
SECTION 1. INTRODUCTION AND BACKGROUND

1.1 Planning Background and Purpose of Update

The Illinois Solid Waste Planning and Recycling Act (415 ILCS 15/) was adopted in 1988 and requires all Illinois counties to plan for the management of solid waste generated within their borders. Solid waste management plans are also required to be updated every 5 years to reflect current waste generation and waste management practices, review implementation status of plan recommendations, and identify modified or new recommendations based on current conditions.

DuPage County adopted its initial Solid Waste Management Plan in 1991. Five-Year Plan Updates have since been adopted in 1996, 2001, 2007, 2012, and 2017. This 2022 Plan Update supersedes all previous Plan Updates and reflects the current recommendations and policies of DuPage County related to municipal waste management.

The 2022 Plan Update serves to summarize existing solid waste management systems and infrastructure; related policies and programs; and to propose new recommendations that assist staff with strategic planning and guide development of future policies and programs.

1.2 Plan Development Process

This 2022 Plan Update was developed by the consultant team¹ in conjunction with staff of the DuPage County Environmental Division. Data for this Update were sourced from internal County program reports and surveys, regional reports, state reports, Census information, and research compiled and supplied by APTIM. County staff, with support from APTIM, reviewed current research, analysis, and best practices from regional, state, and national programs.

A work session with the DuPage County Environmental Committee was conducted on August 16, 2022, to review the scope of the Plan Update and to discuss potential policy and program options in the areas of waste minimization, residential recycling, commercial recycling, organics management, construction and demolition debris management, and waste disposal. Valuable input from the Committee was received at this work session.

The draft Plan Update will be submitted to the Environmental Committee for review and comment. The Plan Update will then be submitted to the full County Board for adoption.

1.3 Definitions

A number of solid waste planning terms are used in this Plan Update pertaining to solid waste generation (e.g., tons of material), management methods (e.g., diversion, disposal) and infrastructure (e.g., transfer stations, landfills). A glossary providing definitions of these terms is provided in Attachment A.

1.4 County's Role in Solid Waste Management

DuPage County's Environmental Division has the primary responsibility for developing and administering the County's Plan Updates. A summary of activities that the Division performs (and does not perform) is provided in Figure 1.1.

¹ The consultant team included Aptim Environmental and Infrastructure (APTIM), Walter Willis and Tracy Bugh.

DuPage County Does:

- Update and drive initiatives within the County Solid Waste Plan.
- Annually survey municipalities within the County regarding residential quantities of waste, recycling and organics that are collected under municipal hauling contracts. The survey also compiles information on the private haulers providing service as well as collection service levels (e.g., bulk items, white goods, food scrap, electronics).
- Publish an annual Solid Waste and Recycling Report summarizing the municipal and township survey results.
- Partners with eWorks and RewearAble to collect clothing and textiles for reuse and recycling at 7 locations.
- Partners with municipal drop-off sites (9) and one-day collection events for electronics recycling.
- Promotes the Health Department's Rx Box program that collects unused medicines at 19 municipal locations.
- Provides a collection site for used tires collected by local government entities.
- Provides an online recycling guide for approximately 60 material categories.
- Promote waste reduction, increase diversion, and ensure continued public awareness of waste management and recycling opportunities available to the County.
- Participate in local, regional, and state-level organizations and stakeholder groups to advance waste reduction and diversion.
- Under a delegation agreement with the Illinois EPA, inspects 16 active or closed solid waste facilities.

DuPage County Does Not:

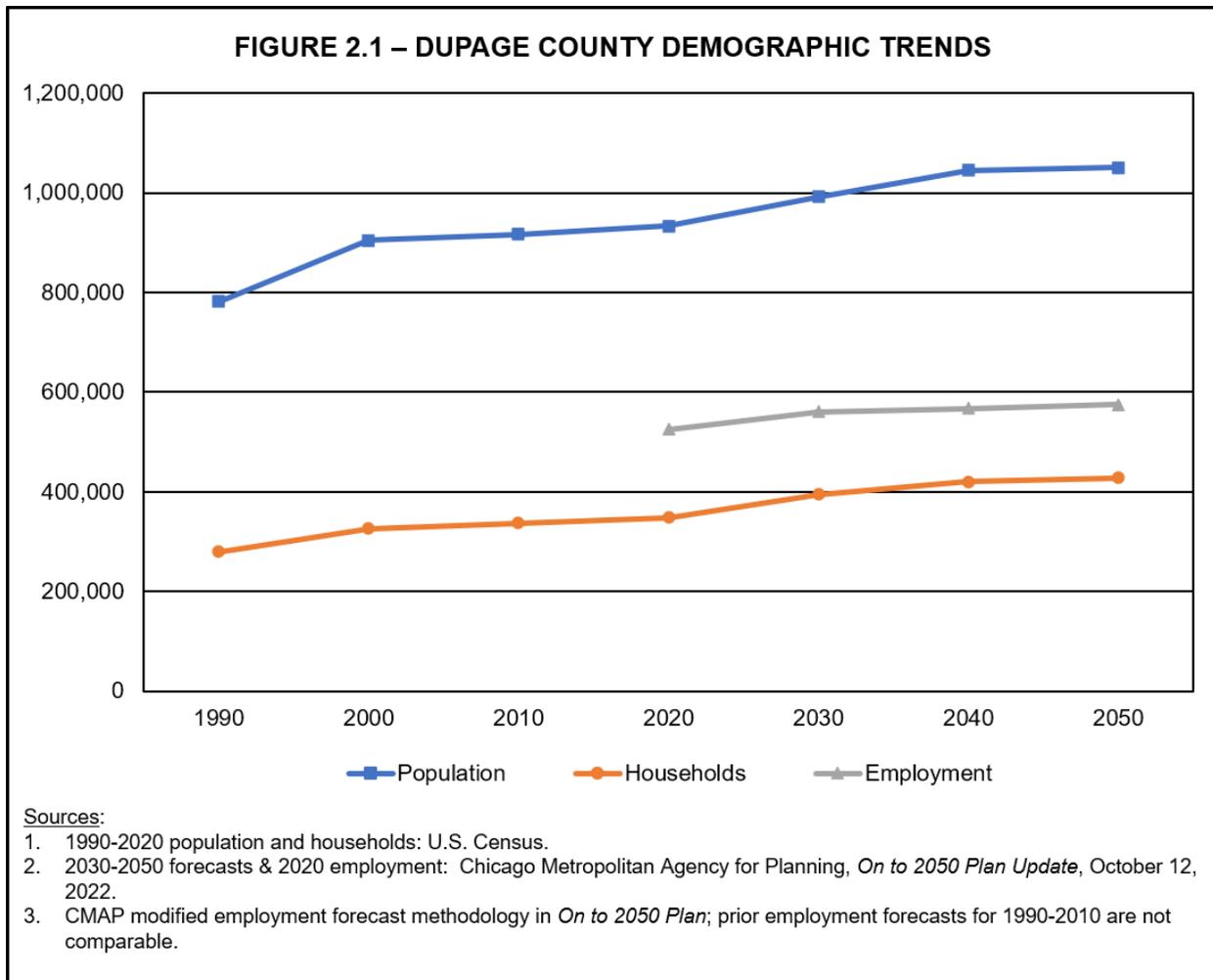
- Collect waste, recyclables, or organics from residential, commercial, or institutional properties.
- Manage residential hauling contracts for cities or townships, which are generally managed by municipal public works departments and township boards on behalf of the residents.
- Own or operate any active recycling, compost, waste transfer or disposal facilities.

FIGURE 1.1 – DUPAGE COUNTY'S ROLE IN MUNICIPAL WASTE MANAGEMENT

SECTION 2. WASTE GENERATION AND INFRASTRUCTURE

2.1 Demographic and Economic Trends

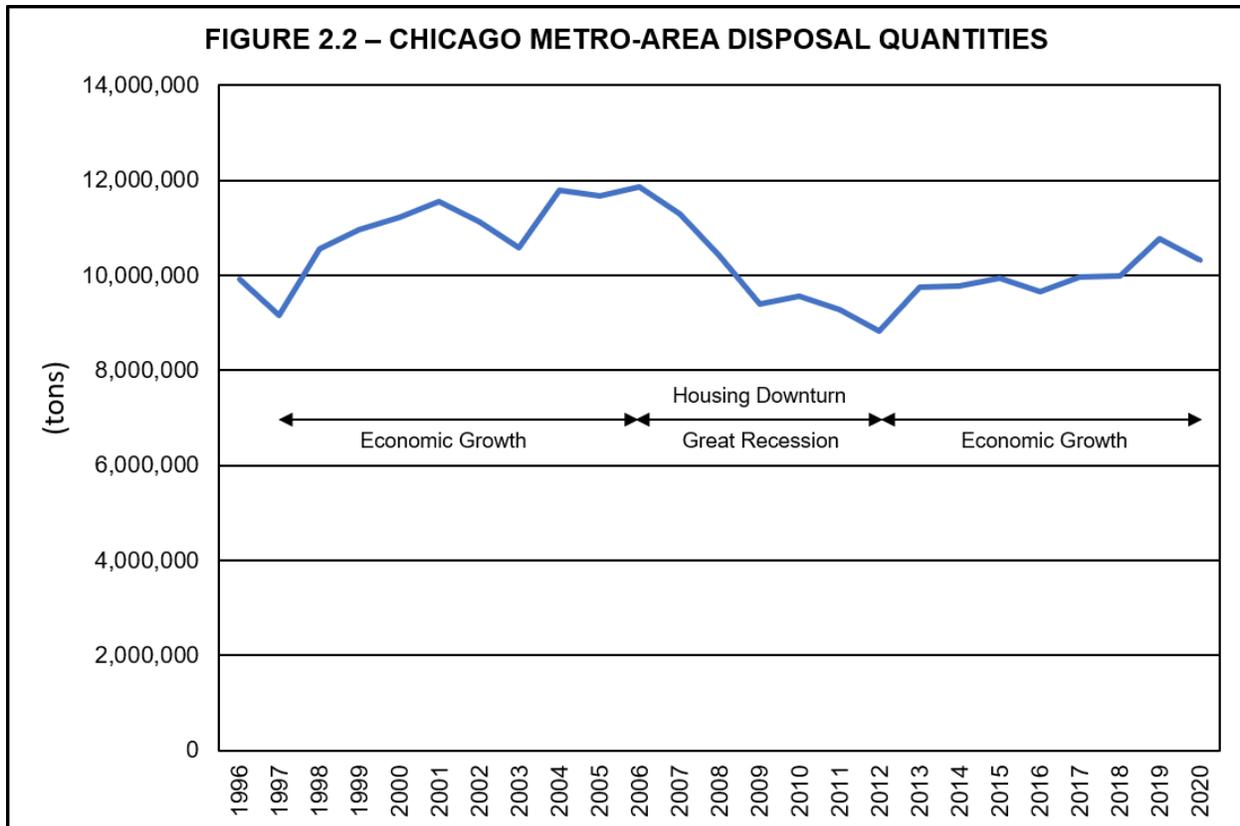
Demographic variables including population, households and employment impact the amount of waste that is generated. Population and households affect residential waste quantities, and employment levels affect commercial waste quantities. Historical and forecast values for these variables are shown in Figure 2.1. The forecast values were prepared by the Chicago Metropolitan Agency for Planning (CMAP) in its “On to 2050” regional plan.



DuPage County experienced significant population growth between 1990 and 2000, but that growth moderated between 2000 and 2020. CMAP is projecting a resumption in higher growth from 2020 to 2050. Other demographic forecasts project that future population growth in the County will be moderate².

² Proximity One, a commercial demographic forecast company, projects population will remain at 2020 levels of approximately 933,000 residents through the year 2040.

Demographics are not the only variable that impact waste quantities, however. Economic conditions can influence waste generation even more than demographics. APTIM has compiled a historic database of solid waste disposal quantities for the Chicago metropolitan area³ (refer to Figure 2.2).



Between 1996 and 2006, a period of expansion in the economy, disposal quantities grew consistently, and at a rate faster than population growth. Commencing in 2006 with the start of the housing crisis, and continuing during the Great Recession and until 2012, disposal quantities decreased significantly due to lower economic activity. As the economy began to improve in 2013, disposal quantities also increased (again, at a faster rate than population growth).

The impact of economic conditions can even outweigh changing attitudes and approaches to waste management. During the expansionary period from 1996 to 2006, disposal quantities grew even though single-stream recycling programs were being implemented, as well as the initial development of facilities to recycle construction and demolition debris. Similarly, since 2013, disposal quantities have resumed growth notwithstanding the continued development of construction and demolition recycling facilities and the implementation of collection programs to target food scrap.

Thus, whether population growth continues in DuPage County (as projected by CMAP) or is modest or even flat, quantities of solid waste are likely to grow during non-recessionary periods. That prospect underlies the rationale for continuing to update the County’s Solid Waste Management Plan every five years.

³ Including Cook, DuPage, Kane, Lake, McHenry and Will counties.

2.2 DuPage County Waste Quantities

As noted in Figure 1.1, the County’s Environmental Division conducts an annual survey of municipalities to compile information on residential waste quantities that are collected for recycling, composting or disposal. These data are presented in Attachment B for the most recent survey (2021).

Based on the survey data, in 2021 DuPage County generated approximately 410,000 tons of residential waste, of which 91,000 tons (22%) was recycled, 41,000 tons (10%) was composted, and 278,000 tons (68%) was disposed. Overall, the County achieved a 32% diversion rate in the residential waste sector.

There are other sectors that contribute to overall municipal waste generation, including commercial waste and construction and demolition debris (refer to definitions in Attachment A). The County’s annual survey does not compile quantities for those sectors.

Estimates of the waste generation from the commercial and construction/demolition sector can be developed based on a statewide assessment of waste generation that was commissioned by the Illinois Department of Commerce and Economic Opportunity⁴. That study developed per capita municipal waste generation rates for each county in the state of Illinois, including a separate estimate of construction and demolition debris. By taking that overall municipal generation rate and subtracting the construction and demolition waste and the residential waste from the County’s annual survey, an estimate of commercial waste quantities can be developed.

Table 2-1 summarizes the estimated quantity of municipal waste, by sector, generated by DuPage County.

TABLE 2.1 – DUPAGE COUNTY WASTE GENERATION (2021)			
Sector	Rate (lbs/capita/day)	Tons Per Day	Tons Per Year
Residential	2.43	1,124	410,000
Commercial	4.16	2,132	778,000
Construction/Demolition	1.73	800	292,000
Total Municipal Waste	8.77	4,056	1,480,000

Sources:

1. Total Municipal Waste and Construction/Demolition generation rates: CDM Smith, *Illinois Commodity/Waste Generation and Characterization Study Update*, March 30, 2015.
2. Residential generation rate: DuPage County, *2021 Solid Waste & Recycling Annual Report*.
3. 2021 population = 924,885 (U.S. Census estimate).

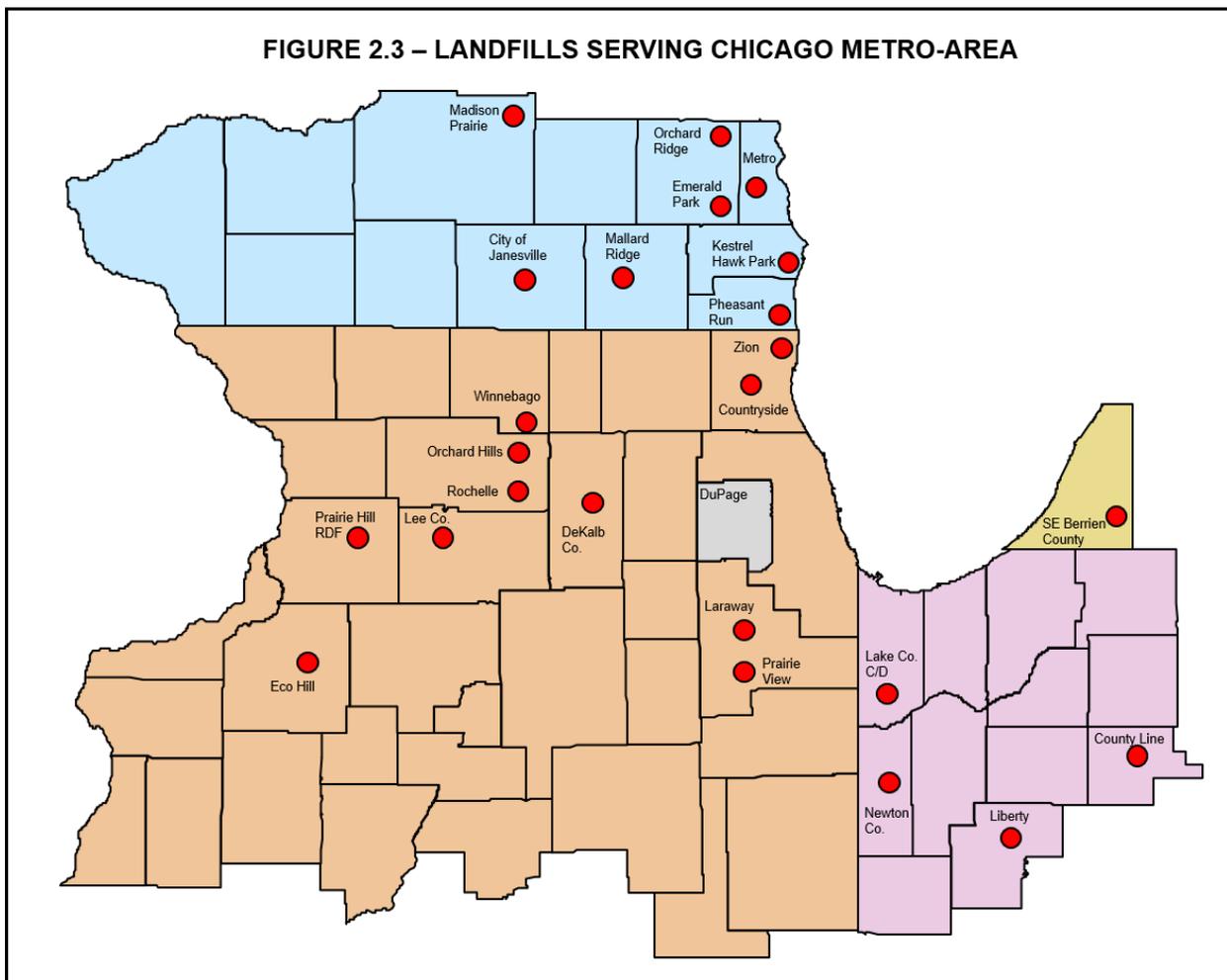
Residential waste accounts for approximately 28% of the overall municipal waste generated by the County, commercial waste amounts to 52%, and construction and demolition debris the remaining 20%.

⁴ CDM Smith, *Illinois Commodity/Waste Generation and Characterization Study Update*, March 30, 2015.

Through its annual survey of the municipalities the County has a good understanding of the performance of its residential recycling program, but the same cannot be said for the commercial sector programs, and construction and demolition debris management. An option for improving data collection from these two sectors would be to enact a hauler licensing ordinance and requiring that all licensed haulers provide data on a regular basis (annually) on the amount of waste landfilled, recycled and composted. The reporting requirement can be broken down into the three sectors shown in Table 2.1: residential, commercial and construction and demolition debris. By having this break down the County can better understand from a macro standpoint how much overall municipal waste is landfilled, recycled or composted. Neighboring counties (including Kane, Lake, McHenry and Will) have all adopted hauler licensing ordinances to inform their on-going solid waste planning.

2.3 Waste Disposal and Diversion Infrastructure

The infrastructure used to manage waste from the Chicago metropolitan area and DuPage County is regional in nature. Figure 2.3 shows the location of landfills that APTIM’s research into waste regional flows has indicated are used to dispose of metro-area waste.



Waste from the metro--area is not disposed equally among these landfill facilities. Instead, private waste haulers select landfills based on market factors (including transportation distances and

disposal prices). Illinois and Indiana landfills are used primarily, with lesser amounts of waste transported to facilities in Michigan and Wisconsin.

The Illinois Environmental Protection Agency produces an annual report on landfill capacity in Illinois. Table 2.2 summarizes capacity data for the Illinois landfills shown in Figure 2.3 as of January 1, 2021.

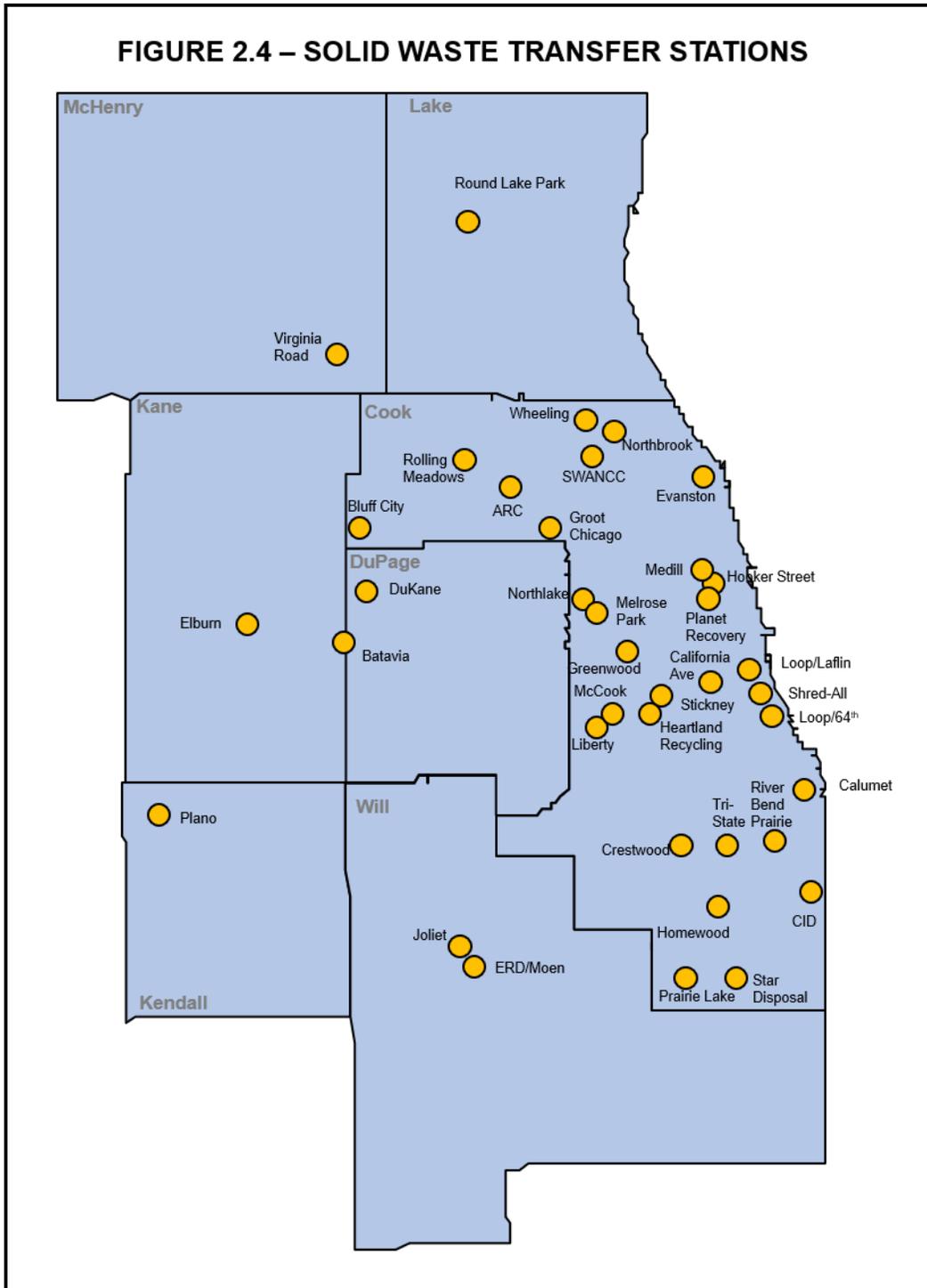
TABLE 2.2 LANDFILL CAPACITY DATA (01/01/2021)				
Landfill	County	Capacity (in-place yds)	Waste Received (in-place yds)	Life Expectancy (years)
Countryside	Lake	1,516,739	415,196	4
Zion	Lake	4,573,014	789,937	6
Laraway	Will	5,405,667	1,266,068	4
Prairie View	Will	13,167,434	822,661	16
DeKalb County	DeKalb	23,549,093	871,582	27
Winnebago	Winnebago	43,903,316	3,047,509	14
Orchard Hills	Ogle	9,857,211	847,486	12
Rochelle	Ogle	8,511,404	135,885	63
Lee County	Lee	29,210,400	457,714	64
Prairie Hill	Whiteside	16,290,234	158,882	103
Eco Hill	Henry	10,531,798	1,213,202	9
Total		166,516,310	10,026,122	17
<u>Source:</u>				
1. Illinois EPA, Illinois Landfill Disposal Capacity Report, July, 2022.				
2. In-place cubic yards means a cubic yard of waste compacted in the landfill.				
3. Waste received represents waste accepted at the landfill in 2020.				

The calculation of life expectancy (in years) is calculated by dividing the capacity of the landfill by the amount of waste received during the previous year. The life expectancy of an individual landfill is not truly a fixed number of years, because as other landfills reach capacity, the waste they received would be redistributed to the remaining landfills. A more relevant estimate of landfill capacity is the aggregate life expectancy of all the landfills, or approximately 17 years.

There is sufficient landfill capacity to meet the needs of DuPage County over the five-year term of this Plan Update. Because the County is reliant on out-of-county disposal facilities, the capacity situation will have to be reassessed in subsequent five-year updates.

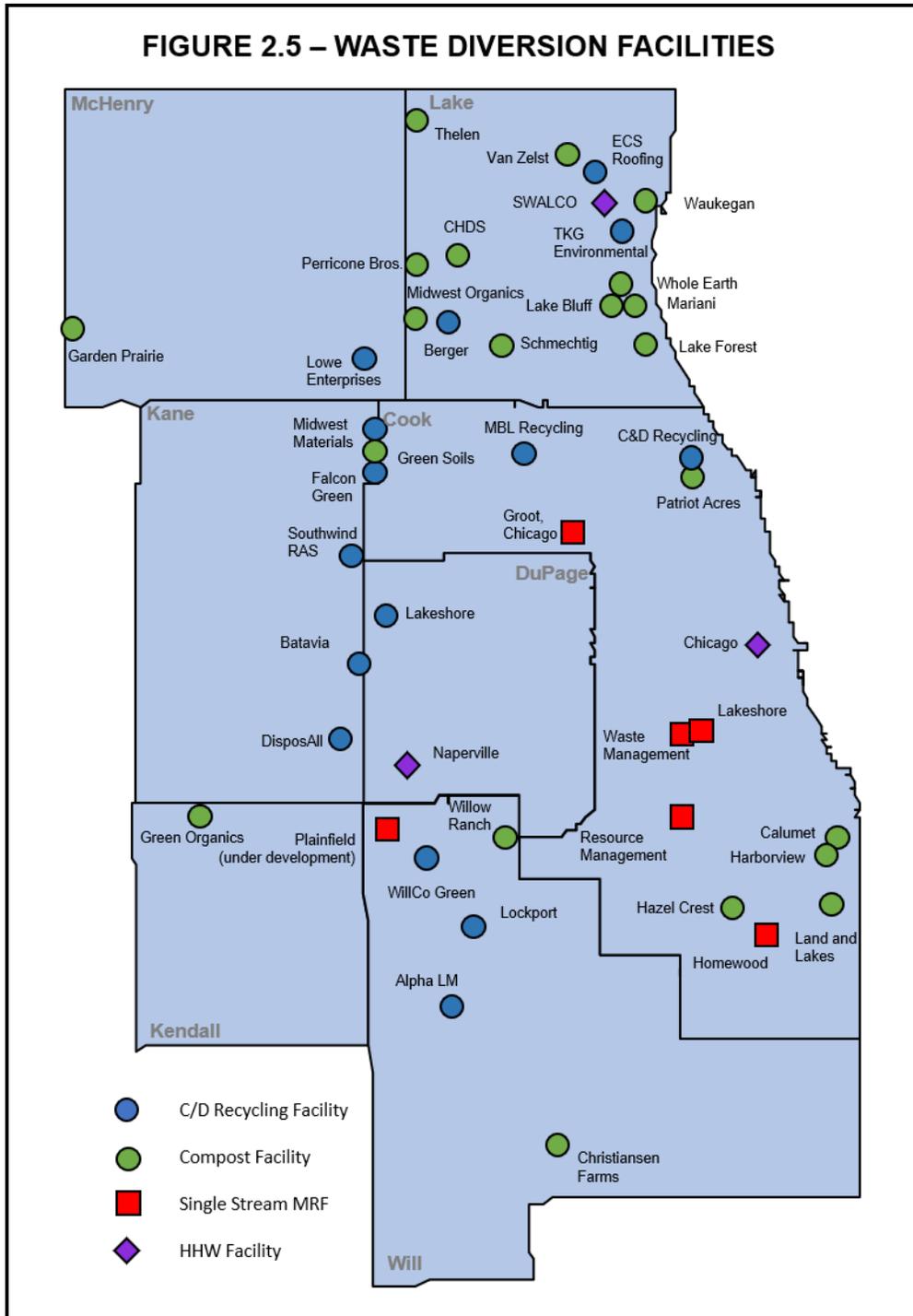
Figure 2.3 illustrates that waste from DuPage County must be transported significant distances to reach an out-of-county landfill. Transfer stations have been developed in the Chicago metro-area to allow waste to be transported more efficiently over those distances. Figure 2.4 shows permitted municipal waste transfer stations in the region.

FIGURE 2.4 – SOLID WASTE TRANSFER STATIONS



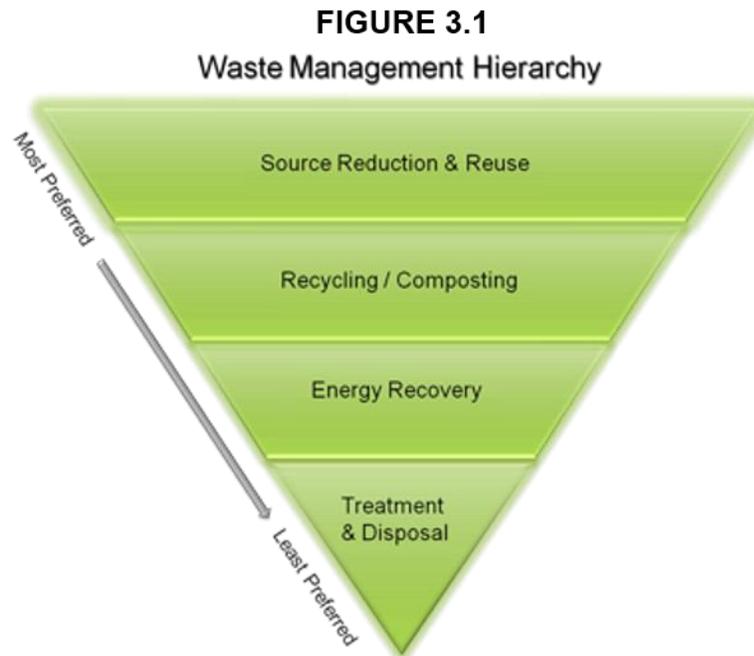
DuPage currently has only one transfer station, the DuKane facility in West Chicago. As of the date of this report, a second transfer station has been proposed by Lakeshore Recycling Systems (LRS), also to be located in West Chicago. On September 16, 2022, LRS filed an application for local siting approval for the proposed facility with the city, which has 180 days from the filing date to review the application and render a decision.

A number of different types of facilities are used for waste diversion activities, including recycling of construction and demolition (C/D) debris, composting of organic waste including landscape waste and food scraps, processing of single-stream recyclables (MRFs), and management of household hazardous waste materials.



SECTION 3. MATERIALS MANAGEMENT IN DUPAGE COUNTY

The U.S. EPA and the State of Illinois have established a waste management hierarchy which prioritizes methods of handling municipal waste (refer to Figure 3.1). Source reduction and reuse (to avoid creating waste in the first place) is at the top of the hierarchy, followed by recycling/composting, energy recovery from waste and then disposal



This section of the 2022 Plan Update describes the numerous programs and methods currently used in DuPage County to manage waste consistent with the hierarchy, and discuss options to enhance and expand waste diversion while also providing policy guidance on waste disposal.

3.1 Waste Minimization and Circular Economy

Historically, solid waste generation and management has followed a linear model of extracting natural resources to make products, which are then used by consumers and then discarded, creating waste. An emerging area of interest among solid waste planning bodies in Illinois (and across the U.S. and internationally) is a transition from the historical linear model to a “circular economy”. Generally, this new model of production and consumption aims to design waste and pollution out of products, keep those products and materials in use, and then recycle products and materials to local and regional manufactures. The goals of the circular economy are to reduce waste and carbon emissions, create jobs and preserve natural resources.

A number of studies have quantified the job creation, added economic output and state and local tax revenue generation from diversion. A statewide economic evaluation⁵ of the recycling industry in Illinois found the following contributions:

- A total of 111,500 jobs

⁵ DSM Environmental, 2010 Recycling Economic Information Study Update for Illinois, November, 2010.

-
- Payroll of \$3.6 billion
 - \$30.3 billion in additional gross receipts
 - Over \$1 billion in state and local taxes

An analysis of food scrap diversion in Illinois⁶, based on diverting 35% to 85% of generated food waste, estimated the following benefits:

- A total of 1,600 to 4,165 jobs
- Payroll of \$82 million to \$207 million
- \$114 million to \$290 million in total value added
- \$3 million to \$14 million in state and local taxes

Development of a circular economy will extend beyond activities at the county level and must also engage other stakeholders to be successful. DuPage County can participate in this emerging model of materials management by engaging in discussions with other counties in the metro-area as well as statewide organizations regarding development of the Circular Economy.

3.2 Residential Recycling

All municipalities and three townships within the County provide collection of waste, recyclables and organics to their residents through a contract with a private hauler. In addition to diverting 32% of the residential waste stream from disposal in 2021, the residential programs result in significant emission reductions of greenhouse gases.

To quantify the reduction in emissions, the tonnage of recyclables, organics and trash managed in 2021 were input into the U.S. EPA's Waste Reduction Model (WARM). This model is a solid waste planning tool that calculates the carbon emissions from alternative waste handling methods such as recycling, composting and landfilling. The calculation takes into consideration transportation emissions and methane emissions from landfills, but also the emissions savings that result from recycling materials into manufacturing feedstocks versus extracting virgin raw materials. The output of the model is an estimate of the reduction in greenhouse gases, expressed in the unit measure of metric tons of carbon dioxide (MTCO₂E).

Diversion of residential recyclables and organics is estimated to have reduced carbon emissions by approximately 227,500 metric tons in 2021. This is equivalent to removing 49,000 annual passenger vehicles from the road, or removing the emissions associated with providing electricity to 44,000 homes.

At the individual municipality level, residential diversion rates ranged from 21% to 43% (refer to Attachment B). While many factors can contribute to that range, the collection infrastructure (e.g., carts, trucks) already exists to provide curbside recycling services. The County could offer technical and education assistance to municipalities with diversion rates that fall significantly below the County-wide average diversion rate of 32%.

Six townships in DuPage County currently have a subscription model for solid waste collection, in which homeowners individually contract with haulers to provide collection services. Concurrent

⁶ Skumatz Economic Research Associates, *Economic Impact and Market Study Report: Elements of the Case for Advancing Food Scrap Composting Industry and the Link to Building Illinois' Local Food Economy*, December, 2016.

with the 2022 Plan Update, the County commissioned the consultant team to prepare a study of hauling practices in the unincorporated areas of those townships. Because services are provided through an individual subscription service, little is known about the types of services currently provided to those unincorporated households. Research is currently being conducted for that study, including the distribution of an online survey to more than 20,000 homes. Service levels and costs will be compared with townships that contract with a single hauler to provide collection services.

Seventeen respondents to the County's municipal survey indicated that recycling services are provided to multi-family residential buildings. However, it was not clear from the survey responses whether "multi-family" meant duplexes or large apartment complexes. This question can be clarified in future annual surveys. If communities are including multi-family households in their residential hauling contracts, the County can encourage other municipalities to adopt that practice. Multi-family recycling has challenges (e.g., space constraints, frequent changes in tenants), but a single hauler would have an incentive to address the challenges in return for securing a larger residential hauling contract.

The County collects current and valuable information on residential collection and recycling services through the annual municipal survey. To foster knowledge of best practices as well as share ideas and experience with emerging programs such as curbside food scrap collection, the County could partner with the DuPage Mayors and Managers Conference to host an annual "State of Waste Management" workshop.

3.3 Commercial Recycling

While separate estimates of overall waste generation for the residential, commercial and construction/demolition waste sectors were prepared in Section 2.2, recycling and composting diversion rates are not currently available for the commercial and C/D sectors. As a result, the overall municipal waste diversion in the County cannot be estimated.

As noted previously, neighboring counties including Kane, Lake, McHenry and Will have enacted hauler licensing ordinances that require data reporting on disposal and recycling quantities in these sectors. DuPage County could enact a similar ordinance in advance of the next five-year Plan Update, with the objective of collecting information on diversion levels. Based on the generation data contained in Table 2.1, residential waste accounts for 28% of the County's overall municipal waste, which means that the large majority (72%) of waste generated in the County is from the commercial and construction/demolition sectors.

The Illinois Solid Waste Hauling and Recycling Program Act (415 ILCS 12/1) requires that waste haulers in Cook County and the five collar counties offer recycling service to commercial accounts. As an alternative (or a supplement) to a hauler licensing ordinance, the County could develop and implement a survey program to ascertain business participation in recycling.

Kane County has an ordinance that requires commercial establishments to subscribe to recycling service. However, such an ordinance requires additional resources for enforcement. The hauler licensing ordinance and/or business survey would provide necessary diversion performance data before requiring mandatory commercial recycling.

Three municipalities in DuPage County have commercial waste franchises, in which a single hauler is contracted to collect waste and recyclables from business establishments. Similar to a residential contract, commercial franchises typically require disposal and diversion quantities to

be reported to the municipality. As part of this Plan Update, County staff contacted the franchise haulers but were unable to secure the requested tonnage information.

3.4 Organics Collection/Composting

Separate collection of landscape waste by municipalities was implemented in the early 1990s as the result of a ban on landfilling of that material. Of the 32% residential diversion rate attained in 2021, recycling accounted for 22% and organics 10%.

Food scrap collection programs (co-collected with landscape waste) has gained interest in the Chicago metro-area in recent years as a way to increase diversion of organic materials. According to the County's 2021 municipal survey, 16 communities indicated that food scrap was included in their waste collection service. This was an increase from 8 communities in the 2020 municipal survey.

It appears that food scrap collection is becoming more prevalent. The County could advise and assist other communities to include food waste collection in their residential hauling contracts.

3.5 Construction/Demolition Recycling

Similar to the commercial waste sector, diversion and disposal tonnages for construction and demolition debris are not currently available. An initial step to address this data deficiency would be for the County to implement a hauler licensing ordinance. This would allow diversion rates in the construction/demolition sector to be evaluated on an annual basis.

Cook County, Lake County and the City of Chicago have adopted ordinances that require the recycling and reuse of construction and demolition waste generated from building projects. Cook County required 70% of building project waste to be diverted from landfill disposal, and the City of Chicago requires 50% diversion.

Kane County, in contrast, had adopted a voluntary approach to C/D recycling in its most recent five-year plan update⁷. The county cited a number of limiting factors that dissuaded it from pursuing a mandatory recycling ordinance, including a lack of local C/D recycling facilities, potential of cost impacts to builders, and comparatively low landfill tipping fees.

To evaluate the relative costs impacts, the County could conduct a survey of C/D disposal costs at landfills versus permitted C/D recycling facilities. If costs are essentially the same, the County could consider enacting a C/D recycling ordinance after consulting with Cook and Lake counties on their C/D ordinances.

3.6 Electronics

The County has a robust program for diversion of electronic scrap materials, which are banned from landfill disposal in Illinois. The recycling of electronics conserves resources such as oil, gold, palladium, copper, and rare earth metals. It also conserves the environmental impacts associated with the mining and transportation of those metals.

⁷ Kane County, 2020 Update: *Kane County Solid Waste Management and Resource Recovery Plan*, December 8, 2020.

In 2021, approximately 722 tons of electronic waste were collected eleven DuPage County partner collection sites. A growing number of communities are incorporating curbside collection of electronic scrap into their municipal hauling contracts. Sixteen municipalities in the County currently have curbside service, and in 2021 collected an additional 39 tons of electronic waste.

3.7 Household Hazardous Waste

DuPage County has one of four regional, permanent collection sites for household hazardous waste (HHW) in the State of Illinois, located in Naperville. The other regional sites are located in Chicago, Gurnee and Rockford. In 2021, the facility collected 69,980 gallons of household hazardous waste materials.

Two communities have curbside collection of HHW through their residential hauling contracts.

3.8 Medication Waste

County residents have multiple options for safely disposing of unused or expired medications. The Hope Task Force and DuPage County Health Department have implemented the Rx Box program, with drop-off locations at 18 sites. The Illinois EPA provides a vendor to pick up and dispose of medications collected at these locations. In 2021, the Rx Box program collected nearly 6 tons of medication waste. Pharmacies and hospitals have also started taking back medicines, expanding the number of sites available to residents.

3.9 Disposal Facilities

In the previous 2017 Plan Update, DuPage County stated that it “would consider new or expanded facilities handling, treating and recycling waste on a case-by-case basis”. Earlier plan updates had indicated a preference for transfer stations and private sector development of facilities.

As noted in Section 2.3, there is currently only one permitted transfer station in the County. A waste company has filed an application for local siting approval to develop a second transfer station.

For the 2022 Plan Update, the County’s policy for new or expanded pollution control facilities is a follows:

- DuPage County will consider new or expanded pollution control facilities handling, treating or recycling waste on a case-by-case basis.
- Determining the location of a proposed pollution control facility is to be determined by the applicant proposing the facility.
- Prior to filing a siting application for a pollution control facility located anywhere in DuPage County (incorporated or unincorporated), the applicant shall negotiate and approve a host agreement with DuPage County, regardless of the location of the facility. Each host agreement will be negotiated on a case-by-case basis.

The policy adopted in this 2022 Plan Update for the siting of pollution control facilities supersedes and replaces all previous plan update policies and requirements and represents the current requirements of DuPage County.

SECTION 4. EXTENDED PRODUCER RESPONSIBILITY/PRODUCT STEWARDSHIP

Product stewardship is a strategy that seeks to ensure that those who design, manufacture, sell and use consumer products take responsibility for reducing negative impacts to the economy, environment, public health and worker safety. Putting this strategy into law is called Extended Producer Responsibility (ERP) and typically requires manufacturers of a specific product to fund and administer, with government oversight, recycling and recovery programs for that product. Illinois has enacted four EPR laws for mercury switches, mercury thermostats, consumer electronics and most recently in 2022 for medications.

Four states have enacted Product Packaging & Paper EPR laws in the past two years: Maine, Oregon, Colorado and California. Each is unique but all have the goal of increasing access to recycling, with a dedicated education program to encourage and increase participation. The current draft of the Illinois PPP bill would provide access to recycling to all single and multi-family households, schools K-12, state and local government locations and public spaces. Current recycling programs operating in DuPage County could continue to operate as is with the cost for curbside recycling being reimbursed under the bill or having the producer responsibility organization take over and provide the recycling service directly. Under either option, those paying the cost for recycling collection will no longer have this cost on their waste hauling invoice. Instead, the brand owners and packaging manufacturers will be paying for the statewide recycling program. By internalizing this cost into the cost of the overall product, companies that are paying for the recycling program will have an incentive to use more recyclable packaging and to design for the environment to reduce their costs. In the long term this will reduce confusion around packaging as more recyclable packaging will be used, and lead to increased capture of valuable recyclable material. The bill also includes post-consumer recycled content requirements for recyclable materials. For example, many brand owners are setting their own internal goals for using recycled materials as a feedstock to make new packaging; these goals would become law under the Illinois bill with the intent to stimulate and maintain strong markets for the recycled material collected by the statewide program.

In anticipation of this bill becoming law, it is recommended that units of local government that enter into hauling contracts in DuPage County require a separate quote for the cost of curbside recycling. Then if the bill becomes law, the unit of local government will be able to share that specific cost with the entity administering the law for reimbursement of that cost.

SECTION 5. RECOMMENDATIONS

This section summarizes the recommendations for the 2022 Plan Update. The recommendations are based on the data reviewed and presented in this report and the feedback received from the work session with the Environmental Committee on August 16, 2022. The recommendations represent programs and efforts the County can reasonably implement over the next five years.

5.1 Waste Minimization

- A. Engage in discussions with other area counties and statewide organizations regarding development of the Circular Economy.
- B. Bring together stakeholders from the business community, local governments and policy makers to dialog on the Circular Economy.
- C. Develop a best-practices guide on source reduction and reuse targeted at the residential sector (including list of know reuse businesses and organizations in the County).

5.2 Residential Recycling

- A. Provide assistance to municipalities with below average residential diversion rates.
- B. Encourage municipalities to include multi-family households in their hauling contracts to expand recycling access to those households. Consider mandating recycling at multi-family households in unincorporated areas.
- C. Create on-line education videos on topics such as recycling guidelines for residents, recycling activities for students, etc.
- D. Partner with the DuPage Mayors and Managers Conference to hold an annual “State of Waste Management” workshop to share ideas and experiences with new or emerging recycling efforts.

5.3 Commercial Recycling

- A. Enact a hauler licensing ordinance and require data reporting on solid waste, recycling and organics quantities (similar to Kane, Lake, McHenry and Will counties).
- B. Develop and implement a survey program to ascertain business participation in recycling as an alternate or supplement to hauler licensing ordinance.
- C. Encourage municipalities to include multi-family households in their hauling contracts to expand recycling access to those households. Consider mandating recycling at multi-family households in unincorporated areas.
- D. Create on-line education videos on topics such as recycling guidelines for businesses.

5.4 Organics

- A. Advise and assist municipalities to include food waste collection in municipal hauling contracts.
- B. Utilize on-line education videos on topics such as how to reduce food waste.

5.5 Construction and Demolition Debris

- A. Conduct a survey of C/D disposal costs at landfills and at permitted C/D recycling facilities to evaluate the comparative costs of disposal versus recycling.
- B. If costs are essentially the same, the County could develop and enact a C/D recycling ordinance after consulting with other counties (Cook and Lake) that have implemented such ordinances.

5.6 Disposal

- A. DuPage County will consider new or expanded waste facilities handling, treating or recycling waste on a case-by-case basis.
- B. Determining the location of a proposed new or expanded waste facility is to be determined by the applicant proposing the facility.
- C. Prior to filing a siting application for a pollution control facility located anywhere in DuPage County (incorporated or unincorporated), the applicant shall negotiate and approve a host agreement with DuPage County, regardless of the location of the facility. Each host agreement will be negotiated on a case-by-case basis.

5.7 EXTENDED PRODUCER RESPONSIBILITY

- A. Encourage municipalities to obtain separate price quotations for curbside recycling services in municipal hauling contracts in anticipation of Illinois enacting proposed ERP legislation.
- B. Evaluate future EPR legislation as they impact solid waste management within the County.

ATTACHMENT A. DEFINITIONS

A number of terms are used in the 2022 Plan Update, some of which are defined by statute while others are more generalized solid waste planning concepts. Definitions of key terms used in the report are provided below.

With respect to material quantities and management methods, the following terms are utilized:

Generation: Refers to tonnages of all materials discarded, including through disposal or diversion. Generation includes waste, recyclable materials, and organic materials managed through landfilling, recycling, and composting from the residential, commercial, and construction and demolition sectors (see subsequent definitions of these sectors below). In equation form, $\text{Generation (tons)} = \text{Diversion (tons)} + \text{Disposal (tons)}$.

Generation Rate: Calculation of the amount of generation on a unit basis; in this 2022 Plan Update, the generation rate is expressed on a pounds per capita per day basis, based on the County's estimated population.

Diversion: Refers to tonnages of materials segregated from the disposed waste stream and captured through collection programs for recycling and composting. Diversion quantified in this Plan Update does not include source reduction, at-home composting, or recycling/reuse that falls outside of County programs and is not tracked by the County.

Diversion Rate: Calculation of the amount of diversion relative to all generation. The diversion rate is reported on a percentage basis. In equation form, $\text{Diversion Rate} = \text{Diversion (tons)} \text{ divided by } \text{Generation (tons)}$.

Disposal: Refers to waste that is not diverted by recycling or composting and that is disposed in a sanitary landfill.

With respect to the sectors that generate municipal waste, the following key terms are used:

Municipal Waste: Defined by Illinois statute (415 ILCS/5 et. seq.) as garbage, general household, institutional and commercial waste, industrial lunchroom or office waste, landscape waste, and construction and demolition debris. (Also referred to as municipal solid waste or MSW).

Residential: Includes landfill trash, recycling, and organics (including landscape waste and food scraps) collected from "single-family residences", which generally includes residences in structures of 1 to 4 living units. Similar materials collected from "multi-family residences", such as apartment and condominium complexes, are typically considered part of the commercial sector.

Commercial: Includes landfill trash, recycling and organics collected from businesses, institutions and multi-family dwellings. Under the statutory definition of municipal waste, "lunchroom or office waste" from industrial businesses would be included, but not industrial process waste from manufacturing operations.

Construction and Demolition (C&D): Includes materials generated through from structural construction, demolition, or deconstruction projects. This sector excludes materials generated from road and utility construction projects, as those large quantities are not traditionally included in municipal waste.

With respect to the types of facilities that are used to manage municipal waste, the following key terms are utilized:

Sanitary Landfill: Defined by Illinois statute as a facility permitted by the Illinois Environmental Protection Agency for the disposal of waste on land meeting the requirements of the Resource Conservation and Recovery Act, P.L. 94-580, and regulations thereunder, and without creating nuisances or hazards to public health or safety, by confining the refuse to the smallest practical volume and covering it with a layer of earth at the conclusion of each day's operation, or by such other methods and intervals as the Board may provide by regulation. Landfills require local siting approval and are permitted by the IEPA.

Single-Stream Material Recycling Facility (MRF): Refers to a facility that sorts commingled recyclable materials into constituent commodities (i.e., paper, plastic, glass, metal) for further processing and shipment to end-user markets.

Transfer Station: Defined by Illinois statute as a facility that accepts waste for temporary storage or consolidation and further transfer to a waste disposal, treatment or storage facility. Transfer stations require local siting approval and are permitted by the IEPA.

ATTACHMENT B. RESIDENTIAL WASTE QUANTITIES (2021)

Municipality	Contract Households	Disposed (tons/year)	Recycled (tons/year)	Organics (tons/year)	Generation (tons/year)	Diversion Rate
Addison	7,952	11,183	2,892	1,777	15,851	29.45%
Bartlett	11,051	13,770	3,754	1,919	19,443	29.18%
Bensenville	3,521	5,920	1,309	933	8,163	27.47%
Bloomington	6,421	7,988	2,794	995	11,777	32.17%
Burr Ridge	3,860	3,935	1,688	337	5,960	33.98%
Carol Stream	10,000	10,880	2,815	119	13,814	21.24%
Clarendon Hills	2,600	1,577	583	291	2,451	35.66%
Darien	7,451	5,286	2,483	735	8,505	37.84%
Downers Grove	14,500	12,423	5,338	1,938	19,699	36.94%
Elmhurst	13,099	14,075	5,141	1,756	20,972	32.89%
Glen Ellyn	7,935	7,026	3,219	1,517	11,762	40.26%
Glendale Heights	7,229	8,797	2,225	1,149	12,170	27.72%
Hanover Park	7,009	11,585	2,457	662	14,704	21.21%
Itasca	2,499	3,354	996	788	5,138	34.72%
Lemont	5,582	7,140	2,021	1,350	10,511	32.07%
Lisle	5,405	4,127	2,049	1,057	7,233	42.94%
Lisle Township	4,024	3,005	1,023	420	4,448	32.44%
Lombard	11,050	12,144	4,207	2,164	18,515	34.41%
Naperville	43,316	40,567	13,368	9,040	62,975	35.58%
Oak Brook	2,688	2,869	866	7	3,742	23.32%
Oakbrook Terrace	514	1,260	424	24	1,707	26.22%
Roselle	7,500	7,781	2,314	284	10,379	25.03%
Villa Park	6,846	7,775	898	1,224	9,897	21.44%
Warrenville	3,277	3,593	1,142	390	5,125	29.89%
West Chicago	5,523	6,030	2,739	734	9,504	36.55%
Westmont	5,600	5,114	1,513	1,392	8,019	36.23%
Wheaton	15,357	11,665	5,541	1,142	18,348	36.42%
Willowbrook	1,369	1,400	603	150	2,153	34.97%
Winfield	3,750	2,731	912	61	3,704	26.27%
Woodridge	7,500	3,968	985	829	5,782	31.37%
Wood Dale	3,469	4,679	1,268	875	6,822	31.41%
Total (Reported)	237,897	243,647	79,567	36,058	359,272	32.18%
Total for County	271,369	277,928	90,762	41,131	409,821	32.18%

Highlighted values were not provided in response to the 2021 survey, so previous survey values were used.