments to be made in person. None were given.

Written feedback was received and incorporated. See Appendix F.

The *Kane County Solid Waste Management and Resource Recovery Plan: 2015 Update* was passed by the Kane County Board on July 7, 2015.

### 1.3 Terminology & Scope

It is worth noting that regional, national, and global trends towards rethinking the management of our resources has led to greater use of terms such as “resource management,” “materials recovery,” “materials management,” or “sustainable materials management,” in addition to “solid waste management.” This plan may use these terms interchangeably.

The Kane County Plan is applicable to all geographic areas of Kane County (refer to Figure 1.1). The tonnages in Table 3.2, representing the weights of traditional recyclable materials, are collected from waste and recycling haulers through the annual Kane County hauler licensing and reporting process. Those tonnage reports include residential, commercial, and construction and demolition sources, as specified below.

Concerning discussions on data, please refer to the following definitions of scope:

**Residential** includes single-family municipal and unincorporated weights for landfill trash, single-stream recycling, and yard waste. Where this plan refers to residential recycling diversion rates, the percentage of the waste stream diverted from landfills includes both single-stream curbside recycling material and organic yard-waste material. Residential data include material collected from cities and villages through municipal franchise contracted services, as well as unincorporated residential material. Drop-offs constitute an unspecified source, but for the purpose of this plan will be reported with residential. Residential data do not include multi-family dwellings (MFDs), which are traditionally considered by the waste haulers to be commercial accounts. Therefore the weights associated with apartments and condos are included with commercial data, because that is how the haulers report it.

**Commercial** includes business, industry, institution, and multi-family dwelling weights for landfill trash, single-stream recycling, yard waste, and commercial food-scrap.

**Construction and Demolition (C&D)** includes materials recovered from construction, demolition, or deconstruction projects within Kane County. These weights include landfilled tons and recycled tons.

**Non-traditional material** data presented in Section 3 - program participation and tonnages for various other recyclable materials (like electronics) collected at County drop-off facilities, pick-up programs, or

collection events managed by the County - are collected and tracked through the Kane County Recycles office. The data for these programs are straightforward.

There are additional materials included in the discussions on materials management in Section 3 for which no data were available, because those programs are not under the purview of the County.

**Figure 1.1 - Map of Kane County**



## **SECTION 2**

### **PLAN UPDATES AND IMPLEMENTATION**

#### **2.1 History of Plan Updates**

##### **1992 Kane County Solid Waste Management Plan**

On November 10, 1992, the Kane County Board adopted the County's first Solid Waste Management Plan. Major recommendations of that plan included: (1) a 47% recycling goal; (2) expansion of permitted capacity at Settler's Hill landfill in Geneva; and (3) initiation of a site selection process for a future landfill facility.

The County Board approved an expansion of Settler's Hill landfill in 1994. This approval was appealed to the Illinois Pollution Control Board. The County Board's decision to approve the expansion was upheld in September 1997. A subsequent agreement (County Board Resolution 97-269) between Kane County, the City of Geneva, and Waste Management of Illinois, Inc. (WMI) states that (1) Settler's Hill will permanently close on or before December 31, 2006; (2) WMI is prohibited from operating any waste incineration, waste transfer or composting facilities at Settler's Hill; and (3) WMI shall not seek permitting for any other landfill or transfer station site within Geneva Township.

A study to identify preferred sites for a new landfill was completed in August 1995. Following review of that study, in September 1995, the County Board adopted Resolution 95-247 which states in part:

“The Kane County Board will not pursue the acquisition of property, the development of, or siting approval for a new landfill facility in Kane County”.

This resolution also stated that in subsequent Solid Waste Management Plan updates, “reduction, reuse, and recycling of solid waste are to be given primary importance. Alternate technologies for the disposal of solid waste are to be given a fair and unbiased review.”

### **1997 Plan Update**

In 1996, the County commissioned Andrews Environmental Engineering, Inc. to conduct a feasibility analysis of alternative technologies for municipal solid waste management. The technologies evaluated were mixed waste composting, separate collection and composting of food waste, waste-to-energy, and advanced recycling.

The study found that none of these approaches would eliminate the need for a landfill; all would require a complex site selection process; all would be susceptible to the impact of waste flow control; and that tipping fees would be substantially higher than landfill tipping fees.

The 1997 Plan Update was adopted by the Kane County Board on March 10, 1998. This Update continued a strong emphasis on waste reduction and recycling; it found that adequate landfill capacity existed in the State of Illinois to meet the County's long-term disposal needs; and it recommended that a series of waste transfer stations owned and operated by the private sector be encouraged to access this existing landfill capacity.

### **2004 Plan Update**

The next five (5)-year plan update was initiated in 2002, by the Kane County Department of Environmental Management. However, in June 2002, the County received an application for siting approval for a transfer station at the Woodland Landfill near South Elgin. The planning process was put on hold, pending the outcome of this siting application. The Kane County Board denied the application on December 10, 2002.

The plan update process was then resumed and an update was adopted by the County Board on May 11, 2004. This update included ten recommendations to increase recycling levels and a reaffirmation of the 1995 resolution opposing any future landfills in the County. It further called for reliance on private sector transfer stations to manage the County's waste needs, recommended the County provide

assistance to the waste industry with identification of potential future transfer station locations, and established criteria for future siting applications for transfer stations.

The Kane County Solid Waste Management Plan was subsequently amended by County Board Resolution 05-462 on December 13, 2005. This resolution required a host agreement be approved between the County and the applicant for pollution control facilities located anywhere in Kane County. The host agreement must be in place prior to the determination of plan consistency being made by Kane County.

## 2009 Plan Update

The last five (5)-year plan update prepared by the Kane County Department of Environmental Management was adopted by the Kane County Board on November 10, 2009. This update included eight (8) recommendations to increase recycling levels and one (1) recommendation concerning alternative disposal technologies; see Section 2.2 for a review of these recommendations. This update cited the resolution opposing any future landfills in the County, addressed the final closure of the Settlers Hill Landfill in 2006, and incorporated the 2005 amendment regarding host agreement requirements. It further included sections on waste transfer solutions, siting approval, and host fees.

The 2009 Plan Update included information about household hazardous waste (HHW) drop off sites and HHW pick-up service, and it included a new section on food waste and textile recycling.

## 2.2 Implementation status of the 2009 Plan Update

<b>Table 2.1 - IMPLEMENTATION OF 2009 RECOMMENDATIONS</b>	
<b>Recommendation</b>	<b>Accomplishments</b>
<b>2009 Recommendation 3.1</b> <i>Continue to support and encourage the implementation of volume-based collection programs and other appropriate waste reduction measures throughout the County.</i>	In 2011, the Kane County Recycles office put together a comprehensive contact list for the municipal and township points of contact for recycling and solid waste issues. This list is updated regularly as needed. The Kane County Recycling Coordinator continues to build relationships with the network of municipal program managers in order to inform and offer guidance in this direction.
<b>2009 Recommendation 3.2</b> <i>The County should encourage municipalities to increase the size of recycling bins when renewing or bidding refuse/recycling contracts.</i>	The Kane County Recycling Coordinator has issued correspondence to municipal program managers on the importance of this evolution, and reminded all of the 2009 SWP Update recommendation. Since 2009, 20 cities/villages and two (2) townships have converted from the open top bins to the wheeled lidded recycling carts. And one (1) city is transitioning to carts in 2015. A total of 25 cities/villages and four (4) townships now have carts. Communities typically utilize a recycling cart size of 64 to 65 gallons, with weekly collection of recyclables. Carts are supplied by the hauler in all but a few instances where the resident supplies their own.
<b>2009 Recommendation 3.3</b> <i>Continue to monitor and encourage the development of private sector programs and markets for construction waste.</i>	In 2013, in the wake of Cook County’s 2012 Demolition Debris Diversion Ordinance, Kane County Environmental Resources Division staff explored the idea of a C&D recycling ordinance for Kane County. It was determined that due to a number of factors including lack of facilities; potential of cost impact to builders; and low current landfill tipping rates, an ordinance was not advisable at this time. However a

	<p>voluntary approach is to be encouraged. The “Recycling Construction and Demolition Debris” document was created to insert into each building permit packet and to post on the Kane County Recycles webpage. (<a href="http://www.countyofkane.org/Recycling/Documents/CDRecyclingFlyer.pdf">http://www.countyofkane.org/Recycling/Documents/CDRecyclingFlyer.pdf</a>) This document serves as a guide to contractors and homeowners, on locations that they can utilize to recycle or dispose of their construction materials.</p>
<p><b>2009 Recommendation 3.4</b> <i>Develop additional funding sources in order to continue programs for proper handling of household hazardous waste.</i></p>	<p>In addition to Carpentersville and South Elgin’s contributions, Mill Creek’s waste hauler agreement now provides that Advanced Disposal will issue payment to the county equal to \$1/household/year towards the county program (since 2010) and West Dundee contributes \$1/household/year towards the county program through their hauler contract (since 2013).</p> <p>Starting in 2013, the City of Geneva uses the same hauler contract mechanism to institute an independent At-Your-Door collection program on par with the county program. City of Elgin has had its independent program since 2000.</p>
<p><b>2009 Recommendation 3.5</b> <i>Develop new collection opportunities for used electronic equipment, in response to Public Act 95-0959.</i></p>	<p>The County began conducting collection events for this material in 2000, which continue to occur on a monthly basis. For the first 11 years it was a cost-based program with the county paying for recycling services. The economics shifted with the introduction of the 2009 Electronic Products Recycling and Reuse Act (Public Act 95-0959). This law bans electronic equipment from Illinois landfills, and requires product manufacturers to establish and maintain programs to recycle this material. As a result, the Kane County program has been revenue-based since 2012. Volumes and participation have continued to increase significantly each year, with a notable jump upon the introduction of the landfill ban.</p> <p>In addition to the monthly event, the county now has five (5) permanent drop-off locations at municipal public works facilities and a non-profit used building material resale store.</p>
<p><b>2009 Recommendation 3.6</b> <i>Continue to monitor the operation of programs for the collection and processing of landscape waste, appliances, tires and books to ensure that effective programs are in place for the proper handling of these materials.</i></p>	<p>Landscape waste and large household appliances are collected through municipal programs. Small household appliances are now included with the electronics recycling program. Tires can be easily recycled at any outlet that sells tires. Book recycling has become a permanent feature of the monthly electronics collection events</p> <p>Further, a number of previously unmentioned non-traditional recyclable materials are included in the annual extravaganza events, including Styrofoam, bikes, mobility devices, latex paint, and textiles.</p>
<p><b>2009 Recommendation 3.7</b> <i>Develop or encourage new programs to increase food waste composting and textile recycling.</i></p>	<p>The county continues to supply subsidized backyard compost bins for sale to residents, distributing an average of 40 per year, to divert food scraps from the landfill. Commercial food scrap composting has taken root in the region, and while there are not yet any residential curbside programs in Kane County, there are several groceries and hospitality venues in the County that are currently participating in food scrap compost programs. These entities contract with a hauler to remove the material and deliver it to one of the processing facilities in the area.</p> <p>As mentioned above, textiles are included for collection in the annual extravaganzas, for which a small per-pound-revenue is received.</p>

<p><b>2009 Recommendation 3.8</b>  <i>Continue public education efforts to support local recycling programs and continue to offer programs to support in-school recycling efforts and increase recycling awareness in local schools.</i></p>	<p>The Kane County Recycles website is the most effective and widely accessed public education avenue.</p> <p>The annual Kane County Recycles Green Guide is read by over 50,000 residents, either in paper form or from the online pdf.</p> <p>Public education efforts have also included public speaking events, Earth Day events, and exhibits at conferences.</p> <p>The school education program has been defunct for some years now, due to a lack of funding. However, the county began supplying all schools with printed copies of the Kane County Recycles Green Guide in 2014 to distribute to the teachers and students. To date, over 12,000 copies have been distributed to schools. It is expected that this same amount of each new guide will be distributed on an annual basis.</p>
<p><b>2009 Recommendation 4.1</b>  <i>Continue to monitor technological developments and market conditions for non-landfill waste management approaches such as waste-to-energy incineration and mixed-waste composting.</i></p>	<p>In 2013, the County was approached by a company proposing a Low Temperature Mechanical Pyrolysis (LTMP) technology. There was a presentation to the Energy and Environment committee, and an internal dialogue with the company over several months to explore the potential of this technology. To date there have not been any proposed resolutions.</p>

## SECTION 3

### SOLID WASTE GENERATION AND MANAGEMENT

This section of the plan covers Kane County’s demographic trends, waste generation, material management, capacity, infrastructure, alternative technologies, and ongoing educational efforts, to provide a holistic vision of solid waste management in the county. This context is vital to accurately identify challenges and opportunities going forward.

Please refer to Section 1.3 above for clarification on the data subsets analyzed throughout this section.

#### 3.1 Demographic Trends

A primary variable affecting the amount of solid waste in Kane County is the growth in population, households, and employment. As of 2012, Kane County had approximately 521,561 residents<sup>1</sup>, 179,702 households<sup>2</sup> and 224,546 jobs<sup>2</sup>. The County is forecasted to experience tremendous growth in all three of these categories over the coming decades. By the year 2040, the County is projected to add: 280,670 people (54 percent growth); 94,383 households (52 percent growth); and 143,948 jobs (64 percent growth)<sup>3</sup>.

---

<sup>1</sup> U.S. Census 2012 American Community Survey, 5-year estimates

<sup>2</sup> U.S. Census 2010 Decennial Census

<sup>3</sup> Chicago Metropolitan Agency for Planning’s GO TO 2040 Plan

The impact of this population growth will be significant on the County’s resource management infrastructure because it will continue to increase the demand for managing the solid waste and recyclable materials generated within the County.

### 3.2 Waste Generation

This summary of waste generation and composition refers to traditional materials including municipal solid waste, single-stream recycling, and landscape/organic waste from residential sources, commercial/institutional/multi-family sources, and construction and demolition sources.

#### A. Generation

Total waste generation has been calculated by using population and per capita generation data. The 2009 plan update assumes a per capita municipal solid waste generation rate of 8.10 pounds per capita per day (pcd) for Kane County, based on the 2009 Illinois Commodity/Waste Generation and Characterization Study. This analysis of waste generation for the counties in Illinois, developed by Camp Dresser & McKee, Inc., remains the most recent comprehensive information available. Therefore this figure of 8.10 pounds pcd is also used for this 2015 plan update. The national average is 4.5 pounds pcd of trash.

<b>Table 3.1 - WASTE GENERATION</b>			
<b>Year</b>	<b>Population</b>	<b>Total Tons of municipal solid waste</b>	<b>Source</b>
1989	320,000	490,820	1992 Plan
1997	363,428	572,390	1997 Update
2001	413,727	616,122	2004 Update
2009	507,579	750,329	2009 Update
2015	521,561	770,998	2015 Update
2040	802,231	1,185,898	2015 Update

Source: Historical and projected waste generation, shown in Table 3.1 below, is based on per capita generation rates estimated in this and prior plan updates.

The original 1992 plan also estimated waste volumes for the residential, commercial, and construction sectors, based on hauler reports and landfill gate surveys. This update presents estimates of the total traditional waste volumes by sector based on the most recent data received via the annual Kane County hauler tonnage reports for 2012-2014. See the definition of traditional materials under 3.3.C. *Traditional Material Recycling & Disposal*. One difference apparent between county and state data is due to the weight of materials not tracked by the county - because they are not collected by the waste and recycling haulers that report to the county - such as electronics, textiles, hazardous waste, pharmaceuticals, tires, and other materials dropped off directly by contractors or residents. Other differences may also exist, resulting in lower generation reported through the annual survey than is estimated using the 8.10 pounds per person per day generation rate used in this 2015 plan update.

<b>Table 3.2 - Kane County Waste Generation (tons)</b>			
	2012	2013	2014
Residential	226,674	226,368	262,309
Commercial	218,879	242,797	259,207
C & D Debris	32,810	13,722	15,185
<b>Total MSW Generation (tons)</b>	<b>478,363</b>	<b>482,887</b>	<b>536,701</b>

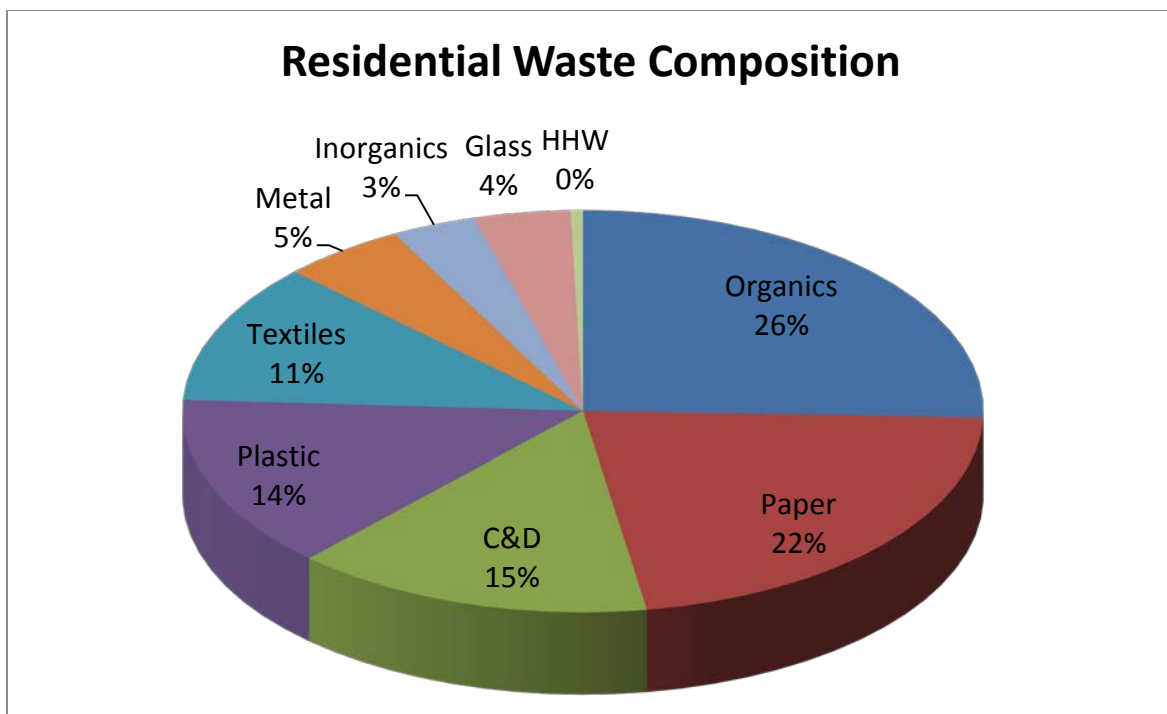
Source: Kane County Tonnage Reports

## B. Composition

The 2009 Illinois Commodity/Waste Generation and Characterization Study commissioned by the Department of Commerce and Economic Opportunity, evaluates the quantity and composition of waste in the State of Illinois. As a part of that study, samples of residential and commercial waste were sorted at landfills and transfer stations to identify the material components in waste that is disposed. The data in Figures 3.1 and 3.2 are for the subset of the characterization study from urban areas.

These data suggest that organics (including food scrap), paper, and construction/demolition waste, are among the larger components of the overall waste that is disposed with plastics and textiles being a significant percentage as well.

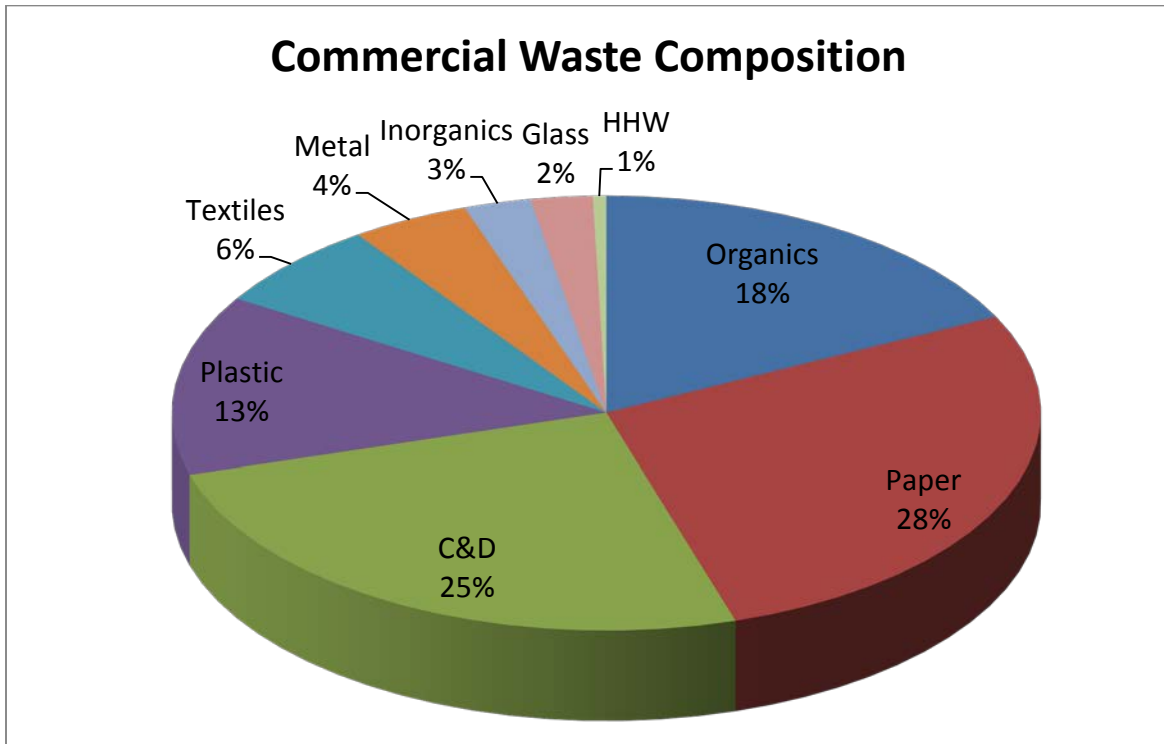
**Figure 3.1 - Landfilled Urban Residential Waste Composition**



Sourced from the 2009 Illinois Commodity/Waste Generation and Characterization Study.



**Figure 3.2 - Landfilled Urban Commercial Waste Composition**



Sourced from the 2009 Illinois Commodity/Waste Generation and Characterization Study.

### 3.3 Materials Management

#### A. Changing Paradigm: From Waste Management to Materials Recovery

In 2009, the United States Environmental Protection Agency (USEPA) issued a report titled: *Sustainable Materials Management: the Road Ahead*. The authors acknowledged that between 2000 and 2050, world population will grow 50 percent, global economic activity will grow 500 percent, and global energy and materials use will grow 300 percent. The report recommends that our nation shift its focus from waste management to materials recovery, while being attentive to the principle of sustainability and the perspective of life cycle. The report acknowledges that materials reuse is an important component of natural ecosystem protection and is an essential strategy for ongoing economic development and prosperity.

Another USEPA report titled *Municipal Solid Waste Generation, Recycling, and Disposal in the United States: Facts and Figures for 2012* encouraged a systematic approach that provides a *transition* from waste management to sustainable materials management.

In this vein, the Illinois Task Force on the Advancement of Materials Recycling, in their January 2015 Final Report, include a section on the economic value of materials which are lost to landfilling in Illinois, and a section on maximizing productive use of materials through reuse, recycling, composting, and biodegradation. The Task Force recommends in the report that “in order to conserve energy and natural

resources and to maintain and/or enhance job creation, and after consideration of the technical and economic feasibility, it is the policy of Illinois to establish a comprehensive statewide program” for materials management that is in accordance with the following preferred hierarchy, in descending order of preference:

- 1) Reduce - reduce the amount of solid waste generated.
- 2) Reuse - reuse material.
- 3) Recycle - recycle material that cannot be reused.
- 4) Compost/Biological Treatment - compost or biologically treat material to create useful organic products and/or energy recovery.
- 5) Recover Energy - recover energy from solid waste that cannot be reused, recycled, composted or biologically treated.
- 6) Dispose - dispose of solid waste by landfilling or other permitted disposal method that cannot be reused, recycled composted, or biologically treated.

In 2014 the National Recycling Coalition (NRC) redefined recycling. The last time the NRC did this, the USEPA adopted the definition, and it is expected that they will do so again. The new definition, worth noting in this update, is: *Recycling is a series of activities by which material that has reached the end of its current use is processed into material utilized in the production of new products.*

Kane County is invested in material recovery and landfill diversion through waste minimization and recycling and will keep abreast of this evolving paradigm over time.

## **B. Waste Minimization**

Waste reduction is identified as the most preferred method of solid waste management in the Illinois Solid Waste Management Act. Waste reduction requires significant behavioral change by consumers. Through its educational programs, Kane County has attempted to encourage consumer behavior to change purchasing habits to reduce waste. However, public response to waste reduction messages has been difficult to measure.

Landscape waste management is one area in which waste reduction efforts have occurred. After landscape waste was banned from Illinois landfills in 1990, many homeowners began leaving their grass clippings on their lawns. Mulching features have since become standard on most lawn mowing equipment. Many residents also turned to backyard composting as a method to reduce the volume of landscape waste requiring collection.

Another approach to waste reduction that has proven successful is the implementation of volume-based billing programs by municipalities. This approach provides generators with a direct financial incentive to reduce and recycle as much of their waste stream as possible. Six (6) municipalities (Algonquin, Aurora, Batavia, Geneva, North Aurora, and St. Charles) and one (1) special service area (Mill Creek) have full volume-based billing for residential solid waste collection. Three (3) other municipalities (Carpentersville, Elgin, and Sun City) and two (2) townships (Elgin and Campton) have modified volume-based programs.

A nationally recognized method of reducing waste is to implement a pay-as-you-throw (PAYT) billing structure, based on the volume of landfill trash discarded. PAYT programs commonly provide 3 carts of varied size for trash, recycling, and compost. The recycling and compost are often free of charge with the fee consisting of a service fee plus an additional amount based on the size of cart used for trash. The more material recycled and composted, the less it costs. This promotes the reduction of waste by encouraging the practices of recycling and composting.

Looking forward to a time when curbside food scrap collection may be feasible, Kane County will continue to encourage municipal and township program managers to consider future implementation of 3-cart programs and PAYT billing structures.

The area where waste minimization will be difficult to foster is at a residential level. The Kane County Recycling Coordinator will continue to promote waste minimization, reducing consumption, and creative reuse of materials through education and outreach.

### **B.1. Trends in Waste Minimization: Zero Waste and Product Stewardship**

Zero Waste is a term that refers to the goal of diverting between 80 to 90 percent of the waste stream from landfills or incinerators through reusing, recycling, and composting. The prime benefits in adopting zero waste are environmental; many governments that have enacted zero-waste plans have taken up the task in the name of sustainability. Kane County's 2012 Operational Sustainability Plan includes a strategy (WH3: Model a culture of Zero Waste events and meetings) with action items such as developing guidelines for events and meetings, developing a timeline for implementing a food scrap compost program for county buildings, and installing dishwashers. The Kane County Recycling Coordinator will continue to monitor national, state, and county Zero Waste programs, and promote them internally and publicly where feasible.

On national and state levels Product Stewardship and Extended Producer Responsibility laws play a role in reducing waste and creating responsible management programs for products at end-of-life.

Product Stewardship (PS) is the act of minimizing the health, safety, environmental, and social impacts of a product and its packaging throughout all lifecycle stages, in turn strengthening the local, regional, and national economy. Manufacturers have the greatest ability to minimize their products' adverse impacts, but other stakeholders—such as suppliers, retailers, and consumers—also play a role. Stewardship can be either voluntary or required by law.

Extended Producer Responsibility (EPR) is a mandatory type of product stewardship in which manufacturers take primary financial responsibility for the post-consumer environmental, safety, and economic impacts of their products. Local taxpayers and governments are relieved of financial and operational burdens of materials collection and management. There are two (2) features of EPR policy: (1) shifting financial and management responsibility (with government oversight) upstream to the manufacturer and away from the public sector; and (2) providing incentives to manufacturers to incorporate environmental considerations into the design of their products and packaging in order to minimize waste.

There are three (3) existing EPR laws in Illinois:

- PA 094-0732 Auto Switch Removal Act (2006)

- PA 095-0959 Electronic Products Recycling and Reuse Act (2008, amended 2011)
- PA 096-1295 Mercury Thermostat Collection Act (2010)

As of 2015, there are two EPR bills pending in the legislature:

- SB 1261 Paint Stewardship Act (first introduced 2013)
- SB 1433 Carpet Stewardship Act (first introduced in 2014)

The Kane County Recycling Coordinator will continue to monitor national and state PS and EPR programs, keep the Kane County Energy and Environment Committee apprised of same, and support as directed by management.

### **C. Traditional Material Recycling & Disposal**

Traditional materials are defined as those materials that are collected from the generator by waste and recycling haulers. These materials include (1) residential curbside single stream recycling, organic waste, and solid waste; (2) commercial recycling, organic waste, and solid waste; and (3) construction and demolition recycling and solid waste materials.

#### **C.1. Collection and Processing**

The majority of recyclable materials, organic materials, and solid waste in Kane County are collected and processed by the private sector. In addition to that, several townships and most municipalities provide seasonal brush and/or leaf collection programs to their residents.

Private companies operate the accounts for all residential curbside recycling, commercial waste removal, and construction waste removal. The recyclable materials collected in this system are usually transferred to a regional material recovery facility (MRF) where the materials are sorted and shipped to material processors before entering end-use markets. The yard waste is usually taken to an organics transfer station and from there to an organics processing facility. Food scrap, currently being collected from commercial generators in Kane County, is usually taken directly to a compost processing facility, though some does go through transfer stations. The solid waste is often taken to transfer stations before ultimate disposal at one of several landfills in the surrounding counties and states.

Franchised hauler contracts for the collection of recyclables, yard waste, and solid waste exist in 22 municipalities and one (1) retirement community in Kane County. Four (4) townships (Campton, Elgin, Plato, and Virgil) and the Mill Creek Special Service Area also contract for waste services. Residents in the unincorporated areas of all other townships and all commercial establishments contract independently for waste and recycling collection services.

In 2015, 20 companies were issued Hauler's Licenses, and nine (9) more were issued certificates of exemption as they have less than two (2) trucks. Comparatively, in 2009, as of the last update, only 14 companies were issued annual hauling licenses. The companies provide various services, including residential, commercial, and construction service. There are a number of haulers specializing in construction and demolition waste and recycling.

<b>Table 3.3 - Municipally Contracted Haulers</b>	
<b>Unit of Government</b>	<b>Contracted Hauler</b>
Algonquin, Village of	Groot Industries
Aurora, City of	Republic Services
Batavia, City of	Advanced Disposal Services
Burlington, Village of	Republic Services
Carpentersville, Village of	Republic Services
East Dundee, Village of	Flood Brothers
Elburn, Village of	Waste Management
Elgin, City of	Waste Management
Geneva, City of	Advanced Disposal Services
Gilberts, Village of	MDC Environmental Services
Hampshire, Village of	Waste Management
Huntley, Village of	MDC Environmental Services
Kaneville, Village of	Waste Management
Maple Park, Village of	Waste Management
Montgomery, Village of	Republic Services
North Aurora, Village of	Waste Management
Pingree Grove, Village of	Flood Brothers
Sleepy Hollow, Village of	Republic Services
South Elgin, Village of	Republic Services
St. Charles, City of	Advanced Disposal Services
Sugar Grove, Village of	Waste Management
Sun City, Huntley Retirement Community	Waste Management
West Dundee, Village of	Republic Services
Campton Township	Waste Management
Elgin Township	Republic Services
Plato Township	Waste Management
Virgil Township	Northern Illinois Disposal Services
Mill Creek Special Service Area	Advanced Disposal Services
<i>Note: all information accurate as of January 2015</i>	

## **C.2. Ordinance**

To address recycling opportunities for residents of unincorporated areas and multi-family dwellings, the Kane County Board adopted a mandatory recycling ordinance in 1994 (Kane County Code, Section 11-108, et.seq.). This ordinance requires that licensed haulers must provide collection of recyclables from all dwelling units they service.

In 1995, the Kane County Board amended its mandatory recycling ordinance to include recycling from commercial establishments. Beginning in 1996, businesses have been required to recycle at least the two (2) largest recyclable items in their waste stream, and haulers are required to provide recycling service to any account to which they provide trash collection service.

The Ordinance also stipulates that Kane County annually license all waste and recycling haulers using two or more trucks to collect waste and/or recycling within the County, and specifies that annual hauler tonnage reports are to be collected from the haulers.

The Kane County recycling coordinator will continue to license haulers, collect tonnage data on an annual basis, and promote compliance with the ordinance. See more information on plan of action in the Commercial recycling section below (C.3.c).

### **C.3. Recycling**

#### ***a. Recycling goal and diversion rates***

The Illinois Solid Waste Planning and Recycling Act, as currently written, requires that county solid waste plans include a 25 percent recycling goal, and designate a recycling coordinator for the County.

The 1992, Kane County Solid Waste Plan adopted a countywide recycling goal of 47.3 percent by 2000. The 1997 Plan Update raised the recycling goal to 52 percent by 2003. Subsequent updates did not change the recycling goal, therefore the goal has remained at 52 percent, and has yet to be attained. Moving forward, the County should work to improve current programs and develop new programs to maximize recycling, to the extent practically and economically feasible, in order to increase the diversion towards this goal.

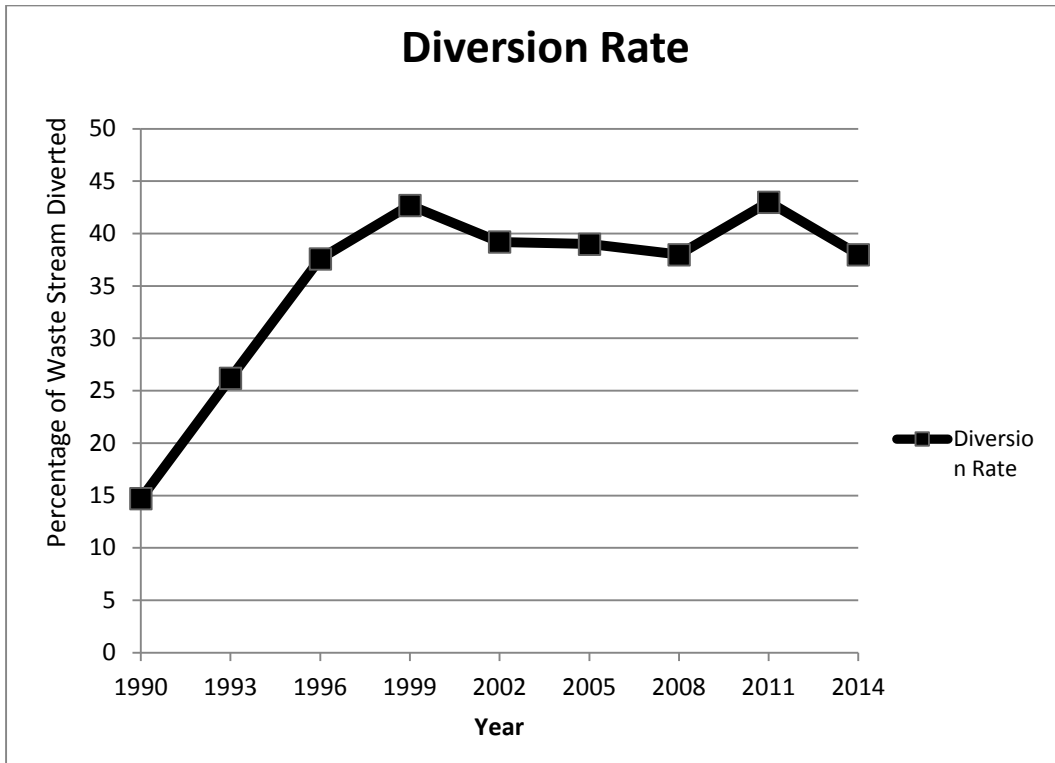
Hauler tonnage data were not collected by Kane County in 2009 or 2010, and a non-comparable set of data was collected in 2011, due to a transition in staff. Therefore, the most recent data available for 2012, 2013, and 2014 show that annual diversion rates were all estimated at 38 percent.

	2012	2013	2014
Residential Recycling (tons)	95,679	100,669	117,711
Commercial Recycling (tons)	79,718	75,913	74,369
C&D Debris Recycling (tons)	8,080	10,460	11,510
Total Waste Recycled (tons)	183,477	187,042	203,590
Total Waste Generated (tons)	483,084	492,243	536,701
Diversion (percent)	38%	38%	38%

Source: Kane County annual tonnage reports from waste and recycling haulers.

In Kane County, the percent of the traditional waste stream (hauler-collected material from residential, commercial, and construction sources) being recycled grew from an estimated nine (9) percent in 1989 to an estimated 40 percent in 1998 where it has remained nearly level between 38 and 44%. See Figure 3.3 below for the trend over time.

**Figure 3.3 – Kane County Diversion Rates 1990 - 2014**



Sources: 2009 Plan and Kane County annual tonnage reports from waste and recycling haulers.

***b. Residential Sector***

**Municipal**

All municipalities and several townships in the County contract for trash and recycling service, including separate yard waste collection for single-family residents. The majority of all municipal programs now provide 64 to 65 gallon carts for recycling. Based on the annual tonnage report data over the last three years the amount of recyclables and organics collected in curbside residential programs averages 109 pounds per household per month and the amount of trash collected averages 144 pounds per household per month, with no outliers. Tonnage report data show a consistent average of 57 percent trash and 43 percent diversion. See annual reported data in Figure 3.4 below.

All municipal curbside programs are now collecting single stream recycling, which includes both paper and containers: newspapers, magazines, mixed paper, paperboard, cardboard, aluminum and steel cans, glass containers, and accepted plastic containers.

**Multi-Family Dwellings**

Municipal refuse contracts typically cover residential dwellings containing one (1) to four (4) units. Larger multifamily buildings contract privately for refuse service. An estimated 68 percent of multi-family buildings currently have recycling service, based on hauler surveys conducted by Kane County in December 2014.

Recycling in multi-family buildings is consistently more problematic than for single-family residences. Recycling containers are often filled with garbage if the garbage dumpster is full. High turnover rates among tenants make education an on-going concern.

The County's recycling ordinance requires haulers to provide recycling service for these buildings, and building owners to provide recycling service for their residents. Efforts to develop a practical mechanism to enforce these provisions have not been successful to date.

Note that in this plan the weights from multi-family dwellings are reported with the commercial data because the haulers consider multi-family buildings to be commercial accounts, and therefore report the weights as such.

### **Unincorporated Areas**

The County's recycling ordinance requires all homeowners, including unincorporated residents, to separate recyclable materials from all other municipal waste, and store these recyclables separately in containers designed for recycling. It further directs the resident to either contract with a hauler to collect the recycling or to deliver it to a recycling drop-off location.

Based on available data from the tonnage reports and a special survey to haulers, 76 percent of unincorporated homes have recycling service as of the writing of this plan. Weights from unincorporated residents are included in the residential data presented in this section.

There have been no efforts to develop a practical mechanism to enforce these provisions in the unincorporated residential sector to date.

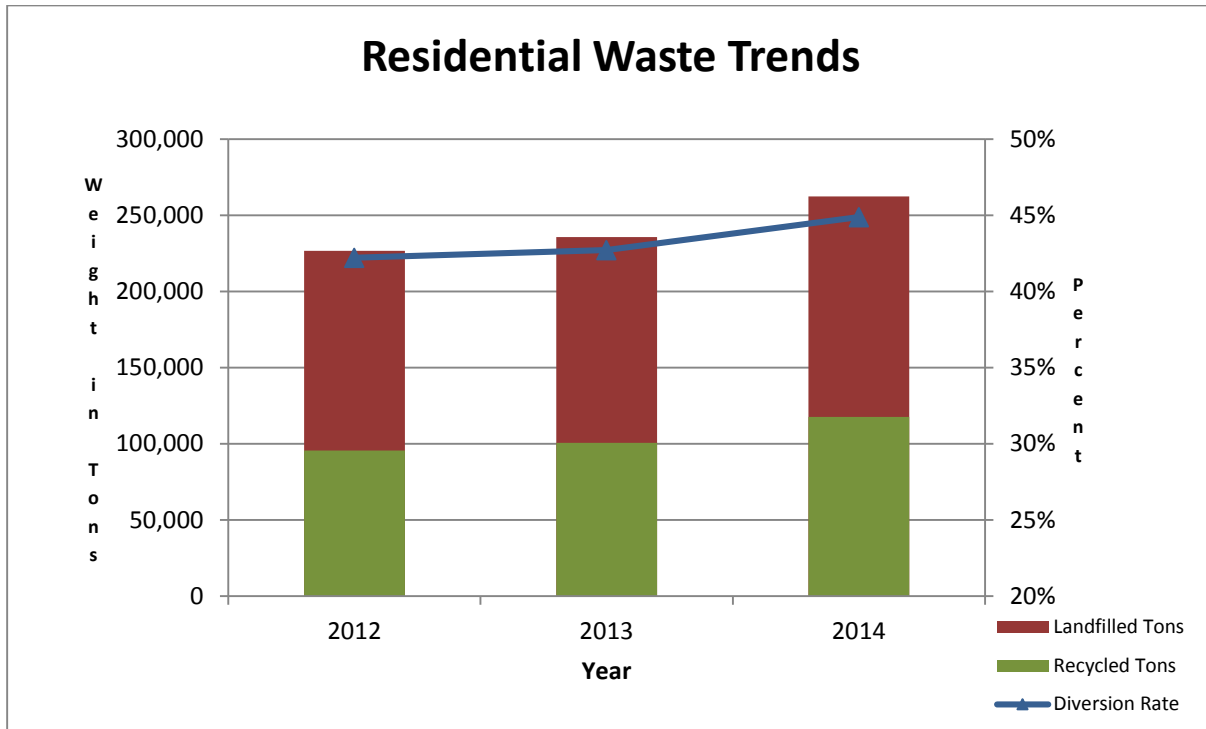
### **Drop-offs**

There are presently four (4) privately-owned recycling drop-off locations in the county that accept single stream recyclable material and two (2) more that accept a limited menu of residential material. Residents in unincorporated areas, multi-family residents, and small businesses typically use these drop-offs. The volume of recyclable material collected at the locations that receive single-stream recycling is negligible when compared with the volume from curbside programs. Weights from residential drop-offs are included in the residential data presented in this section.

Additional drop-offs, from which the county does not collect data, include drop-off options for paper recycling counting 60 parking lot bins and a paper recycling company. Kane County has three (3) yard waste and organic recycling drop-offs that accept various materials. Other drop-offs include seven (7) recycling centers that focus on metals recycling, and two (2) used building material stores that receive materials for reuse.



**Figure 3.4 - Kane County Residential Waste and Diversion Rate Trends**



Note that the green bars labeled Recycling Tons in Figure 3.4 include both single-stream recycling and yard waste diverted from landfills from municipal and unincorporated residents and drop-offs.

**c. Commercial Sector**

Commercial and institutional establishments generate approximately 50 percent of all solid waste in Kane County, based on hauler tonnage reports. The composition of commercial waste is quite different from residential waste and can vary significantly among different establishments. The commercial waste stream does contain large amounts of recyclable material, such as paper, cardboard, and pallets.

Businesses and non-profits contract directly with a private hauler to collect their solid waste. Most establishments rely on their waste hauler to provide recycling services along with their trash service. Other businesses use the services of a third-party company to recycle large quantities of corrugated paper, scrap metal, pallets or other materials.

The 1996 Kane County recycling ordinance required all commercial establishments to recycle the two (2) largest recyclable materials in their waste stream. In the first two (2) years after this requirement was adopted in 1996, countywide compliance was estimated at 70 to 80 percent. As reported in the last update, by 2009, that compliance rate had dropped to about 46 percent of all establishments. Based on hauler surveys done in December 2014 the percentage of businesses that have recycling service has plateaued and remains at 46 percent.

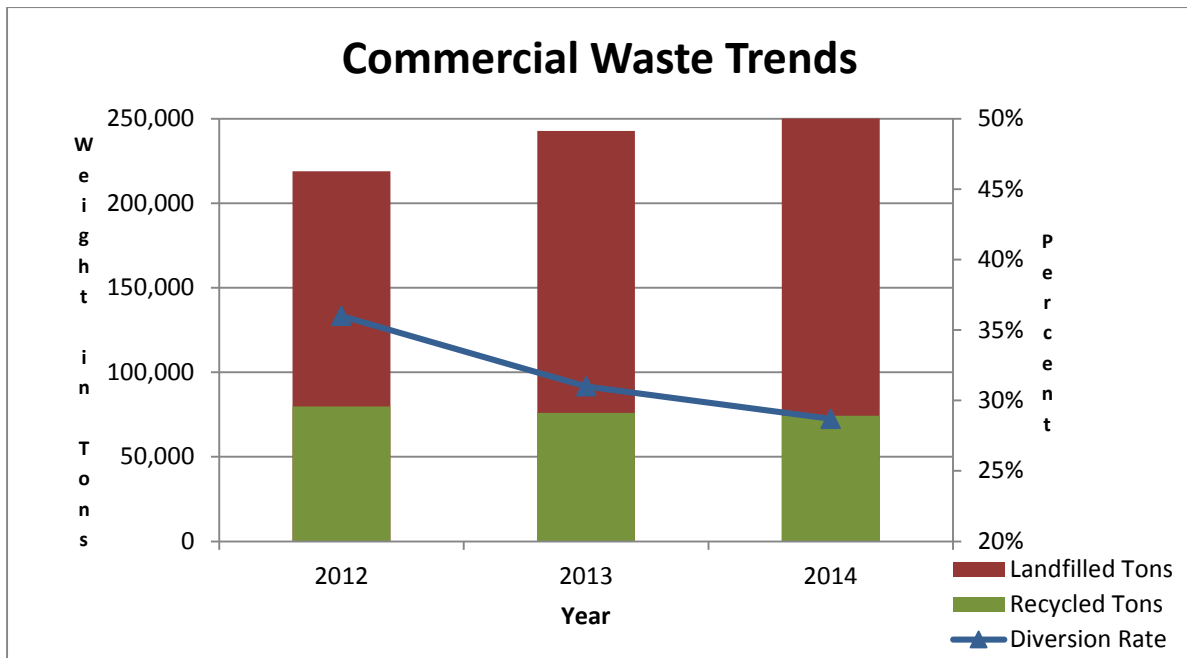
Efforts to develop a practical mechanism to enforce the provisions of the ordinance have not been successful to date.

However the new state law, the Solid Waste Hauling and Recycling Program Act (415 ILCS 12/1 et. seq.), may assist in forwarding participation and compliance in this sector. This law, enacted in 2014, requires each waste hauler to offer commercial recycling services to businesses, commercial property owners and institutional facilities located in Cook and surrounding counties, including Kane. It further includes the following provisions:

- Haulers shall provide information on how and what materials to recycle at least once every other year to customers with recycling service.
- Haulers shall provide a written offer to provide recycling services to commercial businesses, owners or operators of commercial property, and institutional facilities that are not recycling.
- Those offers shall be made at least once during the term of the contract or at least once every two (2) years, whichever is shorter.
- The hauler's written offer shall include a request that the commercial business, owner or operator of the commercial business, or institutional facility respond to the hauler's request to provide recycling services in writing.
- Recyclable materials collected by a hauler within a county or municipality shall not be deposited into a landfill or incinerator unless all reasonable efforts have been made by the hauler to sell those recyclable materials to a processor or end user.

The County will work with haulers to provide information on the Kane County ordinance to business owners.

**Figure 3.5 - Commercial Waste and Diversion Rate Trends**



#### *d. Construction & Demolition Sector*

Construction and demolition waste includes materials such as asphalt shingles, brick, carpet, concrete, metal, pallets, wood, wallboard/drywall and cardboard.

In Illinois, Construction and Demolition (C&D) waste represents nearly a quarter of the overall waste stream, according to the 2009 Illinois Commodity/Waste Generation and Characterization Study. This is not represented by existing data gathered from the annual hauler tonnage reports because the County does not track material delivered to facilities by other entities, such as residents, businesses, contractors, or unlicensed haulers.

Generally, C&D recycling capacity has been developed by the private sector in Illinois and recycling activity in this sector has been market-driven. There is one (1) privately owned processing facility in Kane County, and three (3) other facilities within accessible distance to Kane County. See Figure 3.10.

Amendments have been made to state legislation to encourage the recycling of C&D materials. Section 22.38 of the Illinois Environmental Protection Act provides that general construction/demolition debris processing facilities located in Cook County and adjacent counties are exempt from having to obtain local siting approval, provided they meet certain location requirements and recover at least 75 percent of the incoming construction/demolition materials. Some counties have adopted ordinances requiring the recycling and reuse of C&D materials.

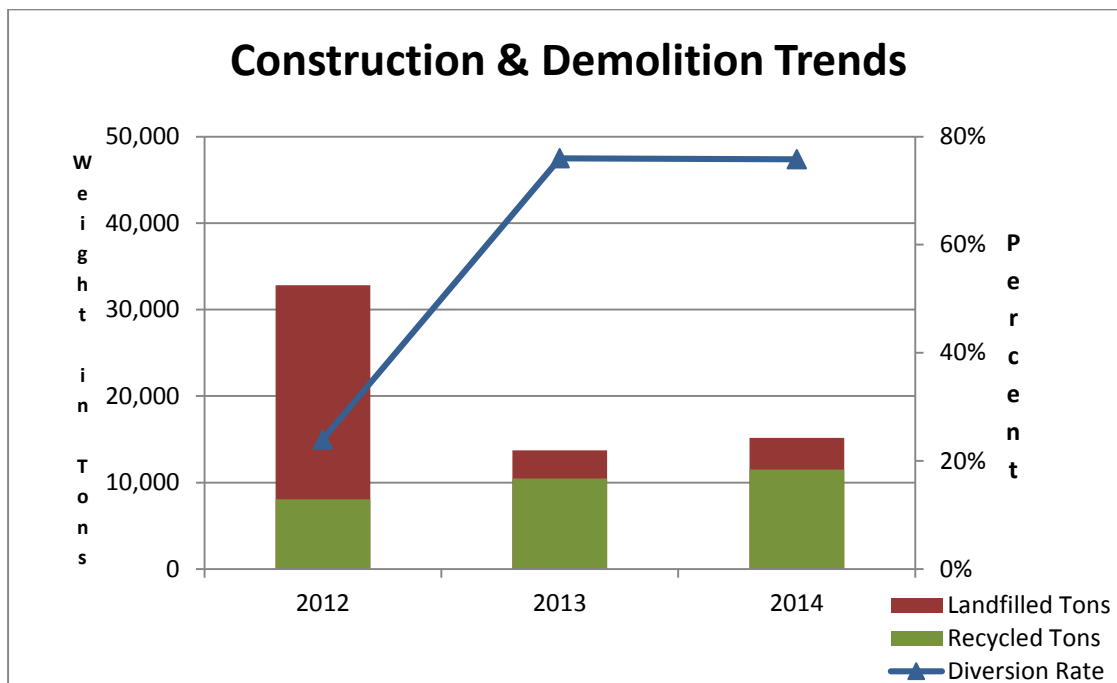
Kane County currently promotes a voluntary approach to C&D recycling due to a number of factors including lack of facilities, potential of cost impact to builders, and low current landfill tipping rates. A “Recycling Construction and Demolition Debris” document was created in 2013, to insert into each building permit packet and to post on the Kane County Recycles webpage. This document serves as a guide to contractors and homeowners on locations that they can utilize to recycle, repurpose, or dispose of their construction materials.

The Kane County data shown in Figure 3.6 are based on weights reported through the annual hauler tonnage reports. However, the tonnage reports are not always received from all of the haulers. Data reported for 2012 were from six (6) out of eleven (11) C & D haulers, and the 5 not received are all large recyclers, therefore the diversion rate for 2012 appears lower than is probable. In 2013, Kane County received nine (9) out of eleven (11), and for 2014 from ten (10) out of eleven (11), completed tonnage reports from haulers, which makes them more accurate.

It is also relevant to note that the Kane County hauler reports track only traditional materials collected residentially, commercially, and from a portion of construction and demolition accounts. It does not include materials dropped off at various C&D recycling facilities, or other drop-offs. Other drop-off items not tracked include electronics, textiles, hazardous waste, pharmaceuticals, tires, and other materials not collected by haulers.

However it is pertinent to show the reported data. Based on Kane County hauler tonnage reports for 2013 and 2014, the C&D sector currently generates an average of 3 percent of the total Kane County traditional material waste stream collected by haulers. Of the reported tonnage of material in those two years, 76 percent is recycled and 24 percent landfilled.

**Figure 3.6 - Construction and Demolition Waste and Diversion Rate Trends**



Deconstruction is becoming more prevalent as a method of recovering building materials such as cabinets, doors, fixtures, fittings, and lumber from buildings that are being torn down or remodeled. Rather than demolishing the buildings as in the past and landfilling the materials, the buildings are carefully deconstructed and materials are recovered and reused. There is a deconstruction company in South Elgin that does such work. Further there are reuse industries that collect and resell used building materials from deconstructions, and other bulk items that are diverse and reusable. Habitat for Humanity has ReStore outlets in both Elgin and Aurora.

#### **C.4. Organics**

##### ***a. Landscape Waste***

Landscape waste or yard waste was banned from Illinois landfills in 1990 with Public Act 85-1430. This ban led to the development of infrastructure that is currently composting over 500,000 tons of organic waste each year<sup>1</sup>.

Municipalities, townships, and private businesses in Kane County provide separate collection of this material. In each municipality, contracted haulers collect this material. In some locations, city and township crews conduct separate collection programs for leaves or brush. A significant portion of residents and commercial establishments employ private landscaping services. The collected material is chipped, land-applied on farmland, or composted at permitted facilities. Landscape waste quantities may be declining as some residents have transitioned to mulching lawn mowers and/or backyard composting.

<sup>1</sup> 2013 Illinois Environmental Protection Agency Permitted Landscape Waste Compost Facilities annual report submitted in 2014

## ***b. Food Scraps***

Food scraps comprise 13 percent of landfilled solid waste in Illinois, according to the 2009 Illinois Commodity/Waste Generation and Characterization Study. The only material found in greater quantity in landfills is recyclable paper at 15 percent of the total.

Food waste originates from residential, commercial, and institutional sources. Reasons to divert this material from landfills include the following: to increase landfill capacity, reduce methane emissions and to recover valuable resources for composting (which returns nutrients to the soil) or anaerobic digestion (which produces energy in addition to compost). The USEPA developed a food recovery hierarchy (see figure 3.7) to guide best practice priorities. Prior to the last update in 2009, limited attempts had been made to compost food waste due to regulatory barriers.

However, in 2009, Public Act 96-0418 was passed by the Illinois legislature, making it possible to site a new or expand an existing commercial food scraps composting operation in Illinois without going through the state's lengthy and expensive local siting law process, provided food scraps constitute no more than 10 percent of the total volume handled at the facility. This effectively allows landscape waste processing facilities to be more easily permitted to combine food scrap into the mix. To date, 10 of the 45 active compost facilities in the state are now permitted to accept food scrap along with yard waste. In 2013, Public Act 98-0239 was passed to remove permitting requirements for very small (under 25 cubic yards) processing sites and expand opportunities for urban and suburban farms to compost food scraps. In 2014 the Illinois Environmental Protection Agency (IEPA) also developed a pilot program to allow for the one-day collection of organics (eg. pumpkins) through a registration process versus permitting.

In 2012, the Illinois Food Scrap Coalition (IFSC) was formed of Illinois county recycling program coordinators and other stakeholders to advance food scrap composting, focusing first on the commercial sector where the bulk of the volume is generated. The Kane County recycling coordinator is an active member of IFSC. The Coalition is working to create networks between generators, haulers, and processors, while also working on commercial business education and outreach and advancing end-markets for the finished compost. Residential composting is the next step, once infrastructure is established to a level that will make it more affordable.

The City of Elgin in Kane County recently renegotiated their hauler contract including a section that provides for a residential food scrap collection pilot program.

The January 2015 *Food Scrap Composting Challenges and Solutions in Illinois Report* addresses the financial aspects of food scrap recovery in the following excerpt:

*Capturing value, seizing new market opportunities and taking advantage of the assets that are present locally are strong principles upon which to grow local economies. Due to its nature, composting is a local activity, requiring the transport of organic material to facilities that can create a high end use product. Food scraps are an asset with growth opportunities, providing feedstock for waste-to-energy anaerobic digester projects, feeding animals, or feeding people through donation (see US EPA Food Recovery Hierarchy below). In short, depositing food scraps in landfills is in essence throwing away a valuable resource that can support local economic development, social and environmental goals.*

**Figure 3.7 - EPA Food Recovery Hierarchy**



\*The US EPA Food Recovery Hierarchy (above) advocates for many uses of food scraps – including composting – as alternatives to landfilling or incineration.

Kane County provides backyard compost bins for sale at a low cost to residents through a partnership with the University of Illinois Extension office in St. Charles. About 35 to 50 of these bins are purchased per year, further diverting food scraps, yard waste, and other organics from landfills.

### **C.5. Disposal**

Landfill material is collected from residents, businesses, and the construction sector by private haulers in Kane County. All of the non-recyclable solid waste collected within Kane County is disposed of in landfills. No operating landfills remain in Kane County. The last, Settler’s Hill landfill in Geneva, which is owned by the County and operated under contract by Waste Management of Illinois, Inc., was closed in December 2006.

The original Kane County Solid Waste Management Plan opposes the siting and/or construction of any new landfill capacity within Kane County. This plan update maintains the past recommendation that the County continue the policy established by resolution 95-247 which states, in part, that: “The Kane County Board will not pursue the acquisition of property, the development of, or the siting approval for a new landfill facility in Kane County.”

Solid waste collected in Kane County is delivered to transfer stations and then taken to numerous landfills, including facilities in Ogle Lee, Winnebago, Livingston and DeKalb Counties. See Section 3.4 on Capacity for details on the landfills utilized by haulers operating in Kane County for ultimate disposal of landfill trash.

While recycling efforts have significantly reduced the volume of solid waste requiring disposal, continued population growth will likely create an increased need for disposal of the non-recyclable portion of the waste stream.

Since all solid waste in Kane County is collected, recycled, transferred, and landfilled by private companies, the greatest need is to ensure sufficient competition for both waste transfer and landfilling in the private sector. Competition serves to control price increases, and also maintains a high quality of service in both the residential and commercial sectors.

## **D. Non-Traditional Materials Management**

Programs operating outside of the traditional waste and recycling hauler infrastructure manage the following materials. There are many other materials that are recyclable beyond the containers and paper collected via the traditional curbside recycling programs. The following items are recyclable via alternative collection and drop-off programs or locations. The Kane County Recycling Coordinator manages some of the programs internally and some are managed by external entities.

### **D.1. Appliances**

Used appliances, also known as “white goods”, have been banned from Illinois landfills since 1994 (PA 87-858). All local waste haulers have made arrangements with subcontractors for the separate collection of white goods from residential customers.

### **D.2. Electronic Equipment**

In 2009, the Illinois General Assembly passed the *Electronic Products Recycling and Reuse Act* (PA 95-0959). This law banned 17 categories of electronic equipment from Illinois landfills, beginning in 2010, and requires product manufacturers to establish programs to recycle this material. Kane County began conducting collection events for this material in 2000. Between 2000 and 2009, 65 collection events served a total of 30,716 participants and collected about 3,600,000 pounds of material. Since then, participation has increased significantly due to the ban. During the five (5) years from 2010 to 2014 Kane County conducted 60 events, which, in addition to the five (5) permanent drop-off locations, have served 69,000 residents and collected over 6.5 million pounds of electronics.

While there are presently issues at the legislative level causing disruption in local programs throughout the state, Kane County currently contracts with a certified electronics recycler and receives revenue for legislatively covered materials that are collected through the monthly event and drop-off locations. The future of electronics recycling is unknown at the time of writing. The Kane County Recycling Coordinator will continue to monitor movement in this arena and track legislative amendments, striving to assure the most cost-effective program possible over the next five (5) years.

### **D.3. Household Hazardous Waste**

The County’s Solid Waste Plan and subsequent updates have maintained a consistent goal to reduce the volume and toxicity of waste destined for disposal. Since 1992, the County has used several different approaches for the management of Household Hazardous Waste (HHW) material, including utilizing the permanent facility in Naperville, a home collection service for the northern portion of the County and

additional select areas, and prior to 2009 a series of one-day collection events. These residential programs have been funded by various combinations of state, county, and municipal funding.

The Naperville HHW Drop-off and the Home Collection Service programs described below are for residential waste only. Please contact one of the following Certified Hazardous Waste Companies that can serve small quantity business generated hazardous materials:

Clean Harbors	800-645-8265 or 773-645-8265
Heritage Environmental	800-552-5986
Veolia Environmental	312-552-2800
Safety-Kleen	847-468-6600

The sub-sections below discuss (a) collection methods and (b) materials collected through HHW programs.

***a. Collection Methods***

**Permanent Facility**

In 1996, the City of Naperville and the IEPA opened Illinois' first permanent drop-off facility for HHW. In February of 2015, a new \$1,185,000 facility was opened (\$900,000 of which was funded by the Illinois Department of Commerce and Economic Opportunity) in order to improve services and reduce wait time. It features a covered drop-off area, improved sorting and storage areas, and increased health and safety measures. Wait times are expected to be greatly reduced. The location of this facility (156 Fort Hill Dr., Naperville, IL 60540) is convenient to many residents in the southern portion of Kane County.

There are currently four (4) permanent collection sites sponsored by the IEPA for household chemical waste in Illinois, located in Chicago, Gurnee, Naperville, and Rockford.

In 1998, Kane County entered into an agreement with the City of Naperville to join with other partners to provide financial support for the operation of the City of Naperville HHW facility. Other partners include the IEPA (they pay for recycling/disposal), City of Aurora, City of Naperville, DuPage County, and Will County.

Since the beginning of this partnership, over 33,000 Kane County residents have used this facility. In the last five (5) years, from 2009 to 2014, 11,244 residents have used the facility to responsibly dispose of 344,905 pounds of hazardous waste, which averages 31 pounds per user.

Kane County's involvement in this program is expected to continue over the next five (5) years of this update period.

**Home Collection Service**

In an effort to provide more convenient HHW service to residents of northern Kane County, the County and the City of Elgin contracted with Curbside, Inc. in 1999, to provide HHW pickup service for Elgin residents. Originally the City of Elgin and County shared the cost. The City of Elgin now pays the entire program cost for their City program.

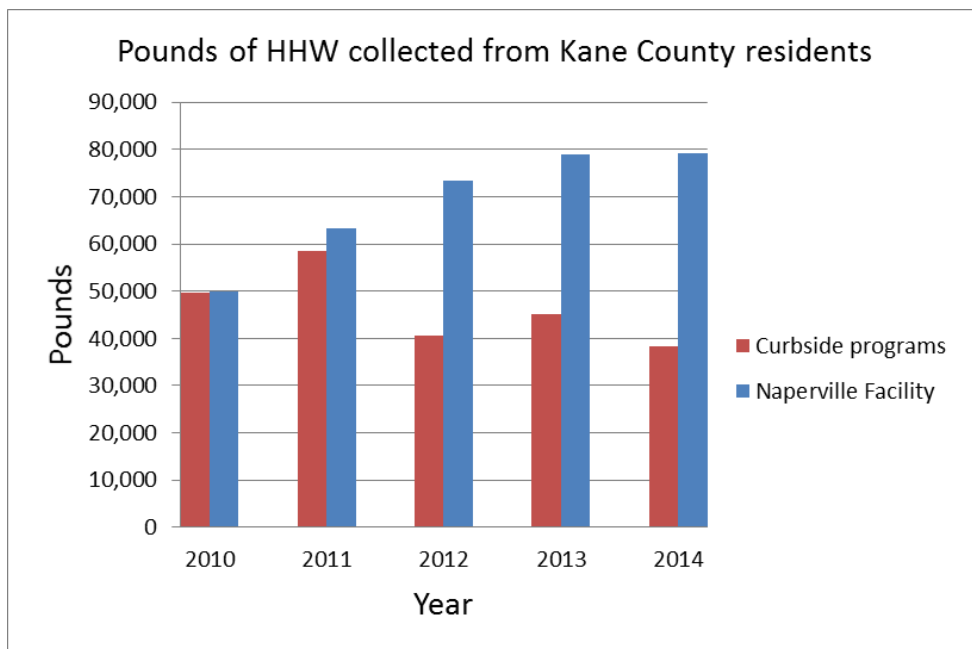


In 2000, the home collection service was expanded to serve residents in towns, villages and unincorporated portions of the six (6) most northern townships of Burlington, Dundee, Elgin, Plato, Rutland, and Hampshire. In 2012, the Mill Creek Special Service Area was added to the program. This service is provided under contract with At-Your-Door Special Service. Beginning in 2013, the City of Geneva began a parallel program by contracting independently with the service provider.

From 1999 to 2014, a total of 8,856 households have used this service, including the numbers from the cities of Elgin and Geneva. In the last five (5) years, from 2009 to 2014, 2,663 residents have used these services to responsibly dispose of 232,264 pounds of hazardous waste, which averages 87 pounds per user. This is a significant increase in pounds per user over the Naperville drop-off, which averages 31 pounds per user. Resident feedback cards received on this program show an overwhelmingly positive response, and also indicate that much of the material has been held for over 10 years.

Funding for this program is secured in partnership with the Villages of South Elgin, Carpentersville, and West Dundee, as well as the Mill Creek Special Service Area through HHW fees written into the hauler contracts. This program is expected to continue over the next five (5) years of this update period.

**Figure 3.8 - HHW collected through the Permanent Facility & Pick-up Service**



### One-Day Collection Events

Kane County has historically worked with the IEPA to offer one-day collection events for residents. From 1992 through 2008, 25 of these events were conducted at various locations. The 25 one-day events were attended by 30,528 total residents and diverted an estimated 3,000,000 pounds of material from landfills. These events ended in 2008, as the funding from the IEPA was no longer available.

***b. HHW Materials***

The following materials, in addition to being received through the Permanent Facility or Pick-up Service program above, have other options available for proper disposal and recycling.

**Batteries:** Battery recycling diverts heavy metals including cadmium, lead, and mercury from the waste stream. The County does not have a public collection program for alkaline batteries, but municipalities and townships have programs that include eight (8) known public drop off locations. It is not expected that the County will fund public battery recycling programs, but will continue to promote existing options to residents. The Kane County Recycling Coordinator will continue to track national product stewardship programs for this material.

Kane County government has a new county office recycling program for alkaline batteries used by the County. Since it began in 2012 through the end of 2014, this program has diverted 650 pounds of batteries from the landfill.

Public Act 86-723 banned the landfilling of lead-acid batteries effective September 1, 1990. Lead-acid batteries are recyclable at some hardware stores and automotive service/parts stores.

**Fluorescent bulbs:** Fluorescent tube lamps are universal waste and therefore residentially exempt from the landfill ban. However the USEPA recommends that they be responsibly disposed of through a HHW program. Fluorescent tubes are acceptable in the HHW programs listed above, yet there are no other programs and residents frequently request more conveniently located options.

In response to this need, Kane County began offering fluorescent tube recycling at the annual recycling extravaganza events, starting in 2013. Since then an average of 1000 4-foot fluorescent tubes were collected for safe disposal at each event. There is a present need for more locations and/or more frequent collection events.

Compact fluorescent light bulbs (CFLs) are readily recyclable at local hardware stores.

**Motor Oil:** Public Act 87-1213 prohibits, beginning July 1, 1996, persons from knowingly mixing liquid used oil with any municipal waste that is intended for collection and disposal at a landfill. From 1994 - 2008, the County conducted 65 one-day collection events for used motor oil, (in an effort to divert this material from the more-expensive one-day HHW collection events), which were attended by 13,348 people and collected 183,700 gallons of used oil. During that time, there were no private businesses in the County that would accept used oil from the public at no charge.

Numerous private businesses now accept used motor oil from the public at no charge. With the development of municipal and private sector options, the County has eliminated its used oil collection events.

**Mercury-containing devices:** The Mercury Thermostat Collection Act (415 ILCS 98/1 et. seq.) requires manufacturers to collect and properly dispose of thermostats containing mercury.

**Paint:** Oil-based paint is accepted at the Naperville HHW facility and through the Home Collection program above. Latex paint is not accepted at the Naperville facility, but is accepted through the Home Collection Service.

Latex Paint is water-based and non-toxic and can therefore be dried out and placed with municipal solid waste. However, in Illinois there is a private company through which liquid latex paint may be recycled. Residents may drop latex paint for a per-can recycling fee at a number of participating hardware stores. In addition, Kane County began offering latex paint recycling at the annual recycling extravaganza events, starting in 2012. In the last three (3) years, Kane County has collected nearly 5,000 gallons of latex paint for recycling. Latex Paint recycling will be offered with quarterly events in 2015. Residents are required to pay a per-can fee to recycle this material at Kane County events.

**Pharmaceuticals:** There are ten (10) locations listed on the County recycling webpage for safe disposal of expired or unwanted pharmaceuticals, nine (9) of which are in the County. Four (4) of those locations are for city residents only and five (5) are open to all residents in the County. These programs are not managed by the County but are promoted on the webpage and in other outreach materials.

#### **D.4. Kane County Collection Event Materials**

**Bikes:** Bikes, bike parts, helmets, baskets and other accessories are all reusable and/or recyclable. The County has worked with Working Bikes out of Chicago for the last three (3) years to collect these items at the annual recycling extravaganzas. Residents have recycled 115 bicycles through this program.

**Books:** Hard cover books cannot be recycled in existing residential recycling programs because of the bindings. However, recycling markets do exist for books, as long as they are collected separately. Books are collected during the monthly electronics recycling program. From 2004 through 2014, over 872,000 pounds of books have been recovered for reuse and/or recycling. About five (5) to ten (10) percent of the books collected are reused and the rest are recycled.

**Carpet and Padding:** The Illinois Carpet Recycling Working Group formed in 2012 to increase carpet recycling in Illinois and there was a brief surge in carpet recycling in 2013 and 2014. However due to industry struggles with a flood of (polyethylene terephthalate) PET carpet made from plastic bottles, which has no recyclable value, the feasibility of collections is on decline. Carpet padding has held its value in the market but is not as abundant as carpet itself. Kane County included carpet and padding in three recycling events in 2013 and 2014, collecting a total of 25,000 pounds. The future of recycling programs for this material is uncertain at the time of writing. Where feasible, Kane County will continue to include it in the annual recycling extravaganza.

**Confidential Documents:** In response to public request, Kane County began offering free on-site confidential document shredding service along with the annual extravaganzas in 2012 and then quarterly in 2014. In the seven (7) events conducted over those years, a total of 144,330 pounds of paper were collected for recycling. This program insures that the paper is being recycled rather than burned or thrown away. This program will continue to be offered quarterly in 2015 and beyond as funding allows.

**Textiles, Clothes, Shoes:** Used clothing and other textiles represent three (3) percent of landfilled solid waste. These items are highly reusable and recyclable. Collection programs exist, primarily by charitable

organizations and for-profit “drop boxes”. However, current efforts result in the recycling of only about 15 percent of the available material.

According to the Council for Textile Recycling (CTR) and the Secondary Materials & Recycling Textiles Association (SMART), 45 percent of the collected textiles in the United States are sold and reused as secondhand apparel, 30 percent are used to manufacture wiping and polishing cloths, 20 percent are reprocessed into fiber, and five (5) percent are unusable.<sup>1</sup> Usable clothing is marketed throughout the United States, Canada, and internationally.

Kane County has offered textile recycling at its annual recycling extravaganza beginning in 2012. Over three (3) years, from 2012-2014, this program has collected 9,000 pounds of textiles, clothes, and shoes for reuse and recycling, and made a small revenue on that material. Kane County will explore the potential for expansion of a County textile and shoe recycling program in this planning period.

**Tires:** Public Act 86-452 (1989) banned whole used or waste tires from sanitary landfills effective July 1, 1994. In the past, the County conducted occasional free tire drop-off days as a convenience to residents, but does not intend to do so in the future because retailers are required to take back used tires when new tires are purchased. In addition, many tire retailers will accept extra used tires for a small fee.

**Other materials:** In addition to the programs and services identified above, Kane County maintains an online A-Z list of a range of other materials that are readily reusable or recyclable at various drop-offs in the area. That list is also printed in the annual Kane County Recycles Green Guide.

### 3.4 Capacity

The IEPA produces an annual report on landfill capacity in Illinois. As of January 1, 2014, there were 947 million cubic yards of available capacity in 42 Illinois landfills. This remaining capacity is four (4) percent less than the 988 million cubic yards of landfill capacity that was available in 2008. However, as the cubic yards of statewide landfill capacity has been declining over recent years, the overall statewide landfill life expectancy has been increasing due to changes in waste disposal rates. A calculation—which divides the total waste disposed of in the state by the sum of all the state’s landfill capacities—shows that there is a statewide landfill life expectancy of 21 years at current disposal rates.<sup>2</sup> However, statewide figures are misleading in relation to the regions utilized by Kane County, since regional capacity is much lower than statewide capacity.

The Illinois Solid Waste Management Act requires the IEPA to report on landfill capacities on a regional basis. The State of Illinois has seven (7) administrative regions as indicated in Figure 3.9. The amount of waste each region accepted in 2013 is illustrated in Table 3.5.

---

<sup>1</sup> [http://www.smartasn.org/about/SMART\\_PressKitOnline.pdf](http://www.smartasn.org/about/SMART_PressKitOnline.pdf)

<sup>2</sup> 2014 Illinois Landfill Projections of Disposal Capacity Report

**Figure 3.9 - Illinois EPA Regions and Regional Waste Accepted in 2013**



Although Kane County is physically located in Illinois EPA Region 2, which has 11 years of landfill life remaining, the County does not currently utilize any landfills in Region 2. Illinois EPA Region 1, which has 15 years remaining, houses five (5) of the six (6) landfills that receive waste from Kane County. The other landfill used by Kane County is located in Region 4, as listed in Table 3.6.

**Table 3.5 - Illinois Landfills Regional Waste Accepted in 2013**

Region	Landfills Accepting Waste in 2013	Landfill Life in Years	Waste Accepted Gate Cu. Yds.	Waste Share of State Total
1. Northwestern Illinois	7	15	15,187,038	34%
2. Chicago Metropolitan	6	11	8,065,628	18%
3. Peoria/Quad Cities	8	35	4,573,951	10%
4. East Central Illinois	7	30	6,523,376	14%
5. West Central Illinois	5	20	1,894,455	4%
6. St. Louis Metropolitan East	4	22	7,130,529	16%
7. Southern Illinois	5	50	1,719,220	4%
Totals	42	21	45,094,197	100%

\*Landfill life (in years) means remaining capacity divided by waste disposed. This indicates how long a region may be served by local landfills at current disposal rates, barring capacity adjustments, until capacity is depleted.

Source: 2014 Illinois Landfill Projections of Disposal Capacity Report

The calculation of remaining life (total remaining capacity divided by total waste received), for the landfills utilized by Kane County, shown in Table 3.6 below, is relevant to the County in that as one

facility reaches capacity other facilities will see an increase in waste intake and therefore a reduction in life.

**Table 3.6 - Landfill Capacities for Landfills Used by Kane County Waste Haulers**

Landfill Name	Reported Capacity in Cubic Yards	Total y <sup>3</sup> Waste Received in 2013	Remaining Landfill Life in Years	Illinois EPA Region	County	Landfill Operator
Orchard Hills Landfill	78,547,913	5,529,382	14	1	Ogle	Advanced Disposal
Lee County Landfill	56,455,194	1,803,877	31	1	Lee	Lee County
Winnebago Landfill	15,589,363	3,062,424	5	1	Winnebago	Winnebago Reclamation
Rochelle Municipal Landfill	9,813,323	401,227	24	1	Ogle	Rochelle Waste Disposal
DeKalb Landfill	11,309,987	1,884,997	6	1	DeKalb	Waste Management
Livingston Landfill	88,853,301	3,439,726	26	4	Livingston	American Disposal

Source: 2014 Illinois Landfill Projections of Disposal Capacity Report

For the term of this update, it appears that landfill capacity in Northern Illinois is sufficient to meet the disposal needs for non-recyclable waste generated within Kane County. Regional landfill capacity will need to continue to be tracked as part of future plan updates.

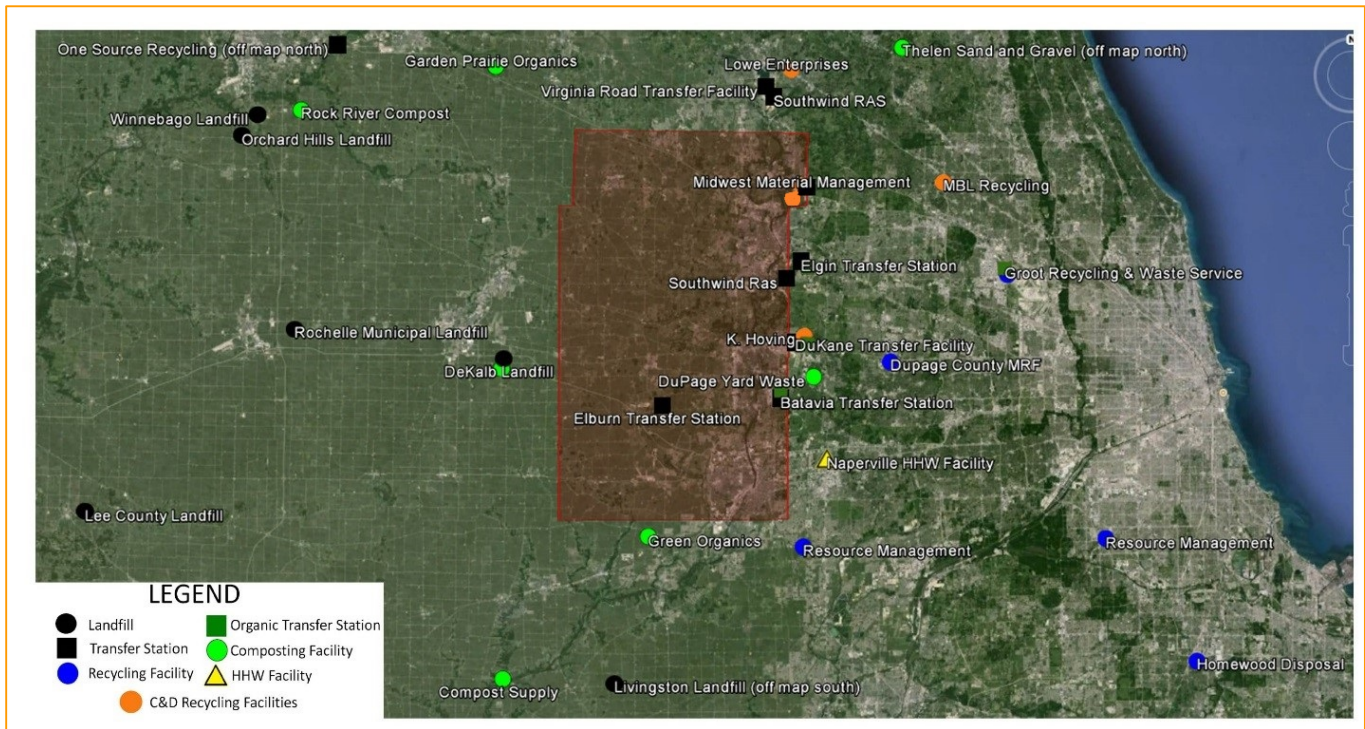
### 3.5 Infrastructure

Kane County haulers rely on a number of facilities to manage their waste, recycling, and organics (refer to Figure 3.10).

The map below was informed by a special survey of Kane County haulers in 2014. Responses indicated that waste material from Kane County was being taken to six (6) landfills in the area, as referred to in Table 3.6. Recyclable material goes to five (5) material recovery facilities (MRFs) and yard waste and food scrap goes to six (6) compost facilities. Construction material is delivered to four (4) C&D processing facilities.

There are a number of transfer stations through which waste, recycling, organics, and construction materials pass on their way to the landfills, MRFs, and compost processing facilities. There are currently two (2) permitted transfer stations in Kane County: at a location west of Geneva that is owned and operated by Waste Management and a Batavia facility owned and operated by Advanced Disposal Services. In addition, a significant portion of the County’s waste is shipped through the DuKane transfer station located in West Chicago and the Waste Management facility in Elgin/Cook County.

**Figure 3.10 - Regional Infrastructure utilized by Kane County**



The Naperville Hazardous Waste Facility, also indicated on in Figure 3.10, is relatively close for Kane County’s southern residents, and the primary facility used by Kane County residents of the four facilities in the region.

Not shown on the map are: nine (9) scrap metal companies that collect and receive ferrous and non-ferrous metals for recycling and that provide data to the County. Additionally, there are two (2) main textile recycling companies, one (1) of which is located in the County. The other, located in West Chicago, has numerous drop-boxes located within the county. There are also two (2) Habitat for Humanity ReStores located in Elgin and in Aurora in Kane County that repurpose, reuse, and resell used building materials.

### **A. Siting Approval**

Waste transfer stations are defined as pollution control facilities under the Illinois Environmental Protection Act and must secure local siting approval as well as IEPA permit approval. If a transfer station is proposed to be located in unincorporated Kane County, the County is vested with siting authority. If a transfer station is proposed to be located in an incorporated area, the municipality is the appropriate siting authority.

Section 39.2 of the Illinois Environmental Protection Act governs the local siting process. In order to receive local siting approval, transfer stations must demonstrate compliance with nine (9) separate criteria. Kane County has adopted a local siting ordinance (Kane County Code, Chapter 11, Article V) to implement the requirements of Section 39.2. Kane County wishes to insure that sufficient information is presented on proposed transfer stations, and that siting applications comply with statutory requirements to include “sufficient details” demonstrating compliance with the nine (9) criteria of Section 39.2.

The required content of applications for local siting approval of transfer stations to be located within unincorporated Kane County can be found in Appendix B, which is sourced directly from the adopted 2004 Kane County Solid Waste Management Plan Update. Unless a siting application contains all the information as defined in Appendix B - *Required Content of Applications for Local Siting Approval of Transfer Stations to be Located within Kane County*, the application is incomplete and does not contain the necessary information for the siting authority to adequately review and objectively rule on the proposed facility. Furthermore, any siting application filed within Kane County which does not contain all of the information specified therein is inconsistent with the County's Solid Waste Management Plan.

Transfer stations which are used exclusively for landscape waste, and at which landscape waste is not stored for more than 24 hours, are exempt from the Section 39.2 process. Such facilities must obtain zoning approval, however, as well as IEPA permit approval. Transfer stations which are used exclusively for recycling purposes are also exempt from the siting process.

Upon receiving local siting approval, a facility is required to obtain development and operating permits from the IEPA. Transfer stations may also require additional approvals such as stormwater permits, building permits, and occupancy permits. After they are constructed and commence operations, transfer stations are inspected by the IEPA.

The Kane County Solid Waste Management Plan recognizes the need for an increase in capacity for transfer stations that accept waste generated by the residents and businesses of Kane County.

## **B. Host Community Benefit Agreements**

A host agreement between the County and operator of a pollution control facility provides compensation and regulation of external consequences.

A Generic Host Community Benefit Agreement was adopted by County Board Resolution 05-216 on June 14, 2005 (Appendix C), and a Requirement for an applicant for a pollution control facility located anywhere in Kane County to enter into a host agreement with the County was adopted by County Board Resolution 05-462 on December 13, 2005 (Appendix D). However Resolution 05-216, attached as Appendix C, automatically terminated and expired November 30, 2008. Therefore the host community benefit agreement will need to be reviewed, updated, and readopted.

Because a host agreement is required to establish consistency with the County's Solid Waste Management Plan, and must be entered into before a finding of plan consistency can be determined for any proposed facility, the generic host agreement (as it last stood according to Resolution 05-216, Appendix C), and the Exhibit requiring the host agreement (as per Resolution 05-462, Appendix D) will be maintained until an updated version is adopted in this planning period.

## **3.6 Alternative Technologies**

Alternative disposal methods that reduce the volume of waste disposed in landfills include those that convert waste-to-energy (WTE) or waste-to-fuel (WTF). Energy recovery from waste, or WTE, is the conversion of non-recyclable waste materials into useable heat, electricity, or fuel through a variety of processes, including combustion, gasification, anaerobic digestion, and landfill gas recovery. Energy recovery from waste is part of the USEPA's non-hazardous waste management hierarchy. Converting non-recyclable waste materials into electricity and heat generates a renewable energy source and reduces



carbon emissions by offsetting the need for energy from fossil sources and reduces methane generation from landfills. WTF technologies are those that produce a refuse-derived fuel (RDF) by shredding and dehydrating solid waste through a waste conversion method, such as pyrolysis. RDF can be used in a variety of ways to produce electricity, such as alongside traditional sources of fuel in coal power plants or through plasma arc gasification.

Biogas systems or Anaerobic Digestion (AD) systems that process organic materials, have been a proven source of energy for decades. There are over 2000 of these systems in the United States. The *Biogas Opportunities Roadmap*, published in August of 2014 by the USEPA, the U.S. Department of Agriculture, and the U.S. Department of Energy constitutes a sound reference source on this topic. The Roadmap outlines several “voluntary actions the government will take to promote biogas utilization through existing programs, foster investment and strengthen markets for biogas systems and products, and improve coordination and communication.” It is important to note that AD systems can be used to convert food-scrap into energy, will be integral to development of expanding food scrap collection programs in Illinois. According to the Roadmap, increasing the use of biogas will help to “meet renewable energy goals, strengthen the economy, and reduce methane emissions.”

Technologies, like AD, that convert waste to energy or fuel through biological conversion, not including mass burn incineration, should be considered as a potential method of waste management in Kane County into the future. Organic and non-organic WTE or WTF technologies should be coupled with sorting and recycling methods to ensure options for highest value re-use and recycling.

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 and McHenry Counties, 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:

- **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 Kane County waste?
- **Technical Feasibility** - Is the technology proven for all or a portion of the waste generated for disposal in Kane 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?
- **Environmental Impacts** - What are the environmental impacts of the technology on the air,

water, and land of Kane County and its surrounding neighbors? Do the air, land, and water pollution control technologies proposed at the facility meet the most current applicable state of Illinois and/or federal regulations for new facilities including the Maximum Achievable Control Technology (MACT) standards and anticipated regulatory changes that may be still pending final approvals?

- **Permitting** - What federal, state, and/or local permits will be necessary for the facility to be developed and operated?
- **Safety Issues** - What safety concerns for the worker and general public are associated with the facility and can they be adequately addressed?
- **Health Risk Assessment** - What are the health risks and benefits associated with the technology?
- **Financing** - How will the facility be financed and can financing be arranged?
- **Life Cycle Assessment** - What are the life cycle environmental impacts of the proposed disposal technology compared to the current disposal system in Kane County, using the following life cycle parameters – net annual energy consumption, sulfur oxides emissions, nitrogen oxides emissions and carbon dioxide emissions?<sup>1</sup>

All proposed alternative technology facilities must further meet the requirements outlined in Appendix C *Host Community Benefit Agreement*.

In 2013, Kane County Division of Environmental Resources staff researched non-landfill technologies and produced a summary of findings, attached as Appendix E *Waste to Energy Summary 2013*. That same year Kane County was approached by a company proposing a Low Temperature Mechanical Pyrolysis (LTMP) technology. There was a presentation to the Energy and Environmental Committee, and an internal dialogue with the company over several months to explore the potential of this technology. To date, there have not been any proposed resolutions.

To the extent that alternative disposal technologies are demonstrated to be viable in the future, these technologies do not displace recycling and reuse, and should be considered as one part of a comprehensive solution. It is recommended that Kane County monitor and assess WTE and WTF developments over the next five (5) to ten (10) years to ensure that opportunities are not missed.

### **3.7 Public Education and Information**

#### **Public Education**

Public education is critical to the continued success of recycling programs, especially in areas such as Kane County which are experiencing high rates of population growth and turnover in existing homes. Important educational messages include reminders of what materials can (and cannot) be recycled in the household recycling bin and at various drop-off locations, the benefits of recycling, and results of current recycling programs.

The County publishes an annual Green Guide to local recycling programs, which is distributed Countywide and published online. Program information is posted on the Kane County website, and press

---

<sup>1</sup> All questions from the 2014 Solid Waste Management Plan Update for Lake County, Illinois

releases are issued for individual collection events. Kane County Connects and other local media outlets provide a forum for outreach through social media at a level unprecedented in the past. In addition, program information is distributed to all local governments, libraries, schools, churches, and waste haulers, which has resulted in an established referral network through which the County receives more than 2,000 telephone and e-mail inquiries each year.

Kane County Recycles participates in public green events like The Elgin Green Expo, Geneva Earth Day, Aurora Green Town, and other special events, and delivers public presentations to larger groups as time allows.

### **School Programs**

Schools are an important setting for establishing recycling habits at an early age. From 1994 – 2005, the County conducted a comprehensive program designed to increase the level of recycling in schools, and to inform students and staff about the importance of recycling at school, at home, and in the workplace. This program was discontinued due to budgetary limitations. This plan recommends that Kane County seek to increase school recycling education programs, through grant funds and event commodity revenues.

## **SECTION 4**

### **ECONOMICS AND FUNDING**

#### **4.1 Conditions Effecting Waste Quantities**

During periods of economic growth, waste quantities increase, often at a faster rate than population growth. Most states show a consistent upward trend from 1996 up until about 2006 or 2007, after which they declined due to the housing crisis, Great Recession and prolonged economic downturn. Waste disposal quantities appear to have leveled off beginning in 2010, perhaps an indication of an improving economy. Though the primary cause for the recent drop in waste quantities has been the economy, there are secondary factors that may have an impact on waste quantities, including:

- Increased diversion from landfill disposal due to implementation of cart-based recycling collection, recycling of select materials such as asphalt shingles, and disposal bans on electronic wastes;
- Changes in the composition of products to utilize fewer materials or lighter materials (referred to as light-weighting);
- Reductions in packaging for consumer goods; and
- Increased reuse of packaging and shipping materials.

#### **4.2 Waste and Recycling-based Economic Activity**

Waste management, pre-cycling, 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.<sup>1</sup>

Indirect 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.

Kane County will explore how it may increase waste related jobs by attracting additional recycling and waste management activity into the County by sensibly expanding waste management infrastructure to promote the larger goal of reducing waste disposed of in landfills.

### **4.3 Funding Sources**

Unlike many contiguous Counties who still operate landfills within their borders, Kane does not have annual revenue associated with tipping fees or landfill host agreements.

Currently Kane County Recycles programs are funded mainly through the Grand Victoria Riverboat Fund Program, which was created through a 1997 agreement between Kane County and the Grand Victoria Foundation authorized by Resolution 97-100 (and as amended 7/14/1998 - Res. 98-176; 4/10/2001 - Res. 01-101; 10/11/2005 - Res. 05-345; 10/11/2011 - Res.11-305) This funding source has for many years granted \$79,000 per year to Kane County Recycling programs, but in 2015 that amount fell to \$75,000. Any funding amounts that may be granted for 2016 and beyond are unknown.

Other annual revenue includes approximately \$4,000 in hauler licensing fees, \$3,000 in book recycling revenue-share, and \$300 in textile recycling revenue-share. Textiles and shoes are a valuable commodity with certain potential for more revenue. Kane County's household hazardous waste special-pick-up service program is partially funded through an average annual contribution of \$25,000 by municipal partners.

For three (3) years running, 2013-2015, Kane County has applied for and received a \$2,000 grant from the Illinois Environmental Protection Agency for education and outreach related to electronics recycling. This funding source will be available annually for the foreseeable future.

The electronics recycling program has brought in a revenue of \$150,000 during the four years from 2012 and 2015, it is important to state that the amount of revenue from this source has been greatly variable and is unpredictable in the current Illinois scenario. It is unlikely that there will be any funding from this source in 2016.

Kane County should examine and where determined appropriate, pursue all reasonably available sources of interim and long-term funding, including revenue from resource recovery, for implementing programs recommended in the Solid Waste Management and Resource Recovery Plan.

---

<sup>1</sup> 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.

## SECTION 5

### RECOMMENDATIONS

This section identifies the recommendations for Kane County's Solid Waste Management and Resource Recovery Plan 2015 Update. Recommendations have been based on the data reviewed and presented in Section 3, an analysis of industry trend, needs revealed through public requests, and input received from the Director of the Kane County Division of Environmental and Water Resources and the Kane County Energy and Environmental Committee.

#### 5.1 Waste Minimization

- A. *Promote waste minimization through education and outreach to encourage reduced consumption and creative reuse of materials.*

#### 5.2 Recycling

- A. *Improve current programs and develop new programs to maximize recycling, to the extent practically and economically feasible, in order to increase diversion of materials from landfills. This recommendation targets no specific material, but directs the recycling coordinator to research current opportunities for the recycling of non-traditional materials and to develop programs where feasible.*
- B. *Continue to work in cooperation with other regional planning agencies and area counties where appropriate, in order to share resources and evaluative information concerning solid waste and recycling programs and services.*

#### 5.3 Ordinance Enforcement

- A. *Enforce the Kane County recycling ordinance (95-157) to increase the volume of recycling in multi-family residential buildings and commercial establishments by working with the waste and recycling haulers.*
- B. *Utilize the mandates in the Solid Waste Hauling and Recycling Program Act (415 ILCS 12/1 et. seq.), which requires each waste hauler to offer commercial recycling services to businesses, commercial property owners and institutional facilities, to support this enforcement on a county level. Work with haulers to provide information on the Kane County ordinance to business owners.*

#### 5.4 Organics

- A. *Develop avenues of outreach to Kane County commercial food service establishments to encourage separation and collection of food scraps for composting or anaerobic digestion and make connections between businesses and haulers.*
- B. *Monitor any pilot program carried out on a municipal level that will serve to inform future County food scrap collection programs.*
- C. *Continue to actively engage in the Illinois Food Scrap Coalition, in order to remain connected to state and regional developments.*

## **5.5 Textiles**

- A. *Develop or encourage new programs to increase textile recycling, including clothes, linens, shoes, and accessories.*
- B. *Assess all potential opportunities for revenue-share.*

## **5.6 Construction and Demolition**

- A. *Conduct outreach to area construction and demolition contractors to encourage recycling of materials, and connect them to the facilities that process such materials.*
- B. *Further the development of C&D recycling and deconstruction efforts in Kane County, depending on availability of funds and priorities, in order to increase diversion of construction and deconstruction-related materials.*

## **5.7 Electronics**

- A. *Continue to work with the contracted electronics recycler to assure the most cost-effective program possible for Kane County.*
- B. *Secure, at time of contract expiration, the most cost-effective program possible for Kane County at that time.*
- C. *Engage actively with the Illinois Product Stewardship Council and the Electronics Recycling Subcommittee to monitor and contribute to the amendment process mandated for the Illinois Electronic Products Recycling and Reuse Act (PA 95-0959).*

## **5.8 Household Hazardous Waste**

- A. *Research feasibility of and secure funding in order to collect fluorescent tubes at the quarterly residential recycling events, and other permanent drop-offs (i.e. select hardware stores), in order to fill the need currently unsupported by limited available recycling opportunities.*

## **5.9 Infrastructure**

- A. *Review, update, and readopt a Host Community Benefit Agreement and requirements pertaining to siting of transfer stations before the next plan update.*

## **5.10 Alternative Technologies**

- A. *Monitor and assess developments in alternative waste management technologies, including waste-to-energy and waste-to-fuel technologies over the next five to ten years to ensure that opportunities are not missed.*

## **5.11 Public Information and Education**

- A. *Support in-school recycling efforts and foster recycling awareness in local schools.*
- B. *Secure funding where possible to reinstate a Kane County school recycling education program.*

# APPENDICES

## Appendix A

Regulatory Component: Local Ordinances, State Legislation

### **Kane County Recycling and Hauler Licensing Ordinance (95-157) Synopsis**

[Kane County Code, Chapter 11, Article 4.](#)

**Haulers:** The ordinance requires that haulers operating in the county be licensed by the county and report annual weight data on all materials collected. It further requires haulers to provide recycling service to all clients served with trash service, including municipal residential, commercial, institutional, industrial and multi-family residential accounts.

**Commercial Businesses:** The ordinance requires any commercial businesses, wherein commerce is conducted (both profit and not for profit, including, but not limited to, stores, markets, offices, restaurants, shopping centers, theaters, schools, churches, government offices, and manufacturing facilities) in Kane County to separate and recycle materials, and to arrange collection services for those materials by a licensed hauler as per above list.

**Multi-family Dwellings:** The ordinance requires that the managing body or owner of all apartments, condos, and like-dwellings provide recycling service along with trash service to the residents of that dwelling, and further requires the residents to comply by separating the recyclables from the trash and placing them in the correct receptacle.

### **Summary of Illinois' Solid Waste Legislation**

Illinois does not have an omnibus law that deals with solid waste management issues; many separate pieces of legislation focus on waste reduction and recycling.

The three major laws that impact and guide the programs and functions of the Division of Recycling and Waste Reduction, Illinois Energy Office, Illinois Department of Commerce and Economic Opportunity's (DCEO) are the Illinois Solid Waste Management Act (415 ILCS 20/1 et seq.), the Illinois Solid Waste Planning and Recycling Act (415 ILCS 15/1 et seq.), the Illinois Environmental Protection Act (415 ILCS 5/1 et seq.), and the Solid Waste Hauling and Recycling Program Act (415 ILCS 12/1 et. seq.).

There are several other material-specific laws relating to solid waste management and resource recovery for:

Yard Waste (PA 85-1430),  
Food Scrap (PA 98-0146),  
Compost/biogas (PA 98-0317),  
Compost/Food Scrap - Farm Compost (PA 98-0484),  
Compost/Food Scrap - Siting (PA 96-0418),  
Composting - Urban Farm & Community Garden (98-0239),  
Construction and Demolition Debris (PA 96-1416),  
Electronic Products (415 ILCS 150/1 et seq.),

Lead-Acid Batteries/Car Batteries (PA 86-0723),  
Mercury Thermostats (415 ILCS 98/1 et seq.),  
Waste Tires (PA86-0452),  
White Goods (PA 87-0858),  
Used Oil (PA 87-1213), and  
Task Force on the Advancement of Materials Recycling Act (PA 97-0853).

For more detail on above laws, see the source list at: [Illinois.gov](http://Illinois.gov) - [Summary of Illinois' Solid Waste Legislation](#).

## **Appendix B**

Required Content of Applications for Local Siting Approval of Transfer Stations to be Located within Kane County

Source: Figure 6.1 from 2004 Kane County Solid Waste Plan Update regarding Transfer Station siting requirements. Note: \* denotes that a graphic presentation or figure is required within the text.

- I. The facility is necessary to accommodate the waste needs of the area it is intended to serve;
  - a. Introduction
  - b. Economic benefits of facility
  - c. Service area identification \*
  - d. Demographics of service area
  - e. Waste generation rates of service area
  - f. Existing waste disposal network for service area
  - g. Future waste disposal network for service area
  - h. Conclusion, signed by professional expert
  
- II. The facility is so designed, located and proposed to be operated that the public health, safety and welfare will be protected;
  - a. Introduction
  - b. Site legal and general description\*
    - i. Survey plat with existing structures\*
    - ii. Identification of property owners
    - iii. Existing topography of site (minimum two foot contours)\*
    - iv. Title search of property
  - c. Existing conditions of site and adjacent properties\*
    - i. Historical property uses
  - d. Location Standards
    - i. Residential properties\*
    - ii. Floodplain limits\*
    - iii. Archaeological review
    - iv. Airport review
    - v. Groundwater review
    - vi. Endangered species review
    - vii. List covenants recorded with the property deed
    - viii. Identification of wetlands on property
  - e. Site Design



- i. Entrance\*
- ii. Landscaping plan\*
- iii. Access roads and interior traffic circulation\*
- iv. Security measures to be implemented
- v. Weigh station location and design\*
- vi. Parking on site\*
- vii. Vehicle stacking procedures\*
  
- viii. Utilities on site\*
- ix. Office structures
- x. Transfer station structure and detailed floor plan\*
- xi. Water supply, water capacity, and facility's water requirements
- xii. Stormwater management measures
  - 1. 100-year, 24-hour design
  - 2. Basin design and release rate
  - 3. Sediment control measures
  - 4. Erosion control measures (on-site and off-site)
  - 5. Drainage flow off-site\*
  - 6. Site location on USGS 7.5 minute quadrangle map
  
- f. Operations
  - i. Hours of operation
  - ii. Quantity of wastes accepted
  - iii. Anticipated quantities of waste received by waste type
  - iv. Identification of acceptable waste types
  - v. Waste screening procedures
  - vi. Waste transfer operational plan\*
  - vii. Overnight storage of waste on site
  - viii. Waste volume throughput analysis
  - ix. Identification of disposal sites and permits
  - x. Identification of proposed railroad activities
  - xi. Recycling activities on site
  - xii. Equipment requirements
  - xiii. Facility cleaning procedures
  - xiv. Load checking program
  - xv. Traffic pattern (on-site)\*
  - xvi. Facility for employees
  - xvii. Fueling procedures
  - xviii. Litter control
  - xix. Vector control procedures
  - xx. Indoor air quality
  - xxi. Outdoor air quality
  - xxii. Odor control procedures
  - xxiii. Noise control procedures
  - xxiv. Training personnel
  - xxv. Fire control protection
  - xxvi. Lockout/tagout procedures
  - xxvii. Insurance coverage

- xxviii. Record keeping procedures
  - 1. Daily tonnage receipts by waste type
  - 2. In-county daily tonnage receipts
  - 3. All regulatory correspondence
  - 4. All environmental and regulatory inspections
  - 5. Wastewater generation and disposal records
  - 6. Load inspection and load discrepancy records
  - 7. Accident records
- xxix. Wastewater Generation and handling
  - 1. Wastewater generation calculations
  - 2. Wastewater storage procedures
  - 3. Wastewater disposal/treatment procedures
- xxx. Operational Contingency Plans
  - 1. Equipment failure
  - 2. Interruption of utility service
  - 3. Inclement weather
- xxxi. Proposed life of facility
- xxxii. Final Closure
  - 1. Waste removal
  - 2. Equipment removal
  - 3. Equipment cleaning
  - 4. Cost estimate
  - 5. Schedule
- g. Operator Information and Experience
  - i. Articles of Incorporation
  - ii. Transfer station experience within Illinois
  - iii. Summary of all transfer station violations in Illinois
  - iv. Transfer station experience outside Illinois
  - v. Resume of facility manager
- h. Conclusion, signed by professional expert
- III. The facility is located so as to minimize incompatibility with the character of the surrounding area and to minimize the effect on the value of the surrounding property
  - a. Introduction
  - b. Land use/zoning/planning study
    - i. Site zoning
    - ii. Adjacent and surrounding zoning\*
    - iii. Adjacent and surrounding land uses\*
    - iv. Landscape plan\*
    - v. Setbacks\*
    - vi. Conformity with the Kane County 2030 Land Resource Management Plan
  - c. Real Estate Impact Study
    - i. Proposed improvements
    - ii. Chicago metropolitan area data and Kane County area data
    - iii. Transfer site area study
    - iv. Property value impact study
  - d. Conclusions, signed by professional expert

- IV. The facility is located outside the boundary of the 100-year floodplain or the site is flood-proofed
  - a. Introduction
  - b. Location of 100-year floodplain\*
  - c. Conclusion, signed by professional expert
  
- V. The plan of operations for the facility is designed to minimize the danger to the surrounding area from fire, spills, or other operational accidents
  - a. Introduction
  - b. Fire prevention measures
  - c. Spill prevention measures
  - d. Accident prevention/risk management
  - e. Operational contingency plan
  - f. Conclusion, signed by professional expert
  
- VI. The traffic patterns to or from the facility are so designed as to minimize the impact on existing traffic flows;
  - a. Introduction
  - b. Methodology used
    - i. Traffic characteristics of the facility
    - ii. Traffic assignment and analysis
    - iii. Roadway and site access requirements
  - c. Site Accessibility
    - i. Site location\*
    - ii. Area roadways\*
    - iii. Proposed roadway improvements\*
    - iv. Existing traffic volumes
  - d. Develop traffic characteristics
    - i. Directional distribution
    - ii. Estimated site traffic generation
    - iii. Future growth
  - e. Accident history of key intersections to and from facility
  - f. Traffic impact analysis
    - i. Site access
  - g. Identification of routing to disposal facility
  - h. Gap study
  - i. Conclusion, signed by professional expert
  
- VII. If the facility will be treating, storing or disposing of hazardous waste, an emergency response plan exists for the facility which includes notification, containment and evacuation procedures to be used in case of an accidental release
  - a. Introduction
  - b. Emergency response plan
  - c. Conclusion, signed by professional expert
  
- VIII. If the facility is to be located in a county where the county board has adopted a solid waste management plan consistent with the planning requirements of the Local Solid Waste

Disposal Act or the Solid Waste Planning and recycling Act, the facility is consistent with that plan

- a. Introduction
- b. Benefits of facility
- c. Consistency with the solid waste plan
- d. Conclusion, signed by professional expert

IX. If the facility will be located within a regulated recharge area, any applicable requirements specified by the Board for such areas have been met

- a. Introduction
- b. Location of regulated recharge
- c. Conclusion, signed by professional expert.

**Appendix C** (attached)

Host Community Benefit Agreements/ County Board Resolution 05-216

**Appendix D** (attached)

Requirement for Host Agreement/ County Board Resolution 05-462

**Appendix E** (attached)

Waste to Energy Summary 2013

**Appendix F** (attached)

Public Comment record

**Appendix C**

Host Community Benefit Agreements/ County Board Resolution 05-216

STATE OF ILLINOIS

COUNTY OF KANE

RESOLUTION NO. 05 - 216

**ADOPTING THE KANE COUNTY SOLID WASTE TRANSFER FACILITY  
GENERIC HOST COMMUNITY BENEFIT AGREEMENT**

WHEREAS, the County of Kane is authorized by State of Illinois law, pursuant to Section 39.2 of the Illinois Environmental Protection Act (415 ILCS 39.2) to, among other things, receive, hold hearings, and decide an application for the site location of a pollution control facility proposed to be located in unincorporated Kane County; and

WHEREAS, the Kane County Board ("County Board") adopted a Solid Waste Pollution Control Facility Siting Ordinance, being Ordinance No. 04-393, consistent with Section 39.2 of the Illinois Environmental Protection Act, for the purpose of preparing a comprehensive approach to the site location review process of a solid waste pollution control facility in unincorporated Kane County; and

WHEREAS, Section 39.2 of the Illinois Environmental Protection Act acknowledges a local government's power to negotiate and enter into a host community benefit agreement with an applicant for site location of a pollution control facility; and

WHEREAS, the authorizations of a generic host community benefit agreement as defined below where previously authorized by the County Board as Resolution 02-05, which remained valid until said authorizations expired on November 30, 2003; and

WHEREAS, the County Board is desirous to again adopt a generic host community benefit agreement related to the proposed site location of a solid waste transfer station; and

WHEREAS, the County Board, is hereby authorizing its Chairperson to enter into, on the County of Kane's behalf, the generic host community benefit agreement, attached to this Resolution as Exhibit A, with any applicant who wishes to propose or has proposed a site location of a solid waste transfer station in unincorporated Kane County; and

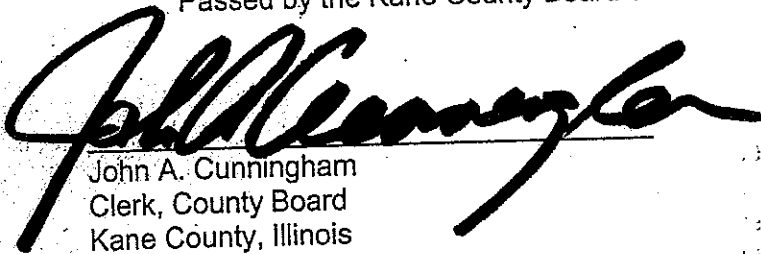
WHEREAS, by adopting the generic host community benefit agreement, the County of Kane is not foregoing its ability to negotiate more favorable or necessary terms, realizing that each proposed transfer facility may have unique circumstances and locations, however, such terms may be proposed to the County Board in an amendment to the generic host community benefit agreement, with said amendment requiring the advice and consent of the County Board, and it does not effect the County Board Chairperson's authorization to enter into the generic host community benefit agreement without further need for approval from the County Board; and

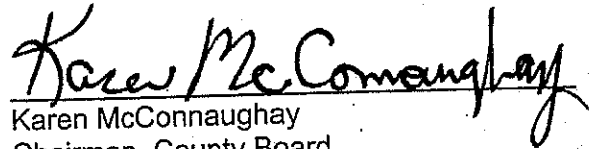
WHEREAS, this authorization of the County Chairperson is valid until November 30, 2008, at which time the County Chairperson's authority to enter into the generic host community benefit agreement, attached as Exhibit A, automatically terminates and expires, unless renewed by the County Board.

NOW, THEREFORE, BE IT RESOLVED, that the generic host community benefit agreement attached hereto as Exhibit A, is adopted by the County Board as the minimum standard agreement for a solid waste transfer station; and

BE IT FURTHER RESOLVED, that the County Board authorizes its Chairman to enter into, on behalf of the County of Kane, without need for further approval of the County Board, for a three and a half (3.5) year period from the date this resolution is approved, the generic host community benefit agreement, attached as Exhibit A, with any applicant for a proposed site location of a solid waste transfer station in unincorporated Kane County. Any amendment to said agreement shall require the advice and consent of the County Board. However, this authorization automatically terminates and expires, without need for further County Board action, on November 30, 2008.


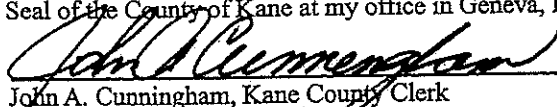
Passed by the Kane County Board on June 14, 2005.

  
John A. Cunningham  
Clerk, County Board  
Kane County, Illinois

  
Karen McConnaughay  
Chairman, County Board  
Kane County, Illinois

Vote:  
Yes 24  
No 0  
Voice —  
Abstentions —

5SolidWaste

STATE OF ILLINOIS COUNTY OF KANE	DATE <u>OCT 04 2007</u>
I, John A. Cunningham, Kane County Clerk and Keeper of the Records in Kane County, Illinois, certify that the attached is a true and correct copy of the original record on file.	
	In witness whereof, I have hereunto set my hand and affixed the Seal of the County of Kane at my office in Geneva, Illinois.
	 John A. Cunningham, Kane County Clerk

**HOST COMMUNITY BENEFITS  
AND REIMBURSEMENT AGREEMENT**

This HOST COMMUNITY BENEFITS AND REIMBURSEMENT AGREEMENT ("Agreement") is made as of the \_\_\_\_\_ day of \_\_\_\_\_, 200\_\_ between KANE COUNTY, ILLINOIS ("County") and \_\_\_\_\_, a \_\_\_\_\_ ("Company").

**RECITALS**

WHEREAS, the Company desires to construct and operate a solid waste transfer facility (the "Transfer Facility") in unincorporated Kane County, Illinois on all or some of the property that is legally described on Exhibit A (the "Subject Property"), attached hereto and made a part hereof; and,

WHEREAS, the Company desires to provide certain environmental protection and compensation to the County with respect to the Transfer Facility, if the Transfer Facility obtains all required approvals and commences operation; and,

WHEREAS, the County is desirous of obtaining such environmental protections and compensation, provided that the County shall have no obligation to grant site location approval of the Transfer Facility unless and until, through the local site location review process, it finds that the Transfer Facility meets or exceeds all criteria required by 415 ILCS 5/39.2. Regardless of whether site location approval is granted, this Agreement survives the local site location review process; and

WHEREAS, the parties acknowledge and agreed that the siting of the facility is subject to the approval of the KANE COUNTY BOARD, pursuant to Section 39.2 of the Environmental Protection Act, which provides in pertinent part, that:

\* \* \*

No permit for the development or construction of a new regional pollution control facility may be granted by the [Illinois Environmental Protection] Agency unless the applicant submits proof to the agency that the location of such facility has been approved by the County Board of the County if in an unincorporated area, or the governing body of the municipality when in an incorporated area, in which the facility is to be located in accordance with Section 39.2 of this Act.

Except for...new pollution control facilities governed by Section 39.2...the granting of a permit under this Act shall not relieve the applicant from meeting and securing all necessary zoning approvals from the unit of government having zoning jurisdiction over the proposed facility....



\* \* \*

WHEREAS, the parties acknowledge and agree that the Act, at Section 39.2(a), sets forth nine (9) criteria for the grant of such local siting approval with respect to each new pollution control facility, including waste transfer stations such as the facility, as follows:

- (1) The facility is necessary to accommodate the waste needs of the area it is intended to serve;
- (2) The facility is so designed, located and proposed to be operated that the public health safety will be protected;
- (3) The facility is located so as to minimize incompatibility of the character of the surrounding area and to minimize the effect on the value of the surrounding property;
- (4) The facility is located outside the boundary of the 100 year flood plain or the site is flood proofed;
- (5) The plan of operations for the facility is designed to minimize the danger to the surrounding area from fires, spills or other operational standards;
- (6) The traffic patterns to or from the facility are so designed as to minimize the impact on existing traffic flow;
- (7) If the facility will be treating, storing or disposing of hazardous waste, an Emergency Response Plan exists for the facility which includes notification, containment, and evacuation procedures to be used in case of an accidental release;
- (8) If the facility is to be located in the County where the County Board has adopted a Solid Waste Management Plan consistent with the planning requirements of the Local Solid Waste Disposal Act or the Solid Waste Planning and Recycling Act, the facility is consistent with that plan; and,
- (9) If the facility will be located within a regulated re-charge area, any applicable requirements specified by the Board for such areas have been met.

In addition, Section 39.2(a) provides that, in making its determination as to whether the proposed Transfer Facility meets the second (2) and fifth (5) criteria outlined above, the County Board may also consider as evidence the previous operating experience and past record of convictions or admissions of violations of the Company and any subsidiary or parent operation of the Company in the field of waste management.

NOW, THEREFORE, in consideration of the mutual covenants and agreements hereinafter set forth, the County and the Company agree as follows:

**ARTICLE 1**  
**INCORPORATION OF RECITALS, DEFINITIONS AND TERM OF AGREEMENT**

**Section 1.1 Incorporation of Recitals**

The County and the Company agree that the foregoing recitals are material to this Agreement, and are hereby incorporated and made part of this Agreement as if they were fully set forth herein.

**Section 1.2 Definitions**

“**Act**” as used in these definitions and this Agreement, shall mean the Illinois Environmental Protection Act (415 ILCS 5/1, *et seq.*).

“**Agreement**,” means this Host Community Benefits and Reimbursement Agreement.

“**Anniversary Date**,” means the date that Solid Waste is first received at the Transfer Facility.

“**Construction or Demolition Debris**,” means “clean construction or demolition debris” as defined by Section 5/3.160(b) of the Act (415 ILCS 5/3.160(b)), or “general construction or demolition debris,” as defined by Section 5/3.160(a) of the Act (415 ILCS 5/3.160(a)), or any other type of waste that is defined under state or federal law in this category or a similar category during the term of this agreement.

“**Unacceptable Waste**,” means (a) “hazardous waste” as defined by Section 5/3.220 of the Act (415 ILCS 5/3.220) or by 35 IAC 721.03; (b) “industrial process waste,” as defined by Section 5/3.235 of the Act (415 ILCS 5/3.235); (c) “pollution control waste,” as defined by Section 5/3.335 of the Act (415 ILCS 5/3.335); (d) “sludge,” as defined by Section 5/3.465 of the Act (415 ILCS 5/3.465); (e) “potentially infectious medical waste” as defined by Section 5/3.360 of the Act (415 ILCS 5/3.360); (f) “special waste,” as defined by Section 5/3.475 of the Act (415 ILCS 5/3.475); (g) “polychlorinated byphenyls,” as defined in the Toxic Substances Control Act, 15 U.S.C. Sections 2601-2692, or regulations promulgated thereunder; (h) source, special or byproduct nuclear materials, radioactive waste, high-level or low-level radioactive waste, or transuranic waste as defined in the Atomic Energy Act, 42 U.S.C. Sections 2014, *et seq.*, or regulations promulgated thereunder; or (i) “asbestos” as defined in 40 CFR 763.83, or (j) any other type of waste that is defined under state or federal law in this category or a similar category during the term of this agreement.

“**IAC**” as used in these definitions and this Agreement, shall mean the Illinois Administrative

Code.

**“IEPA”** means the Illinois Environmental Protection Agency.

**“IPCB”** means the Illinois Pollution Control Board.

**“Landscape Waste,”** means “landscape waste” as defined by Section 5/3.270 of the Act (415 ILCS 5/3.270), or any other type of waste that is defined under state or federal law in this category or a similar category during the term of this agreement.

**“Municipal Waste,”** means “municipal solid waste,” as defined by Section 5/3.290 of the Act (415 ILCS 5/3.290), except that such waste does not include Construction or Demolition Debris, Recyclables, Unacceptable Waste, or Landscape Waste. Municipal Waste includes non-hazardous industrial waste, or any other type of waste that is defined under state or federal law in this category or a similar category during the term of this agreement.

**“Recyclables”** means any material, which would otherwise be disposed of or discarded, which is separated from Municipal Waste at the source of generation, so as to render it useable in a process, or alone, such that it can be returned to the economic mainstream in the form of raw materials or products. Examples of recyclables are: newspaper, glass bottles, High Density Polyethylene containers, aluminum food and beverage containers, chipboard, and corrugated containers. Recyclables do not include any of the following, and do not include any materials removed or separated from, or containing the following: Unacceptable Wastes, Landscape Wastes, or Construction or Demolition Debris.

**“Solid Waste,”** means Municipal Waste, Landscape Waste, Recyclables, and Construction or Demolition Debris, as those terms are defined in this Section, or any other type of waste that is defined under state or federal law in this category or a similar category during the term of this agreement.

**“Subject Property,”** means the site described and shown in Exhibit A.

**“Transfer Facility,”** means “Transfer station” as defined by 5/3.500 of the Act (415 ILCS 5/3.500), including the property on which the transfer station is located, which may include some or all of the property as described and shown in Exhibit A.

**Section 1.3 Term:**

This Agreement commences on the date executed and continues in effect to such time as the County, at its sole option, terminates this Agreement. The County's will not exercise its termination option, unless: (a) the Transfer Facility has not received Solid Waste for more than six consecutive calendar months, or (b), the Company is in default of this Agreement as provided in Section 4.2. The terms of this Agreement that are specifically extended beyond termination (*i.e.*, as provided in Sections 2.1, 2.3, 4.6, 4.7, 4.8, 4.9, and 5.2), survive this term provision. In addition, the Company agrees that this Agreement continues to be in full force and effect even if the Company annexes the Transfer Facility into the boundaries of a local government entity other than the County. The Company agrees that, should this Agreement be terminated, the Company will immediately remove all Solid Waste from the Transfer Facility and stop its operations and receipt and acceptance of Solid Waste, until such time as it successfully renegotiates a new host community benefit agreement with the County, if any, such agreement may contain no less favorable terms (including, but not limited to fee provisions) as what would have been in this Agreement, should this Agreement have been active at the time of renegotiation. As part of any new host community benefit agreement between the Company and County, resulting from the termination of this Agreement and required closure of the Transfer Facility, the Company agrees that the County, at its discretion, may require that the Company: file and obtain County approval on a pollution control facility site location application (even if for the same Transfer Facility which is the subject of this Agreement), pursuant to Section 39.2 of the Act, any applicable County ordinances, and any other laws or regulations which are applicable at the time of re-filing; and, submit applications and obtain approval from the IEPA (or other government entity or agency reviewing permit applications at that time) for new development and operation permits for the Transfer Facility. The County is under no obligation to renew or extend the term of this agreement.

**ARTICLE 2**  
**ENVIRONMENTAL PROTECTIONS**

**Section 2.1 Compliance with Laws**

The Company shall comply, at all times in connection with the development and operation of the Transfer Facility, with all federal, state and local laws, ordinances, final and non-appealable conditions of this site location, should it be approved by the County, conditions and requirements of any permit that is issued for development or operation of the Transfer Facility, modified or amended, rules and regulations and ordinances of any Federal, state or local governmental agency or authority relating to the development, operation, monitoring remediation or closure of the Transfer Facility and this Agreement. In addition, should the Company obtain approval from the County, pursuant to Section 39.2 of the Illinois Environmental Protection Act, but contest one or more conditions, if any, placed on such approval on appeal, the Company agrees that it will not commence development or operation of

the Transfer Facility, until the appeal on the conditions has been decided by Illinois Pollution Control Board (IPCB) or the highest applicable court of review in the Illinois court system, provided, however, that the Company will take any and all actions required to come into compliance with any condition(s) which are held to be unenforceable by the IPCB but are enforceable as a result of an appeal of the IPCB decision in the Illinois court system. With respect to the termination or closing of the Transfer Facility, the Company agrees to comply with any government ordinance, rule, law or directive as to post-closure requirements and pay the entire costs associated therewith. This Section 2.1 survives the termination of this Agreement.

## **Section 2.2 Waste Acceptability**

The Company shall only allow Solid Waste to be accepted at, transported to, stored at, or otherwise present at the Transfer Facility. All Solid Waste, except when being transported to or from the Transfer Facility, must be kept inside (*i.e.*, within a fully enclosed area of) the Transfer Facility. Under no circumstances shall Unacceptable Waste knowingly be accepted at, transported to, stored at, or otherwise present at, on, under, or in the Transfer Facility. Any violation of this prohibition of knowingly accepting Unacceptable Waste is a material breach of this Agreement and enforceable by injunction, or any other legal theory, to force the closure of the Transfer Facility, and the enforceability of this provision survives the expiration or termination of this Agreement.

## **Section 2.3 Defense and Indemnification**

The Company covenants and agrees to defend, indemnify and hold harmless the County, individual members of the County Board, and any and all employees, agents, officers or representatives of the County, from and against all claims, suits, actions, administrative enforcement proceedings, losses, damages of all kinds, costs, expenses, fines and penalties, attorneys' fees and any expense of litigation, of any nature whatsoever, relating in any way directly or indirectly to the Transfer Facility or any condition or occurrence thereat, any release or emission at, onto, into, above, under, through or from the Transfer Facility, the County's or the Company's execution, performance, or non-performance of this Agreement or of any conditions placed on siting, (should the facility be approved or the operations of the Company conducted at the Transfer Facility), including, without limitation, claims of injury to any person or property or violation of or non-compliance with any law, ordinance, rule or regulation (including without limitation any environmental, health, anti-trust, civil rights, employment or trade law, or statutory or common law obligation or liability). Unless otherwise directed in writing by the County, the Company shall, at its own cost and expense defend any such suit, action or proceeding as contemplated herein and pay all fees, costs, damages and other expenses arising therefrom; and if any judgment, decree, fine or penalty of any kind shall be entered or levied against the County, any member of the County, or any representative officer, agent or employee of the County, in any such action or actions, the Company shall, at its own cost and expense, promptly satisfy and discharge the same. The County shall give prompt notice of the

service of any suit upon it to the Company, and shall give reasonable notice of any claim, action, administrative proceeding, loss or other damages. The Company shall not be responsible for indemnification of any injury or damage resulting from the County's willful and wanton acts. The defense and indemnification obligations of the Company hereunder shall survive the expiration or termination of this Agreement. The County and Company specifically agree that this Section should be construed as a global defense and indemnity provision, (except as respects indemnification of willful and wanton acts of the County), and that it requires the Company to defend and indemnify the County even in circumstances which include allegations of the sole acts or omissions of the County, regardless of whether such allegations are groundless, false or fraudulent; however, should the agreement expressed in the prior sentence of this Section be determined by a court to be invalid, then it is severable from the remainder of this Section, and the remainder of this Section should not be invalidated, and thereby still require the Company to defend and indemnify the County for acts or omissions of persons other than the County. In addition, nothing in this Agreement should be construed as a waiver of any common law or statutory immunity the County may have as to any alleged liability.

#### **Section 2.4 Insurance**

- (a) At a minimum, the Company shall purchase and maintain at all times during the term of this Agreement, the following types and amounts of insurance:
  - (i) Commercial General Liability Insurance in an amount not less than \$3,000,000.00 per occurrence and a combined single limit of \$5,000,000.00 in aggregate, and excess liability insurance covering claims in excess of the underlying insurance described previously, with a \$5,000,000 limit; and,
  - (ii) Workers' Compensation Insurance, including employer's liability; and,
  - (iii) Environmental Impairment and Liability Insurance in an amount not less than \$3,000,000 per occurrence and a combined limit of \$5,000,000 in the aggregate.
- (b) The liability insurance described above shall be primary insurance and shall cover the County as an additional named insured by endorsement. The liability insurance coverage described above shall indemnify the Company and County against loss or liability of the Company or County or any of its employees, agents or sub-contractors for damage on account of death and bodily injury to persons, personal injury, and damage to property. Such insurance shall be provided on a comprehensive, broad form policy written by an underwriter carrier, reasonably satisfactory to the County.
- (c) The Company shall file with the County evidences of insurance certifying to the

coverage required hereunder with the County named as an additional insured. All evidences of insurance shall be certified by an authorized officer, agent or qualified representative of the insurer and shall certify the names of the insured, the type and amount of coverage, the locations and operations to which the coverage applies and the expiration date of the policy, and shall state that the insurer shall give, by registered mail, notice to the County at least 60 days prior to the effective date of any cancellation, lapse, or material change in the policy.

**ARTICLE 3**  
**HOST FEE**

**Section 3.1 Purpose**

In consideration of the additional fees and costs to be incurred by the County, should the Kane County Board approve the Transfer Facility site location, including but not limited to road maintenance, and building, public health and environmental department inspections, the Company agrees to pay the County the following fees.

**Section 3.2 Quantity-Based Fees**

**Municipal Waste and Construction and Demolition Debris:** The Company shall pay to the County a base fee for each ton of Municipal Waste and Construction or Demolition Debris received at the Transfer Facility (whether received in the same or separate vehicles) from the Anniversary Date through the termination of this Agreement. This per-ton fee is specifically designated below. Beginning \_\_\_\_\_ after the Anniversary Date, the annual increase provision in Section 3.3 will be used to determine the per ton fee. To the extent any Municipal Waste or Construction or Demolition Debris received at the Transfer Facility contains Landscape Waste or Recyclables (*i.e.*, non-source segregated Landscape Waste or Recyclables), even if the Landscape Waste or Recyclables is source separated, but commingled in the same container on the collection vehicle as Municipal Waste or Construction or Demolition Debris (*e.g.*, a “blue bag” program), then those materials shall be included in determining the tonnage and fees for purposes of this Section.

	<b><u>Per Ton Fee</u></b>
Year 1	\$2.00

**Landscape Waste and Recyclables:** The Company shall not be required to pay a fee for source segregated Landscape Waste or source segregated Recyclables entering the Transfer Facility, unless the amount of Landscape Waste or Recyclables being received at the Transfer Facility, either individually or combined, is 50% or more of the combined tonnage of Solid

Waste. In such an event, the same fees to be paid with respect to Municipal Waste and Construction and Demolition Debris will be paid with respect to Recyclables and Landscape Waste, on a per ton basis for every ton over the 50% combined tonnage figure. The percentages described above will be calculated on a calendar year basis and the Company will pay the County any fees incurred pursuant to this Section no later than the thirtieth day of the calendar year following the year for which the percentages have been calculated. For example, if during a calendar year, the Company's combined tonnage of Solid Waste receipts is 1000 tons and 52% (520 tons) of that is Landscape Waste or Recyclables combined, then on or before January 30<sup>th</sup> of the following calendar year, the Company will pay the County the per ton fee for 2% (20 tons) of the total tonnage.

### **Section 3.3 Annual Increase**

Beginning as of \_\_\_\_\_ after the Anniversary Date, and annually thereafter, the per ton fees described in Section 3.2, above, will be adjusted from the per ton fee of the previous year by the percentage change during the previous year in the Revised Consumer Price Index for All Urban Consumers (CPI-U) published by the United States Department of Labor-Statistics, provided, however, that at no time shall there be a downward adjustment made to the subject fees. The unadjusted percent change from the month of the Anniversary Date of the calendar year, prior to the year of the increase, to the month of the Anniversary Date of the year of the increase shall be used to determine the percent change in this Section and apply retroactively to any time of the year of the increase that passed prior to the Department of Labor publishing that information in the year of the increase and the determination of the increase being made (e.g. for the adjustment being made in January 2007, the CPI-U, unadjusted 12-month percent ending January 2007 will be used. Since this publication is not typically published until mid-February 2007, and the determination of what increase to apply will not be made until after the publication of the CPI-U for January 2007, the increase under this Section will apply retroactively to the period of time that has passed prior to it being determined, which in this example would be January 1, 2007 to sometime at or after mid-February 2007). If the Consumer Price Index for All Urban Consumers shall cease to be published at the timeframe described above the County and Company shall designate a comparable timeframe or index, which shall then be used for determining the annual rate of adjustment.

### **Section 3.4 Other Increase**

In the event the Company has heretofore entered into or hereafter enters into any agreement to pay money, equivalent services or like-kind contributions, or other equivalent fees such as fees typically described as "Host Community Benefits" to another county, township or municipality in the Counties of Cook, DuPage, Kane, Will, Lake, McHenry, DeKalb or Kendall for a solid waste transfer facility (i.e., a transfer facility accepting any one or more of the types of wastes contained in the definition of Solid Waste) and the payment terms of said Agreement



are more favorable to such other unit of local government, (even if those terms are only more favorable on a current rather than future term) then the payment terms contained herein that are not as favorable as those in the other agreement shall be changed to the more favorable terms under such other agreement, however, the other terms in this Agreement which are equal to or more favorable to the other agreement shall remain in this Agreement. The Company has an obligation to report such terms to the County at a time any such agreement is entered into, and this Agreement shall automatically be amended as of the date of such other agreement, to incorporate the more favorable terms of the other Agreement. The term "more favorable terms" means a greater host fee(s), whether calculated per ton, per truck, annually or otherwise, taken as a whole or individually, whichever is greater.

### **Section 3.5 Identification and Weight of Receipts**

The Company shall weigh all receipts of Solid Waste on a certified scale, which is inspected at least once each calendar year. In addition, the Company shall identify, for the County, in writing, a listing of all receipts categorized by date, type of Solid Waste and other material in each receipt (if not Solid Waste), and weight of Solid Waste (or other material if not Solid Waste) in each receipt, so that the County can determine by its review of these records, the number of incoming vehicles, the type of vehicle, the load weight and total weight of each vehicle, and type of waste or material contained on each vehicle received at the Transfer Facility each calendar day. The County reserves the right to inspect the scale, at anytime, without notification to the company.

Further, the Company shall keep records of outgoing Solid Waste, such that the County can determine by its review of these records, the number of outbound vehicles, the type of vehicle, the destination of each vehicle, and the type of waste contained on each vehicle leaving the Transfer Facility each calendar day. In addition, should the County request records concerning the load weight and total weight of each outbound vehicle, the Company agrees to provide that information, from weights measured at the Transfer Facility or at the destination of the vehicles leaving the Transfer Facility, from the time the Company receives the County's request on a moving forward basis for any time period(s) designated by the County.

### **Section 3.6 Auditing**

The Company shall keep complete and accurate books and records relating to the determination of the fees described in Article 3, in an auditable form, including those records described in Section 3.5. The Company shall permit the County and its designated representatives access to such books and records (paper and electronic version) for inspection and copying. In the event that such inspection reveals any underpayment(s) of the fees described in Article 3, the Company shall promptly pay the County the amount(s) of such

underpayment(s), and reimburse the County for its costs and expenses of such inspection and, if necessary, collection, including any professional and technical fees (including attorneys' fees) in connection therewith. In the event that such inspection reveals any overpayment(s) of the subject fees, the Company may credit the amount of such overpayment(s) against the payments of the subject fees in subsequent quarters.

### **Section 3.7 Payment Schedule for Fees**

The fees described in this Article shall be paid on a monthly basis. The payment shall be made not later than thirty (30) days after the last day of the preceding month and shall be limited to the solid waste transferred during the month to which it applies, and any approved adjustments.

### **Section 3.8 Inspection & Enforcement & Other Fees and Costs**

The Company shall pay the County upon demand, all of the reasonable and necessary costs incurred by the County in the siting process and this Agreement, including, but not limited to, engineering and/or witness fees and expenses, attorneys' fees and expenses, the hearing officer's fees and expenses, the wages, hourly rate and benefits per hour for any County employees or officers, except County Board members, and such other reasonable fees and expenses, if any.

If the Company is charged by the County with having violated any County law, ordinance, rule or regulation, or any of the Company's permit or site location approval conditions, and if found by a Court or administrative body (such as IPCB), to be guilty of such violation, the Company shall reimburse the County for all fees and costs associated with the County's investigation and prosecution of such violation, including, but not limited to, attorneys' fees, litigation expenses and expert or opinion witness fees.

## **ARTICLE 4 MISCELLANEOUS**

### **Section 4.1 Assignment**

The Company shall not assign or attempt to sublet this Agreement or any interest in this Agreement or any right or privilege appurtenant to this Agreement without first obtaining the County's written consent. In addition, no transfer of any ownership or other interest in the Transfer Facility may be made without the prior written approval of the County. The right to

seek assignment or approval may occur only if all payments to the County by the Company have been made and if the Company is not otherwise in default in connection with obligations under this Agreement. If the Company requests the County's consent to an assignment of this Agreement or approval of a transfer of ownership or other interest in the Transfer Facility, the Company shall submit written notice containing at least the following information, plus any information required by the County pertaining to such assignment request.

- (1) The name of the proposed assignee or transferee;
- (2) The terms of the proposed assignment or transfer;
- (3) The nature of business of the proposed assignee or transferee and the proposed use by the assignee or transferee; and
- (4) Information relating to the financial responsibility and general reputation of the proposed assignee or transferee that County may require.

In the event of the County's agreement to assignment or approval of a transfer, the proposed assignee or transferee shall agree to the following:

- (1) To assume all obligations and duties of the Company under this Agreement and any conditions placed on the site location approval by the County to be bound as an original party to this Agreement;
- (2) To make any and all payments due under this Agreement and/or assignment to County directly at its offices in Geneva, Illinois, as such payments become due.

Subject to the provisions of this Agreement limiting the right to assign or transfer, this Agreement shall be binding on and inure to the benefit of the parties and their heirs and successors. However, the Company shall remain primarily responsible for all obligations and liabilities under this Agreement and for any approved assignment or transfer. Furthermore, in the event of an approved assignment or transfer, the Company shall remain primarily responsible for all obligations and liabilities of this Agreement, which accrue prior to or after the execution of any approved assignment or transfer. Transfer of a fifty-percent (50%) or greater interest in the Company to another owner or owners shall be deemed an unpermitted transfer under this Section, unless made with the approval of the County under this Section, 4.1. The County may require an additional written commitment from by the assignee or transferee to assume and comply with the duties and obligations of this Agreement. The County shall not unreasonably withhold approval of a proposed assignment or transfer but retains the sole authority and discretion in determining whether an assignment shall occur.

#### **Section 4.2 Default**

The occurrence of any one or more of the following constitutes a “default” by the Company under this Agreement. Should the Company be found by the County to be in default of this Agreement, the County may, at its sole discretion, terminate this Agreement.

- (a) The failure by the Company to pay any fee due and payable under this Agreement; or,
- (b) The failure by the Company to observe or perform in any material respect the provision provided in Paragraph 2.1 of this Agreement and any other provision of this Agreement, and if the Company does not cure such failures within thirty (30) days after notice thereof from the County to the Company, unless such failures cannot reasonably be cured within thirty (30) days, in which case the Company must, before the thirtieth day: notify the County that it cannot complete its cure, present the County with a plan and timeline (which meets with the approval of the County) for completing the cure and implementing a plan to prevent the same or a similar failure from occurring again, and diligently continues to cure such failures during the initial thirty (30) day cure time period and any additional period beyond the thirty (30) days approved by the County. However, to the extent the Company’s default under this Agreement concerns its failure to comply with Section 2.2 (Waste Acceptability), the more restrictive provision (this or Section 2.2) shall control in determining whether the Company is in default of this Agreement;
- (c) The levy upon or execution or the attachment by legal process of any interest in the Company to the Transfer Facility or its premises, or the filing or creation of a lien in respect of such property interest, such levy, attachment or lien shall not be released, discharged or bonded against within thirty (30) days from the date of such filing;
- (d) The Company admits in writing its inability to pay its debts as they mature and makes an assignment for the benefit of creditors or applies for or consents to the appointment of a trustee or receiver for the Company or a major part of its property;
- (e) A trustee or receiver is appointed for the Company or for a major part of its property, and it is not discharged within ninety (90) days after such appointment;
- (f) Bankruptcy, reorganization arrangement, insolvency or liquidation proceedings or other proceedings for relief under any bankruptcy law, or similar law, for the relief of debtors are instituted by or against the Company and, if instituted against the Company, are allowed against it or are not dismissed within 180 days after such institution;
- (g) If, during the term of this Agreement, any governmental entity assesses on or on behalf of the County of Kane a fee, surcharge or tax against Company as the

operator of the facility, the facility or the site on which the facility is located, then such fee, surcharge or tax shall not affect the obligations of the Company to pay the County. Additionally, such fee, surcharge or tax shall be the sole and complete responsibility of the Company to pay and this Agreement shall remain in full force and effect.

#### **Section 4.3 Notice**

Any notice to be given hereunder by either party to the other shall be in writing and be sent by personal delivery, by overnight delivery service or by registered or certified mail, postage prepaid, return receipt requested, and shall be deemed communicated when delivered or as two (2) business days from the date of mailing, whichever is earlier. Notices shall be addressed as set forth below, but each party may change its address by written notice to the other in accordance with this Section:

**To the County, notice shall be sent to both the County and the State's Attorney at the following addresses:**

County of Kane  
719 Batavia Avenue  
Geneva, IL 60134  
Attention: Chair, Kane County Board

Kane County State's Attorney  
KANE COUNTY JUDICIAL CENTER  
37W777 Route 38  
St. Charles, IL 60175

**To the Company, notice shall be sent to the following:**

#### **Section 4.4 Agreement Controls**

This Agreement constitutes the entire understanding of the parties hereto relating to the subject matter contained herein, except that it does not, in any way, constitute the County's agreement or obligate the County to approve the Company's site location application, if such application is filed with the County and if such application is approved by the County, this Agreement is to be read as an additional obligation and not as superceding or controlling in any way, the Company's obligation to comply with any conditions of the County's site location approval and any laws, ordinances, rules or regulations applicable to the site or Transfer Facility.

**Section 4.5 Captions**

Captions of the Articles, Sections and paragraphs of this Agreement are for convenience of reference only, and the words contained therein shall in no way be held to explain, modify, amplify or aid in the interpretation, construction or meaning of the provision of this Agreement.

**Section 4.6 Enforcement of Siting Conditions**

The Company agrees that, should the Transfer Facility receive site location approval pursuant to Section 39.2 of the Act from the Kane County Board, that any final and non-appealable conditions imposed on the Transfer Facility or Company as part of such approval are enforceable by the County against the Company, in the same manner in which the County's ordinances or this Agreement are enforceable, or pursuant to a County ordinance, should one be in effect at the time of the enforcement. Section 4.6 survives the termination of this Agreement.

**Section 4.7 Governing Law and Form for Litigation**

This Agreement shall be governed by and construed in accordance with the laws of Kane County and the State of Illinois. Any litigation filed by the Company or County against the other party and involving this Agreement shall only and exclusively be filed in a court of competent jurisdiction in Kane County, Illinois. Section 4.7 survives the termination of this Agreement.

**Section 4.8 Severability**

The provisions of this Agreement shall be deemed to be severable, and the invalidity or unenforceability of any provision shall not affect the validity and enforceability of the other provisions hereof. Section 4.8 survives the termination of this Agreement.

**Section 4.9 Binding Effect**

This Agreement shall inure to the benefit of and be binding upon the respective parties hereto, their successors and assigns. However, nothing in this Section should be construed to allow Company to assign or transfer interest in this Agreement or the Transfer Facility, unless done pursuant to Section 4.1 of this Agreement. Section 4.9 survives the termination of this Agreement.

**Section 4.10 Force Majeure**

Neither party hereto shall be deemed to be in default or to have breached any provision of this Agreement as a result of any delay, failure in performance or interruption of services resulting directly or indirectly from acts of God, acts of civil or military authority, civil

disturbance, or war, which are beyond the control of such non-performing party.

**Section 4.11 No Third Party Beneficiaries**

Nothing in this Agreement, whether expressed or implied, is intended to confer any rights or remedies under or by reason of this Agreement on any persons other than the parties and their respective successors and assigns, nor shall any provision give any third persons any right or rights of action against any party to this Agreement.

**Section 4.12 Expenses**

The Company agrees to reimburse the County for attorney fees and any other professional fees incurred in connection with the drafting and negotiation of this Agreement up to a maximum of \$15,000.

**Section 4.13 Records**

In addition to those records described in Sections 3.5 and 3.6, above, the Company shall provide to the County, upon the County's request, free of charge and in a timely manner, copies of all of the following documents in any manner connected with the Transfer Facility:

(1) Documents submitted or received by the Company, its representatives, agents, attorneys, employees, or consultants to or from any state or federal government, or any regulatory or administrative agency; and

(2) Documents submitted or received by the Company, its representatives, agents, attorneys, employees, or consultants to or from any citizen residing within the borders of Kane County pertaining to the development or operations of the Transfer Facility, particularly comments or complaints concerning such development or operations and including but not limited to the inbound or outbound vehicles to the Transfer Facility.

**Section 4.14 County Plan**

The County acknowledges that the Transfer Facility proposed by the Company is consistent with the Kane County Solid Waste Management Plan, as amended and updated, provided that it is designed, constructed and operated consistent with applicable local, County and State laws and regulation, and siting conditions.

**Section 4.15 Pre-filing Review**

The County and the Company agree that prior to the formal submittal of the Transfer Facility siting application by the Company to the County pursuant to Section 39.2 of the Act, there shall be an opportunity for a pre-filing review to be conducted. The pre-filing review shall consist of the Company submitting a final draft of the siting application to the County for its review and comment. The County shall have thirty (30) days, from the date the final draft is submitted to the County, to conduct its review and provide comments to the Company. The Company and the County agree to communicate and meet as necessary in order to complete the review process within the 30-day deadline. The Company and the County agree that the Company may, at its own discretion, make changes in the siting application as may be recommended by the County during its 30-day review and comment period. The Company shall reimburse the County for up to thirty-five thousand (\$35,000) dollars of costs incurred by outside consultants retained by the County in conducting the pre-filing review.

**Section 4.16 Covenants Run with the Land**

The Company and County agree that the covenants, agreements and understandings contained in this Agreement, including without limitation the obligation to pay the per-ton fee, touch and concern the Subject Property, and that such covenants, agreements and understandings shall run with the Subject Property. The Company agrees that the County may prepare, and the Company shall promptly execute duplicate originals of an instrument, in a recordable form, which will constitute a memorandum of Host Community Benefits and Reimbursement Agreement, attaching an executed copy of this Agreement as an exhibit, and record such Memorandum in the Office of Kane County, Illinois Recorder of Deeds.

**ARTICLE 5**  
**AUTHORITY & GUARANTY OF PAYMENT**

**Section 5.1: Authority to Enter Into Agreement**

The Company hereby represents and warrants that it is a valid and existing \_\_\_\_\_, in good standing, and that the individuals executing this Agreement have been duly authorized by the Company to act on its behalf and enter into this Agreement. In addition, the Company agrees to provide the County, at the time of execution of the Agreement, with a copy of the \_\_\_\_\_ resolution authorizing the execution of this Agreement.



**Section 5.2: Guaranty of Payment**

As additional consideration for and assurance of performance of this Agreement, the Company and its corporate parent, tender to the County and the County accepts, the Guaranty of Payment attached to this Agreement as Exhibit \_\_\_\_\_.

IN WITNESS WHEREOF, the parties hereto have executed this instrument on the day and year first written above.

KANE COUNTY, ILLINOIS,

By: Karen McComiskey  
Board Chairman

Attest: \_\_\_\_\_

(Signature)

\_\_\_\_\_  
(COMPANY NAME)

Printed Name: \_\_\_\_\_

By: \_\_\_\_\_

Its: \_\_\_\_\_

Attest: \_\_\_\_\_

(Signature)

Printed Name: \_\_\_\_\_

**GUARANTY OF PAYMENT**

\_\_\_\_\_, for valuable consideration, the receipt of which is hereby acknowledged, does hereby unconditionally guarantee the payment by \_\_\_\_\_, of all sums due and owing to Kane County, Illinois, pursuant to the Host Community Benefits And Reimbursement Agreement entered into between \_\_\_\_\_ and Kane County on the \_\_\_\_\_ day of \_\_\_\_\_, 200\_\_.

\_\_\_\_\_, hereby represents and warrants that it is a valid and existing \_\_\_\_\_, in good standing, and that the individual executing this Guaranty of Payment have been duly authorized by \_\_\_\_\_ to act on its behalf and enter into this Guaranty of Payment. In addition, \_\_\_\_\_, agrees to provide the County, at the time of execution of this Guaranty of Payment, with a copy of the resolution authorizing the execution of this Guaranty of Payment.

\_\_\_\_\_  
(NAME OF GUARANTOR)

By: \_\_\_\_\_

Dated: \_\_\_\_\_

Its: \_\_\_\_\_

**Appendix D**

Requirement for Host Agreement/ County Board Resolution 05-462

STATE OF ILLINOIS

COUNTY OF KANE

RESOLUTION NO. 05-462

**AUTHORIZING AN AMENDMENT TO THE TEXT OF THE KANE COUNTY SOLID WASTE MANAGEMENT PLAN**

WHEREAS, Pollution Control Facilities, as defined in Section 39.2 of the Illinois Environmental Protection Act (415 ILCS 39.2), may be located anywhere in Kane County; and

WHEREAS, the County of Kane has determined that Pollution Control Facilities have external consequences that extend beyond the limits of the property and beyond municipal boundaries; and

WHEREAS, it is in the best interest of the County to realize protection from and mitigation of the effects from a Pollution Control Facility; and

WHEREAS, a host agreement between the County and a potential Applicant of a Pollution Control Facility would serve to provide appropriate compensation and regulation of certain external consequences; and

WHEREAS, the Illinois Environmental Protection Act (415 ILCS 39.2(a)(viii) provides that if a Pollution Control Facility is to be located in a county where the County Board has adopted a Solid Waste Management Plan, such facility must be consistent with that county plan; and

WHEREAS, the Kane County Solid Waste Management Plan 5 Year Update (the "Plan") was adopted May 11, 2004, by the County Board under Resolution 04-203; and

WHEREAS, the adoption of the attached text amendment to the Plan 5 would require an Applicant to enter into a host agreement before a determination of consistency with said plan is made by the County.

NOW, THEREFORE BE IT RESOLVED, by the Kane County Board that the text of the Kane County Solid Waste Management Plan 5 Year Update be amended as attached and identified hereto as "Exhibit A" requiring a host agreement prior to determination of consistency being made by the County for pollution control facilities located anywhere in Kane County.

Passed by the Kane County Board on December 13, 2005.

  
John A. Cunningham  
Clerk, County Board  
Kane County, Illinois

  
Karen McConaughay  
Chairman, County Board  
Kane County, Illinois

Vote:  
Yes 22  
No 1  
Voice -  
Abstentions 1

“Exhibit A”

**Kane County Transfer Program**

The County views transfer stations as a viable alternative for meeting the future solid waste disposal needs of its residents and businesses. ~~Kane County does not intend to pursue the development of a County-owned transfer station. Rather,~~ The County will rely on private sector proposals to develop a transfer station network in response to market demand. The County will assist and partner with the private sector as mutually agreed to meet this demand for additional transfer stations. A network of transfer stations operated by different waste haulers will serve to create sufficient competition in the private sector to ensure competitive pricing and high service quality in both the residential and commercial sectors.

The Illinois Legislature, in enacting Section 39.2 of the Environmental Protection Act (the State Siting Statute) has recognized that Pollution Control Facilities impact the area surrounding a proposed facility, and accordingly, the legislature included various criterion in the State Siting Statute that must be satisfied so as to ensure that these impacts are minimized to the greatest practical extent possible.

More particularly, Criterion viii of the State Siting Statute specifically provides that if a proposed pollution control facility is to be located in a county where the County board has adopted a Solid Waste Management Plan consistent with the Local Solid Waste Disposal Act or the Solid Waste Planning and Recycling Act, the proposed facility must be consistent with that Plan.

Both the Local Solid Waste Disposal Act and the Solid Waste Planning and Recycling Act recognize that impacts arise as a result of proposed Pollution Control Facility. More specifically, both of these acts allow local units of government to evaluate (among other things) the economic and environmental advantages and disadvantages of any proposed facilities within its jurisdictional boundaries.

As such, a sound legislative basis exists for requiring applicants to offset and mitigate these impacts by offering host benefits in the form of a Host Benefit Agreement, and while these impacts cannot be precisely defined on a countywide basis, they can, nonetheless be quantified to a reasonable degree. In fact, several counties in the Chicago Metro area (most notably DuPage and McHenry Counties) have already adopted amendments to their Siting Ordinances and Solid Waste Management Plans which require an applicant to negotiate and enter into an agreement based on a “Generic Host Benefit Agreement”. Those mandates provide that while the exact host benefits (both monetary and non-monetary) to be offered will vary (based upon the particular location and circumstances involved with any one particular proposed facility), the “Generic Host Benefit Agreement” sets forth certain base monetary and non-monetary host benefits and other planning considerations which, at a minimum, must be agreed to by an applicant.

In addition, the monetary equivalent of such impacts from increased traffic to Kane County, have been quantified by Intersect-LLC in a report titled “Evaluation of Traffic Impacts of Waste Transfer Stations”. A copy of this report is enclosed as appendix A.

Moreover, there are additional compelling benefits and considerations that have importance in favor of requiring an applicant to negotiate a Host Benefit Agreement with the County in advance of filing an application (as opposed to the applicant simply offering host benefits in the text of the application). Unless an applicant negotiates a Host Benefit Agreement in advance, there is no guarantee that the County's concerns relative to potential impacts generated by a proposed facility can be precisely identified and addressed. Also, from an orderly planning point of view, requiring a Host Benefit Agreement to be negotiated and executed in advance of the filing of a siting application allows the County to realize a firm contractual commitment from the applicant to minimize all potential impacts which may arise from the proposed facility.

Again, it should be emphasized that in addition to monetary benefits being offered to offset the impacts of the proposed facility upon the County, Generic Host Benefit Agreements should contain threshold requirements as to such matters as acceptable setbacks, facility aesthetics, natural screening, orderly and safe flow of traffic, responsiveness to complaints from the surrounding area concerning the operation of the facility, and other relevant planning considerations.

Based upon all of the above, Kane County has a Generic Host Benefit Agreement which it believes addresses the concerns particular to Kane County concerning the location of a Pollution Control Facility. This amendment of the plan hereby requires the negotiation of a Host Benefit Agreement as a required element to be satisfied by an Applicant to be consistent with the Kane County solid Waste Management Plan, as stated in the County Siting Ordinance, including a Pollution Control Facility proposed to be located within the jurisdictional boundaries of a municipality. Consequently, in order to be consistent with the Kane County Solid Waste Plan, and moreover, the considerations embodied in Criterion viii of the State Siting Statute, even in those instances where a proposed facility is to be located outside the unincorporated area of Kane County and within the boundaries of a municipality, nonetheless, an applicant must still evaluate the proposed impacts of the facility upon the County as a whole and as it affects the nearby unincorporated area, and offer appropriate benefits to the County in the form of a Host Benefit Agreement.

Any new or expanded Pollution Control Facility seeking local siting approval anywhere in Kane County (in order to be consistent with Criterion viii of Section 39.2 of the Act) must negotiate a host agreement with the County prior to any determination of Plan consistency being made by the County. Host agreements with the County shall be for the purpose of compensating and mitigating economic, environmental, and other impacts identified above, that are associated with the development and operation of the proposed Pollution Control Facility.

Kane County wishes to insure that sufficient information is presented on proposed transfer stations, and that siting applications comply with statutory requirements to include "sufficient details" demonstrating compliance with the nine criteria of Section 39.2. Applications for local siting approval for any transfer station to be located anywhere in Kane County shall contain at a minimum the information detailed within the outline shown in Figure 6.1.

Unless a siting application contains all the information as defined and required in Figure 6.1, the

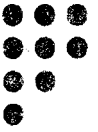
application is incomplete and does not contain the necessary information for the siting authority to adequately review and objectively rule on the proposed facility. Any siting application filed within Kane County which does not contain all of the information identified in Figure 6.1 is inconsistent with the County's Solid Waste Management Plan, and therefore inconsistent with criterion 9 of Section 39.2 of the Illinois Environmental Protection Act.

August 8, 2005

Mr. Tim Harbaugh, PE  
Director  
Kane County Department of Environmental Management  
719 South Batavia Avenue, Building A  
Geneva, IL 60134

Intersect  
2516 Blazer Court  
Naperville, IL 60565

Phone: 630-621-2783  
Fax: 630-328-7446  
E-mail: [KFry@Intersect-LLC.com](mailto:KFry@Intersect-LLC.com)



Subject: Evaluation of Traffic Impacts from Waste Transfer Stations

Dear Mr. Harbaugh:

In accordance with our Agreement, Intersect has completed its investigation of the potential traffic and transportation impacts of waste transfer stations to be located in Kane County. This study focuses on general traffic impacts, since specific sites have not been identified; however, it does identify, and to a degree, quantify those impacts. Over the course of our investigation, we reviewed previous traffic studies performed for specific waste transfer station sites, as well as other studies of the general impacts of waste transfer stations. We looked at the Kane County highway network, specifically the number and spacing of highways under County jurisdiction. We reviewed the likely changes in waste hauler travel patterns following the planned closure of the Settler's Hill landfill. This letter report summarizes the findings of our investigation and presents our analysis of the likely traffic and transportation impacts of future waste transfer stations that may be constructed in Kane County.

#### Existing Conditions

Currently, much of the residential waste generated in Kane County is picked up in compactor waste collection trucks and hauled to the Settler's Hill landfill, located on Fabyan Parkway near Kirk Road in far east-central Kane County. Both Fabyan and Kirk are 4-lane Strategic Regional Arterials under County jurisdiction with significant highway capacity and pavement structures and horizontal geometrics designed to accommodate heavy trucks.

Once the landfill is closed (on or before December 31, 2006), waste will continue to be collected in compactor trucks, but will then have to be hauled to a waste transfer station. Currently, there is only one permitted waste transfer station within the County, the Waste Management-Elburn transfer station, with an estimated maximum daily capacity of approximately 800 tons. The increased haul distance may not increase the volume of traffic at any given location within the County, but it will increase the overall amount of traffic, in terms of vehicle-miles of travel. Since much of the additional travel will occur on the County Highway system, closure of the landfill will have a measurable impact on those roads.



## Types of Traffic and Transportation Impacts

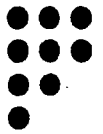
There are a number of potential traffic and transportation impacts that are relevant to operating a waste transfer station. These include system-wide traffic impacts, localized traffic impacts, time shifting of generated traffic, and changes in wear and tear on pavement structures.

System-wide traffic impacts represent a cumulative change in overall traffic and travel on the highway system. All new developments generate additional traffic on the highway network. Even relocation of an existing use may result in an increase in overall traffic if people have to drive further to reach it. System-wide impacts can also vary depending on jurisdiction. While a particular development may have little overall impact on the highway network, it could have a significant impact on roads under the jurisdiction of a particular agency.

Localized impacts result from increases in traffic or changes in the mix of traffic at a particular location. Any added traffic, particularly during the morning and afternoon rush periods, can have a significant impact on travel times, depending on previous traffic volumes. In addition, heavy trucks have an impact on traffic operations that is significantly out of proportion to their numbers. Due to their slow acceleration rates, even a single truck can have a severe impact on the capacity of an intersection or lane group that carries only a few trucks per signal cycle. For this reason, only a few trucks added to an intersection during peak travel times can create a need for an intersection improvement. If those trucks follow the same route, they may create additional needs at several points along that route.

Time shifting refers to the concept that traffic impacts vary considerably depending on the time of day the traffic occurs. Highway agencies design roads generally to accommodate peak hour traffic volumes. A facility that generates traffic only at night has no impact on the critical rush hour periods, therefore has no impact in terms of consumption of highway capacity. Conversely, if construction of a facility causes traffic that previously occurred off-peak to travel during rush hour, that facility would have a negative impact on traffic, even though the overall volumes may not have increased.

Pavement wear is basically a function of two factors. First, the weight of vehicles traveling over the pavement. Wear is generally considered to be in proportion to the weight of a vehicle raised to the fourth power. In simplified terms, a vehicle that is twice as heavy will cause sixteen times as much damage to the pavement. Other factors are also relevant, of course, such as the total weight of the vehicle, the number and arrangement of wheels and axles, and the tire pressure. Second, pavement wear is generally thought to be in direct proportion to the number of vehicles, although as pavement nears the end of its service life, its apparent condition tends to deteriorate more rapidly. In terms of impacts, then, if a facility results in heavier vehicles traveling the roadway network or results in those vehicles being concentrated in one area, then that facility may have a significant impact on the condition of roads in its vicinity.



## Impacts of a Waste Transfer Facility

When a waste transfer facility is used in the solid waste disposal process, residential waste is usually picked up in compactors or roll off trucks and, rather than transported directly to landfills, is transported to the transfer facility. Here, waste is generally loaded onto large, tractor trailer units for transfer to a distant landfill. Efficiencies result from the labor and equipment savings from using larger, less expensive highway vehicles rather than compactors to transport residential waste over long distances. In terms of transportation impacts, the following changes can be expected as a result of construction of another transfer station in Kane County.

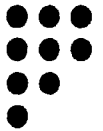
First, overall traffic on the highway network will probably be reduced, particularly if the final destination landfill is far from Kane County. It is possible, however, that traffic in Kane County may increase in terms of vehicle-miles of travel. This will depend on the location of the transfer station, its service area, and the location of the ultimate landfill. Because many arterial and truck routes in Kane County are under County jurisdiction, it is likely that any change in travel patterns of waste collection trucks will have a measurable impact on portions of the County Highway system. It is also likely that most of the overall reduction in traffic due to the transfer station will occur outside the county, along the route to the landfill. If the transfer station service area extends outside the county, significant impacts on county highways can be expected.

Second, network traffic, both entering and leaving the facility, will be concentrated on the roads leading to the facility and the route leaving the facility. This concentration of traffic can lead to a deterioration in traffic operations, particularly if any of this traffic occurs during peak travel periods. As noted above, this impact is exacerbated by the low acceleration rates of heavy trucks.

Finally, although the overall travel on the highway network may be reduced in terms of the number of vehicles, the weight of the vehicles leaving the waste transfer facility is much higher than that of those entering the facility. Based on the fourth power rule, the pavement damage due to this traffic is therefore significantly greater, and this impact will be present along the entire route followed by the transfer trucks.

## Measuring the Impacts

Any reasonably accurate measurement of the impacts of a waste transfer facility will be dependent on a number of factors, not least of which is the location of the facility. Additional factors include the service area, nearby truck routes, the location of the destination landfill, the number of compactors and transfer trucks anticipated, and the anticipated operations schedule. It is clear, however, that construction of a waste transfer facility will have an impact on traffic operations and pavement condition of the overall highway network.



## Conclusions

In response to the two questions posed by Kane County:

1. *"Does the operation of a waste transfer stations within the municipal boundaries of a Kane County city or village impact existing traffic flows on roads owned and/or maintained by the County of Kane?"*

Based on the factors outlined in this evaluation, it is the professional opinion of the author that the operation of a new transfer station(s) will negatively affect the flow of traffic and pavement wear on the County of Kane's transportation network.

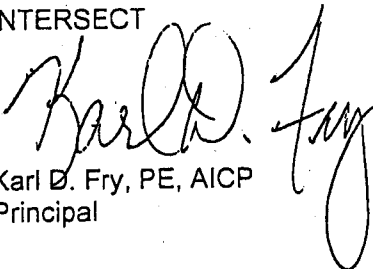
2. *"Does this impact on existing traffic flows on Kane County roads warrant compensation to Kane County?"*

In the professional opinion of the author, the negative impact a transfer station would have on existing traffic flows does warrant financial compensation to Kane County. A simplified method to calculate this impact is on a per-ton basis of waste transferred. The specific amount of compensation (per-ton host fee) must be determined on a case-by-case basis. This per-ton host fee compensation is in addition to the one-time impact fee program currently assessed by Kane County.

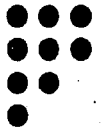
Intersect sincerely appreciates the opportunity to support the Kane County Department of Environmental Management. If you have any questions about this document, please don't hesitate to call me.

Very truly yours,

INTERSECT



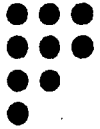
Karl D. Fry, PE, AICP  
Principal



---

**EXECUTIVE SUMMARY**  
**Evaluation of Traffic Impacts from Waste Transfer Stations**

1. Operation of new transfer station(s) will negatively affect the flow of traffic and pavement wear on the County of Kane's transportation network.
  - Although overall traffic on the statewide roadway network may be reduced as a result of construction of a transfer station in Kane County, there may be significant localized impacts on Kane County Highways as a result.
  - Heavy trucks have an impact on traffic operations that is significantly out of proportion to their numbers.
  - Wear is generally considered to be in proportion to the weight of a vehicle raised to the fourth power. In simplified terms, a vehicle that is twice as heavy will cause sixteen times as much damage to the pavement.
  
2. The impact a transfer station would have on existing traffic flows does warrant financial compensation (per ton of waste transferred) to Kane County. Compensation would be calculated on a case-by-case basis and would typically consider:
  - Location of the Facility
  - Service Area
  - Nearby Truck Routes
  - Location of Destination Landfill(s)
  - Number of Daily Collection Trucks
  - Number of Daily Transfer Trucks Anticipated
  - Anticipated Operations Schedule



## **Appendix E**

### Waste to Energy Summary 2013

# Waste to Energy (WTE) Summary

Kane County Environmental Resources  
March, 2013

## Waste to Energy - General Notes:

### Pros



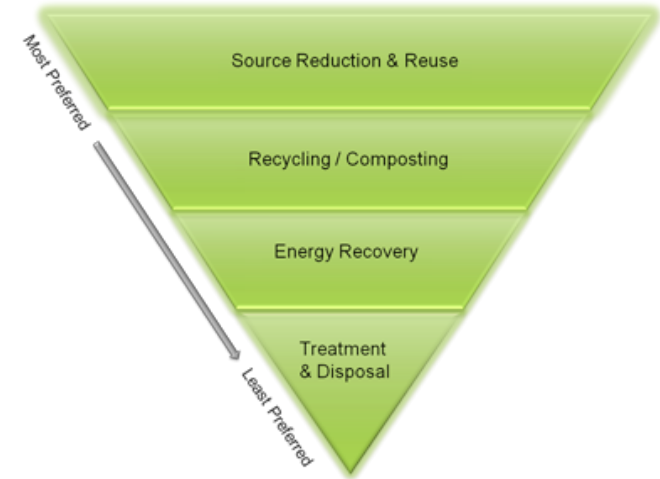
- Reduce materials to landfills
- Potential revenue stream
- CO2 produced is less potent than CH4 if materials were landfilled

### Cons



- Unless biomass only, energy is considered non-renewable & not carbon-neutral
- Discourages emerging markets for reusing & recycling (long-term revenue streams - Product Stewardship Initiatives)
- Siting a new facility = same challenges as siting new landfill
- Environmental impacts: water use & discharge, air emissions
- Ash & other byproducts still need to be landfilled/ disposed (could be hazardous waste)

Waste Management Hierarchy



- MSW incineration was minimal until the mid-1980s, when the vast majority of the plants were constructed, grew modestly in the 1990s, and has declined modestly both in terms of tonnage and percent of the waste stream since 2000, to less than 13 percent of the waste stream in 2008.
- 86 Waste to Energy facilities in U.S. total (2010); none in IL
- IL does not define WTE as renewable (2010 – any current legislation?)

## WTE Technology Summary

Technology	Description	Pros	Cons	Examples/ Notes
<b>Incineration - biomass</b>	Combustion of organic material to boil water which powers steam generators	<ul style="list-style-type: none"> <li>Energy recovery including Combined Heat and Power (CHP)</li> </ul>	<ul style="list-style-type: none"> <li>Emissions of fine particulates, heavy metals, trace dioxin and acid gas emissions</li> <li>Toxic fly ash and incinerator bottom ash (IBA) management</li> </ul>	
<b>Incineration - municipal waste</b>	Combustion of sorted municipal solid waste to boil water which powers steam generators	<ul style="list-style-type: none"> <li>Handles MSW waste with no pre-treatment</li> <li>Energy recovery including Combined Heat and Power (CHP)</li> <li>Commercially available technology</li> <li>Reduces volume of waste by ~90%</li> </ul>	<ul style="list-style-type: none"> <li>High capital costs</li> <li>Negative public perception - NIMBY (stack emissions &amp; physical plant)</li> <li>Residue quality and disposal</li> <li>Emissions of dioxin</li> <li>Minimum materials recovery, except for ferrous materials</li> <li>Minimum or guaranteed tonnage may be required</li> </ul>	
<b>Other Thermal Technologies:</b>				
Gasification/ Plasma Arc	Expose materials to extremely high heat without oxygen to produce a synthetic coal substitute. Waste gasses from that process are combusted to produce energy			No municipal examples currently running in the U.S.
Thermal depolymerization				
Pyrolysis				
<b>Non-Thermal Technologies:</b>				
Anaerobic Digestion (AD)	Processing of biological waste (not including wood) to produce biogas for combustion or other fuel source			East Bay Municipal Utility District – AD of WWTP biosolids + other food/bio feedstocks; Sheboygan, WI WWTP – AD of biosolids + other bio feedstocks; Many Agricultural uses of AD; 2 AD MSW plants in Toronto
Fermentation				

## Resources:

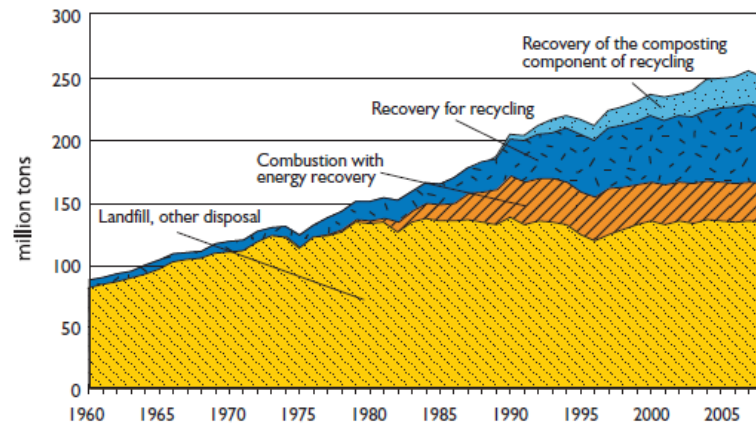
EPA's Electricity from Municipal Solid Waste: <http://www.epa.gov/cleanenergy/energy-and-you/affect/municipal-sw.html>

EPA's Non-hazardous waste management hierarchy: <http://www.epa.gov/waste/nonhaz/municipal/wte/nonhaz.htm>

Energy Recovery Council: <http://www.energyrecoverycouncil.org/waste-energy-resources-a2985>

Covant Energy's "WTE vs incineration" <http://www.covantaenergy.com/what-we-do/energy-from-waste/energy-from-waste-vs-incinerators.aspx>

Figure 2  
U.S. MSW Management, 1960 to 2008



From More Jobs, Less Pollution: Growing the Recycling Economy in the U.S.; Tellus Institute with Sound Resource Management at <http://www.recyclingworkscampaign.org/2011/11/more-jobs-less-pollution/#more-160>

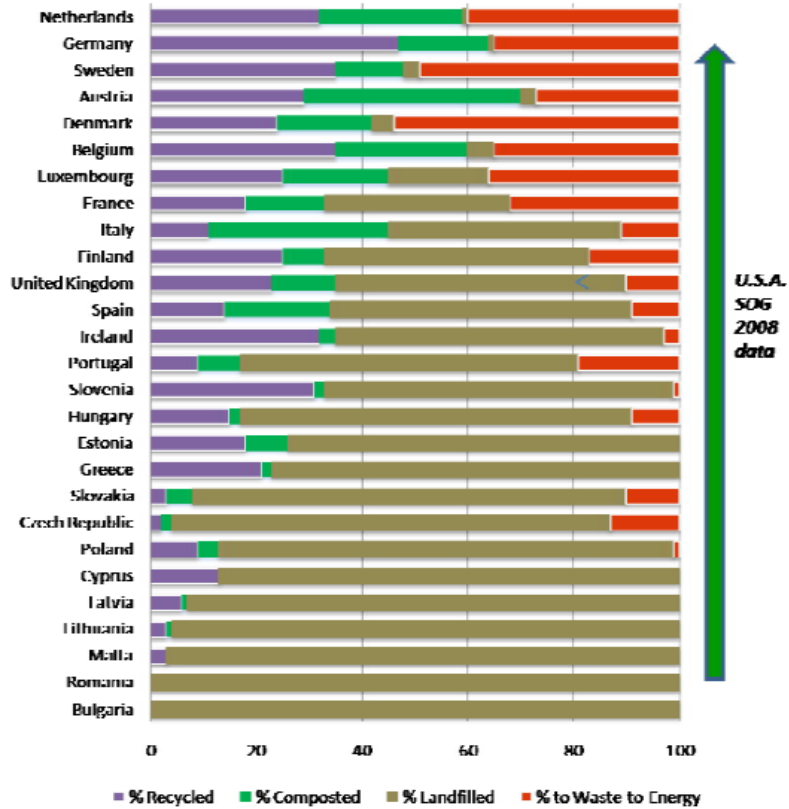


Photos of alternative energy plants from <http://www.covantaenergy.com/what-we-do/our-services/other-renewable-energy.aspx>



## The Sustainable Waste Management Ladder

Earth Engineering Center, Columbia University (based on Eurostat 2008 data)



From the Energy Recovery Council's 2010 Directory of WTE Plants

[http://www.energyrecoverycouncil.org/userfiles/file/ERC\\_2010\\_Directory.pdf](http://www.energyrecoverycouncil.org/userfiles/file/ERC_2010_Directory.pdf)

**Appendix F**  
Public Comment Record

**Comments received via email from CBI, Friday, April 24, 2015 10:01 AM**

Thank you for the opportunity to submit comments on Kane County's draft 2015 Solid Waste Management and Resource Recovery Plan Update. CB&I's comments for your consideration are provided below, in redline revision format for your ease of review. I look forward to discussing them with you further.

1. Page 4, 3<sup>rd</sup> paragraph: "Kane County has ~~three (3)~~ two (2) permitted transfer stations..."
2. Page 4, 3<sup>rd</sup> paragraph: "Additionally there are ~~countless a number of~~ opportunities for recycling and reuse through drop-off and collection programs provided by the County, municipalities, townships, agencies, organizations, and private businesses."
3. Page 4, 4<sup>th</sup> paragraph: "Annual tonnage data is collected from the licensed waste and recycling haulers in order to ~~calculate~~ estimate and track diversion rates."
4. Page 5, 3<sup>rd</sup> paragraph: "One of the ~~hottest emerging~~ topics presently in the resource management field is food scrap recovery. Food scrap constitutes a significant percentage of waste sent to landfills in Illinois, and is therefore an important focus of many waste management and resource recovery program managers. There are ~~great advances efforts to advance composting~~ being made in the state by the Illinois Food Scrap Coalition and a broad base of stakeholders that includes generators, haulers, processors, and landscape professionals. This is a developing industry and in the next five years are sure to show much evolution may continue to evolve."
5. Page 7, 1<sup>st</sup> paragraph of Section 1.3: "It is worth noting that regional, national and global trends towards rethinking the management of our resources has ~~made the term "solid waste management" outdated. The terms more often used by waste management professionals are led to greater use of terms such as~~ "resource management," "materials recovery," "materials management," or "sustainable materials management" , in addition to "solid waste management". This plan may use these terms interchangeably."
6. Page 8, 1<sup>st</sup> full paragraph: "All other ~~data definitions~~ for non-traditional materials collected at drop-offs or through pick-up services or collection events are straightforward."
7. Page 13, Section 3.2A: "Historical and projected waste generation is shown in Table 3.1 below, based on ~~the 8.10 pound average per capita generation rates estimated in this and prior plan updates.~~"
8. Page 14, 1<sup>st</sup> paragraph: "The original 1992 plan also estimated waste volumes for the residential, commercial, and construction sectors, based on hauler reports and landfill gate surveys. This update presents estimates of the total traditional waste volumes by sector based on the most recent data received via the annual Kane County hauler tonnage reports for 2012-2014. See the definition of Traditional materials under C. Traditional Material Recycling & Disposal below. The One difference apparent between county and state data is due to the materials not tracked by the county because they are not collected by the waste and recycling haulers that report to the county, such as electronics, textiles, hazardous waste, pharmaceuticals, tires, and other materials dropped off directly by contractors or residents. Other differences may also exist, resulting in lower generation reported through the annual survey than is estimated using the 8.10 pounds per person per day generation rate used in this 2015 plan update."
9. Page 20, 3<sup>rd</sup> paragraph of Section 3a: "Therefore, the most recent data available for 2012, 2013, and 2014 show that diversion rates were all estimated at 38 percent."
10. Page 20, Table 3.4: Data for 2014 appears to contain errors, particularly with respect to the Residential Recycling (tons) and Commercial Recycling (tons) data values.

11. Page 20, last paragraph: “In Kane County, the percent of the traditional waste stream (hauler-collected material from residential, commercial, and construction sources) being recycled grew from an estimated nine (9) percent in 1989 to an estimated 40 percent in 1998...”
12. Page 21, 1<sup>st</sup> paragraph: “See ~~actual~~ annual reported data in Figure 3.4 below.”
13. Page 25, 1<sup>st</sup> full paragraph: “Data reported for 2012 were from six (6) out of eleven (11) C&D haulers ~~and the 5 not received are all large recyclers, therefore the figure for 2012 shows more waste than is probable.~~”
14. Page 25, last paragraph: “However it is pertinent to show the reported data, ~~as it is the most accurate data available.~~”
15. Page 26, 2<sup>nd</sup> paragraph: “~~These facilities represent developed infrastructure; facility owners could seek permit modifications from IEPA to allow them to accept food scrap, thereby increasing the capacity available for food scrap composting.~~” This is addressed in the subsequent subsection.
16. Page 36, 2<sup>nd</sup> paragraph and Figure 3.10: “There are currently ~~three (3)~~ two (2) permitted transfer stations in Kane County, at a location west of Geneva, owned and operated by Waste Management, and a Batavia facility owned and operated by Advanced Disposal Services ~~and a third one located east of South Elgin that specializes in asphalt shingles.~~” The Southwind RAS facility is a general construction and demolition debris recycling facility, permitted by IEPA for such operation but exempt from local siting approval and not a permitted transfer station. This change may also impact the preceding paragraph on page 36 in the discussion of C&D processing facility locations (note that the representation of C&D facilities and locations on Page 24, 3<sup>rd</sup> paragraph appears to be accurate; page 36 should match this).
17. Page 37, top of page: “~~Tipping fees at Illinois landfills are highly competitive. Where possible, haulers will transport their waste to a landfill owned by their company, to internalize all revenue.~~”



**Christina Seibert**  
Project Manager II  
Environmental & Infrastructure  
Solid Waste Services  
Tel: +1 630 762 3306 (direct)  
Tel: +1 630 762 1400 (office)  
Fax: +1 630 762 1402  
[christina.seibert@CBI.com](mailto:christina.seibert@CBI.com)

CB&I  
1607 East Main Street, Suite E  
St. Charles, Illinois 60174  
USA  
[www.CBI.com](http://www.CBI.com)