



Photo by Stephan Cassara

CITY OF CHICAGO WASTE STRATEGY

EXISTING CONDITIONS: WASTE IN CHICAGO

JULY 2021

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Matthew Allee	Chicago Dept. of Business Affairs & Consumer Protection	Mary Allen	SWANCC
Ernest Alvarado	Chicago Park District	Mort Ames	Chicago Law Dept.
Chris Antonopoulos	Cook County Dept. of Environment and Sustainability	Mike Archey	
Brian Bailey	Zero Waste Chicago	Olga Bautista	Alliance for the Great Lakes
Justin Bland	New York Dept. of Sanitation	Cathy Breitenbach	Chicago Park District
Kristen Brock	Chicago Park District	Mike Brown	Chicago Park District
Alderman George Cardenas	12 th Ward Alderman	Susan Casey	Seven Generations Ahead
Dane Christianson	Block Bins	Mary Margaret Cowhey	Land and Lakes/IL Recycling Association
Meegan Czop	Great Lakes Yard	Brendan Daley	Chicago Park District
Luke Dias	Zero Waste Chicago	Lisa Disbrow	Waste Management
Aaron Durnbaugh	Loyola University Chicago	Sarah Edwards	Cook County Dept. of Environment and Sustainability
Josh Ellis	Metropolitan Planning Council	Jen England	Food Rescue Hero
Timothy Farnan	Minnesota GreenCorps	Brooke Ferree	Illinois EPA
Aaron Frame	Chicago Dept. of Aviation	Samira Hanessian	Chicago City Council, Cmte on Environ. Protection & Energy
Fay Hartog-Levin		Matt Hedrick	Organix Recycling
John Holm	Pyxera Global	Erlene Howard	Collective Resource Compost
John Hundrieser	Chicago Film Office	Jennifer Jarland	Kane County, IL/IFSC
James Jennings	Illinois EPA	Alex Johnson	Rheaply
Bryan Johnson	City of Madison, WI Streets Dept.	Theresa Johnston	MWRD
Stephanie Katsaros	Bright Beat/Chicago Sustainability Task Force	Moira Kelley	Zero Waste Chicago

Bill Kenney	Lakeshore Recycling Systems	Daniel Kietzer	Materials Marketplace
Barbara Koenen	Chicago Creative Reuse Exchange	Keith Koski	Houston, TX Solid Waste Management Dept.
Renante Marante	Chicago Dept. of Public Health	Jessi Marsh	Food Rescue Hero
Cody Marshall	The Recycling Partnership	Sarah Mason	Houston, TX Solid Waste Management Dept.
Greg Maxwell	Resource Management Companies	Jessica Miller	Illinois EPA
Benjamin Mjolsness		Wilson Mora	Chicago Dept. of Streets and Sanitation
Kristin Mroz-Risse	Minnesota GreenStep Cities	Chris Newman	US EPA Region 5
Alderman Samantha Nugent	39 th Ward Alderman	Carter O'Brien	Chicago Recycling Coalition
Erica Ocampo	Sims Metal Management	Esau Orduno	Chicago Dept. of Business Affairs & Consumer Protection
Shantanu Pai	Illinois Sustainable Technology Center	Julian Pastin	Rebuilding Exchange
Jonathan Pereira	Plant Chicago	Matthew Peterson	Chicago Dept. of Transportation
Jon Powell	Closed Loop Partners	Garr Punnett	Rheaply
Eleanor Ray	The Waste Shed	Chris Ronson	Re-TRAC Connect
Peggy Salazar	Southeast Environmental Task Force	Chris Sauve	Chicago Dept. of Streets and Sanitation
Kevin Schnoes	Cook County Dept. of Environment and Sustainability	Jessica Schumacher	US EPA Region 5
Sabina Shaikh	University of Chicago	Terry Sheahan	Chicago Dept. of Public Health
Rick Shipley	Organix Recycling	Maria Silvas	Chicago Textile Recycling
Nathan Smith	Edgewater Environmental Coalition	Deborah Stone	Cook County Dept. of Environment and Sustainability
Sunil Suthar	Illinois EPA	Angela Tovar	City of Chicago Office of the Mayor
Grant Ullrich	Chicago Dept. of Buildings	Amy Uong	Sims Metal Management
Tricia Van Eck	Edgewater Environmental Coalition	Dave Van Vooren	SWANCC
Susan Vescovi	US EPA Region 5	Cristina Villella	Minnesota GreenCorps
Jen Walling	Illinois Environmental Council	Killian Walsh	Edgewater Environmental Coalition
Walter Willis	SWALCO	Ryan Wilson	Metropolitan Planning Council
Craig Wittig	The Recycling Partnership	Kimberly Worthington	Chicago Dept. of Assets, Information, and Services
Elise Zelechowski			

MATERIALS MANAGEMENT: KEY TERMS

Waste Processes

Diversion is the process of keeping waste from landfill through a variety of methods.

To **recycle** is to process waste and convert it into raw materials that can be used in the production of new items. To **reuse** is to find another purpose for materials, such as donating clothing or sharing infrequently used items. To **repair** is to mend an item rather than dispose and/or purchase a new item.

Compost is organic matter allowed to decompose so that can then be used as plant fertilizer. **Anaerobic digestion** is a process of decomposition of organic matter without oxygen, producing biogas and compost.

Food rescue is the process of collecting food that would otherwise go to waste and redistributing it, often to hunger relief or food insecure individuals.

Materials

Municipal solid waste (MSW) consists of the everyday items discarded in residential, institutional, and commercial settings.

Household hazardous waste (HHW) refers to household items that contain corrosive, toxic, ignitable, or reactive ingredients (e.g. lighter fluid, antifreeze, paint thinners). Though HHW is not regulated at the same level as commercial or industrial hazardous waste, many products pose similar risks to human health and the environment and must be managed and disposed of safely.

Pharmaceutical waste refers to unwanted, unused and/or expired medications and some of the materials used to store and handle them. These items cannot be included in municipal solid waste due to potential hazardous chemicals within them.

Electronic waste (E-waste) consists of items like computers, televisions, and other electronic devices which contain hazardous materials that can pose a threat to the environment and precious metals that can be recycled into new products. Like HHW and pharmaceutical waste, these materials need proper disposal.

Construction and demolition waste (C&D) consists of debris from construction and demolition projects. Given the materials included, there is often a high potential for recycling.

Bulk refers to any materials that cannot be accepted in regular collection due to their size such as major appliances and mattresses.

Waste Generators

Residential refers to waste and waste streams that come from households. This is often broken down by building size. Low-density residential concerns single family homes and multifamily buildings with four or fewer units, while high-density residential concerns multifamily buildings with more than four units.

Commercial refers to waste generated outside of the home in retail and office settings.

Institutional refers to waste generated by large organizations like hospitals, schools, universities, and museums.

Industrial refers to waste produced in factory and manufacturing settings.

Traditional Waste Infrastructure

Hauling is the process of collecting and transporting waste materials.

Transfer stations are locations where waste materials are collected, processed, and prepared for the next stage of their disposal.

Material Recovery Facilities (MRFs) are locations where recyclable materials are prepared for resale.

Composting Facilities are locations where organic material can decompose, producing a material that can be used as a fertilizer.

Landfills are locations where materials are brought at the end of their life. Ideally, this is the last location for disposal when other options are not available.

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BACKGROUND

As increased urbanization and directly correlated city density has accelerated in the second half of the 20th century, related support systems require updated strategy and investment. Food, water, energy, transportation, medical care, and other critical infrastructure have evolved to keep residents safer and healthier. As cities grow and change, managing materials and waste continues to be one of those critical services provided by local governments and their partners. To assist in standardizing the basic requirements, policies and laws have been enacted to govern how cities, counties, and states manage waste.

In most cases, waste management is governed, managed, and coordinated as a basic city service. Managing materials from a city of Chicago's size requires a complex and interconnected system that relies on the participation of several actors in the public and private sectors to work properly. Increasingly its costs to our communities and the environment cannot be ignored. The system can be improved with technology, research, and clever design, but ultimately this challenge requires the combined and coordinated efforts of the City of Chicago government, private commercial and industrial businesses, institutions, and citizens to solve.

This document seeks to establish the current conditions of materials management in Chicago in order to identify strategies to decrease waste disposal and associated negative environmental impacts; reduce costs and increase efficiency; maximize economic and workforce development opportunities; and address equity and environmental justice issues.

WASTE IN THE CITY OF CHICAGO

In the late 1800s, independent trash scavengers were deployed in Chicago to collect waste material for use as landfill to stabilize marshlands at the City's edge for future development. As dumping sites filled to capacity in the mid-1900s, the City shifted to a municipal incineration approach with three major incineration facilities for residential and commercial waste combined with additional on-site waste incinerators for hospitals, schools, and other major institutions. As manufacturing materials shifted to include more plastics and other toxic materials in the 1980s and 1990s, air quality concerns resulted in incineration closures and a shift back to landfills for residential and commercial waste.¹ The movement of waste and materials throughout Chicago is supported by a network of waste and recycling haulers, transfer stations, material recovery facilities (MRFs), and composting facilities. The City of Chicago does not contain any open landfills, so disposal of all materials takes place outside of the city and often outside of the state.

Concurrent with changes to disposal methods, waste management efforts shifted toward developing strategies to reduce the amount of waste generated and divert materials for reuse and remanufacture. Modern waste management systems have evolved to handle the various waste streams differently. For some materials, management and end-of-life destination is dependent on the reuse or recycling potential and value of the material, such as recyclable and biodegradable materials. For other materials, management is dependent on the hazard they may present to the public, such as electronic waste (e-waste) and household hazardous waste (HHW). Reuse and extending the useful life of materials is a historic practice but is made more difficult

with shifts in consumer culture towards excess and convenience and increased manufacture of low-durability goods intended for short-term use.

Though opportunities exist to improve waste management throughout the material life cycle, prioritizing “upstream” initiatives (e.g. waste reduction, reuse, and repair) can increase overall environmental benefit and maintain the economic value of materials. The United States Environmental Protection Agency (EPA) has developed hierarchies for both non-hazardous materials² and food waste³ (Figure 1 and 2 below) to inform waste reduction strategies prioritization and ensure the highest and best use for materials whenever possible.

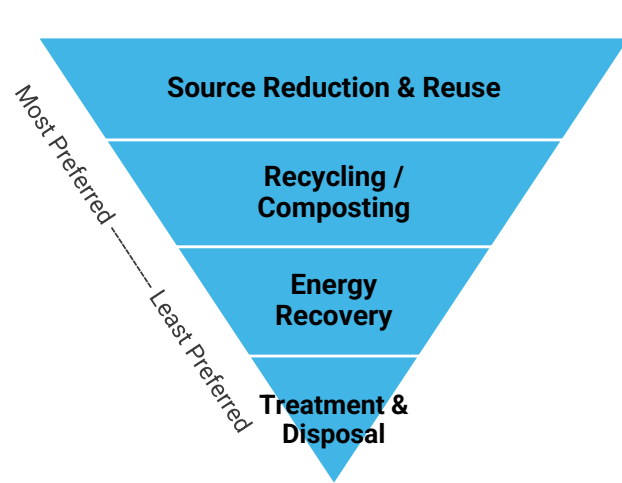


Figure 1: EPA Waste Management Hierarchy

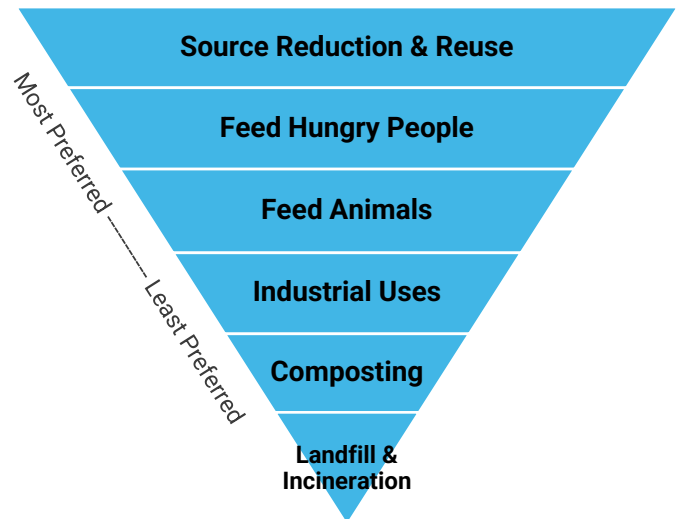


Figure 2: EPA Food Waste Management Hierarchy

CITY OF CHICAGO WASTE GENERATION & CHARACTERIZATION

An important baseline step in implementing an effective materials management infrastructure is to understand what types of waste are being created, by whom, and how much. Waste generation and characterization refers to the volume of materials entering the waste, recycling, or compost streams, and proportions of specific material categories for each. With the myriad actors and processors involved in a waste system as complex as the City of Chicago’s, holistic data for generation and characterization is costly and difficult to acquire.

Most recently, the former Chicago Department of Environment tasked CDM Smith with sampling and analyzing waste data for the 2010 *Waste Characterization Study*.⁴ For the development of this document, cost and time constraints prevented an additional full waste characterization study, however, a team of researchers at the University of Illinois at Chicago (UIC) has developed robust models and methodologies to project waste generation and characterization data for 2020.

WASTE GENERATION TRENDS BY SECTOR

The City of Chicago generated 4.13 million tons of materials in 2020.⁵ Though economic conditions result in annual fluctuations, there has been an overall slight increase in waste generation over the last decade.



Figure 3: Chicago Annual Material Generation (2010-2020)

SF: Single family homes (typically with four or fewer units) where waste is collected by the City Department of Streets and Sanitation (DSS). MF: Multi-family homes where waste is collected by private haulers. ICI: Institutional, Commercial, and Industrial. C&D: Construction and Demolition. Data are compiled from various reports from the City of Chicago to the extent possible; incomplete data in city reports are estimated by the UIC team.

Chicago’s 4.13 million tons of total material generation in 2020 is comprised of refuse, recycling, and yard waste collected from low-density residential buildings with four or fewer units (989,924 tons), high density residential buildings with five or more units (629,735 tons), institutional, commercial, and industrial (ICI) generators (1,456,708 tons), and construction and demolition (C&D) debris from buildings (1,053,818 tons).⁶ C&D debris from roadway construction was not included in this study but is an additional significant source of material generation.

RESIDENTIAL DEMOGRAPHICS & GENERATION TRENDS

Over the past 10 years, Chicago’s population has remained stable, declining 0.18 percent from 2010 to 2019. In 2019, the population of the city was 2,693,959.⁷ Though a majority of Chicago residential units are in low density buildings (four or fewer units, including single family homes), the proportion residential units in high density buildings (five or more units) is increasing. Between 2010 and 2020, households in low density buildings decreased by 4.5 percent, and households in high density buildings increased by 9.2 percent (Figure 4).

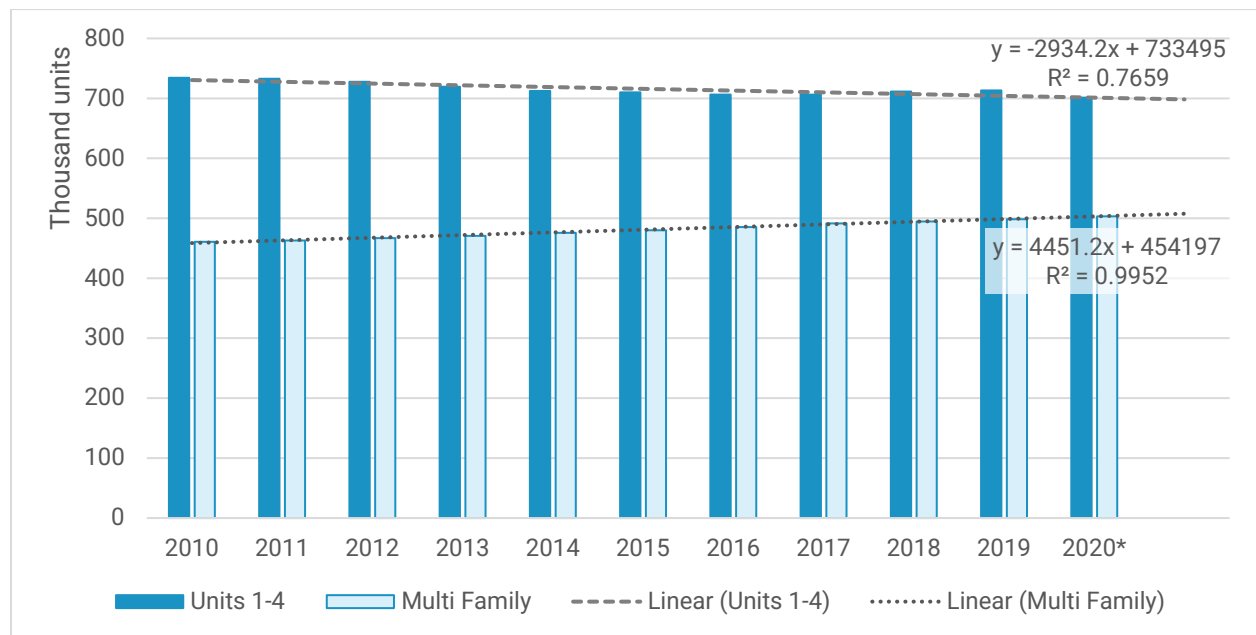


Figure 4: Trend of Housing Units in Chicago (Unadjusted for Vacant Units) 2010-2020

Note: 2010-2019 data from the U.S. Census American Community Survey; 2020 data estimated by the UIC team. Chart by the UIC team.

Normalized per-household and per-capita residential (both high density and low density) material generation is displayed in Figure 6. Overall, residential waste generation has shown a decreasing trend in the last decade, except for 2020 (likely due to impacts of the COVID-19 pandemic).

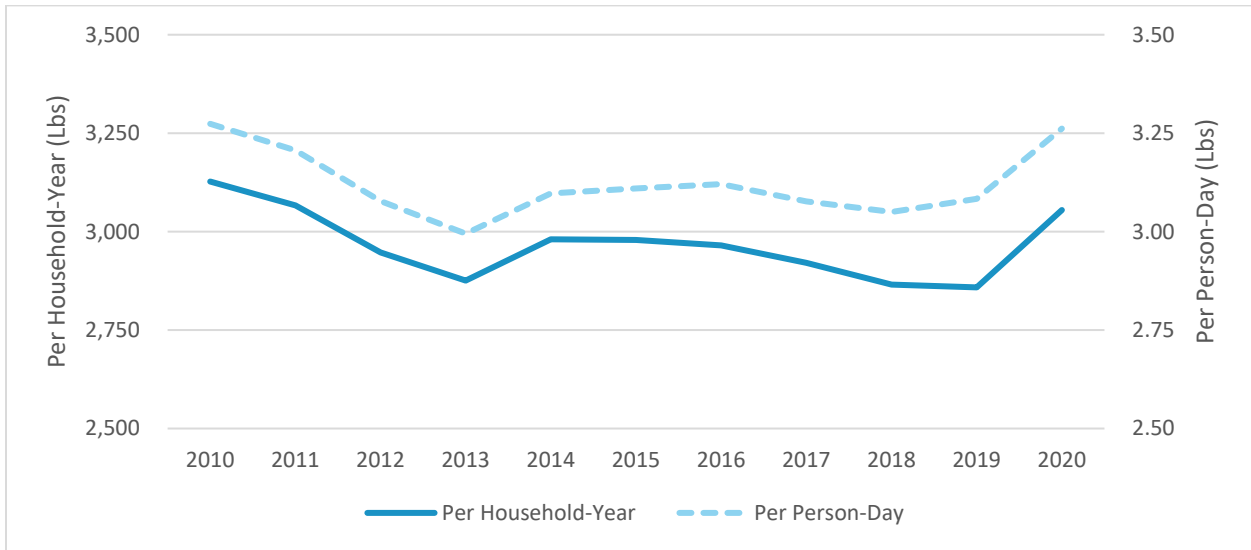


Figure 5: Residential Waste Generation Rates per Household and per Capita (2010-2020)

Note: These normalized rates refer to residential waste (generated from SF and MF homes) only. SF waste data are reported by the City. MF waste data are estimated by the UIC team. Data of population and households in Chicago are from the US Census American Community Survey (ACS) 5-year estimates (2010-2019). The 2020 demographics are estimated by the UIC team.

ICI WASTE GENERATION & CHARACTERIZATION TRENDS

Industrial, commercial, and institutional (ICI) generators include restaurants, grocery stores, professional offices, manufacturing sites, schools, universities, and government facilities. In UIC’s waste characterization and generation update study, ICI does not include high density residential structures.

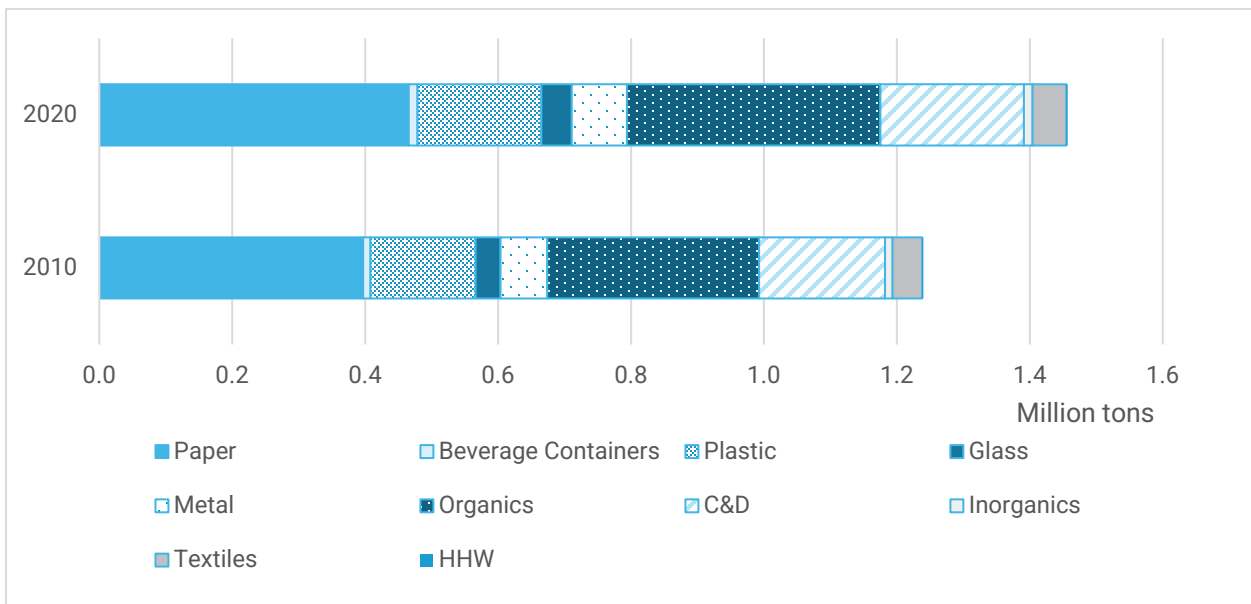


Figure 6: Estimated ICI Waste Generation Based on Industry Employment Changes (2010 vs. 2020)

Note: 2010 data from CDM (2010); 2020 data estimated by the UIC team. Chart by the UIC team.

Based on employment and industry data, UIC calculated estimated ICI waste characterization trends between Chicago’s 2010 waste characterization study and 2020 (Figure 7). Overall ICI material generation increased over 17 percent from 1.25 million tons in 2010 to 1.46 million tons in 2020. Major material type increases included glass (22.4 percent), organics (19.6 percent), plastic (17.7 percent) and paper (17.3 percent).⁸

YARD WASTE GENERATION TRENDS

Yard waste includes organic material like grass clippings, leaves, and tree trimmings. Annually, approximately 40,000 to 44,000 tons of yard waste are generated from low density residential structures in Chicago, but very little has been collected through 311 pickup requests. Monthly yard waste generation varies seasonally and can be as low as 500 tons in winter months, compared to between approximately 3,900 and 6,700 tons in late spring and early summer, and approximately 4,400 and 8,200 tons in late fall.⁹

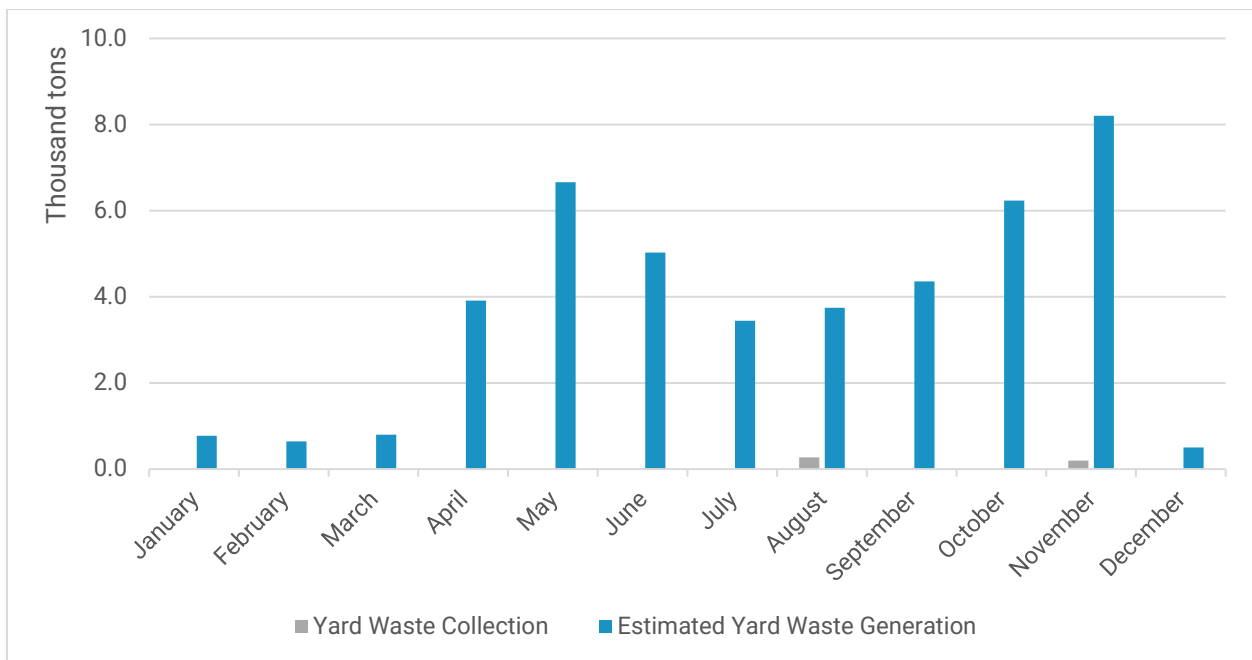


Figure 7: Estimated Yard Waste Generation from Low Density Residences in Chicago vs. Volume Collected by Work Orders

Note: Monthly yard waste generation volumes for single family homes are estimated by multiplying total material collection by the ratios presented in Table 1. Yard waste collection volume (per work order) is recorded by the City. Chart is produced by the UIC team.

DIVERSION & RECYCLING RATES

When the low diversion rate for Chicago is discussed, it often only focuses on the Department of Streets and Sanitation's residential recycling program. However, looking at Chicago's diversion rate with a broader scope to include waste streams like C&D waste and waste collected from private haulers yields a much higher diversion rate. A 2010 analysis found a 45 percent diversion rate when including these waste streams.¹⁰ When comparing diversion rates between cities, it is important to consider the difference in how the diversion rate is calculated in different cities. San Francisco's 80 percent diversion rate includes materials in C&D waste - comparing this figure to diversion rates solely from the Blue Cart program may be creating a false equivalence.¹¹

*There are multiple ways to measure how materials move through different waste streams, with some methodologies painting different stories about the state of waste. A **diversion rate** typically refers to the percentage of materials collected that are not landfilled relative to the total amount of materials collected. A **recycling rate** refers to the materials to be recycled relative to the total amount collected. A **capture rate** is the weight of all recyclable materials collected for recycling compared to all the recyclables in the waste stream to understand how much of what can be recycled is actually being recycled.*

Source: The Recycling Partnership, Start at the Cart, 2018.

COVID-19 PANDEMIC DISRUPTIONS

Since its emergence in spring 2020, the COVID-19 pandemic has significantly disrupted municipal waste services at home and abroad. These disruptions include negative impacts on local economies as well as state and local budgets; a shift in waste characterization and generation trends; and increased pressure and demand imposed on the City's essential, frontline workers. This group includes those responsible for hauling and processing waste materials. There was a 35.2 percent increase in missed pickup complaints to the Department of Streets and Sanitation between 2019 and 2020 for the months of January through December, and a 52.9 percent increase for the months of March through December. These increased complaints came primarily during the summer months.

Missed Pickup Complaints, 2019 v. 2020

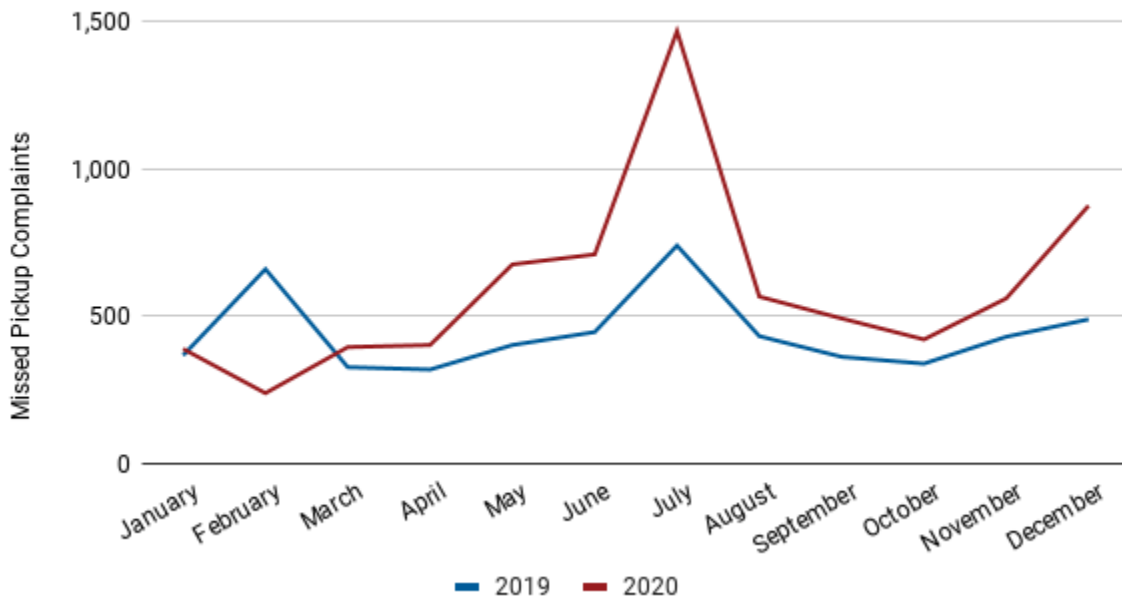


Figure 8: Monthly missed pickup complaints submitted to 311 from non-Department of Streets and Sanitation sources for 2019 and 2020 (Source: City of Chicago)

Across the country, municipalities have been forced to make difficult decisions in response to these disruptions. In Phoenix, for example, the Public Works Department increased the fee for residential waste and recycling pickup to cover rising household generation rates and to provide personal protective equipment (PPE) to collection employees.¹² In Baltimore, the Public Works Department paused recycling collection from August 2020 to January 2021 due to a reduction in capacity caused by a series of COVID-19 outbreaks among staff.¹³ In Austin, Texas, the Austin Resource Recovery temporarily closed the Recycling and Reuse Drop-off Center and paused yard waste and bulk collection to mitigate virus transmission risks and accommodate staffing shortages.¹⁴ Although most reductions in waste and recycling services for residents across the country are expected to be temporary, the pandemic has exposed significant vulnerabilities in existing materials management systems.

For many Chicagoans, the pandemic has shifted much of the waste generation from offices and restaurants to homes.¹⁵ Lakeshore Recycling Systems estimates a 20 to 30 percent increase in residential waste generation in their Chicagoland service areas due to COVID-19.¹⁶ Chicago’s Blue Cart program has also seen an overall increase in volume compared to 2019. UIC modeled expected low-density residential waste and recycling generation based on historical trends to determine variance in 2020 (Figures 12 and 13). The dashed lines represent predicted generation, and the solid lines represent actual collection tonnage. Both waste and recycling generation were higher than predicted in 2020, 8.8 percent and 10.2 percent, respectively.¹⁷

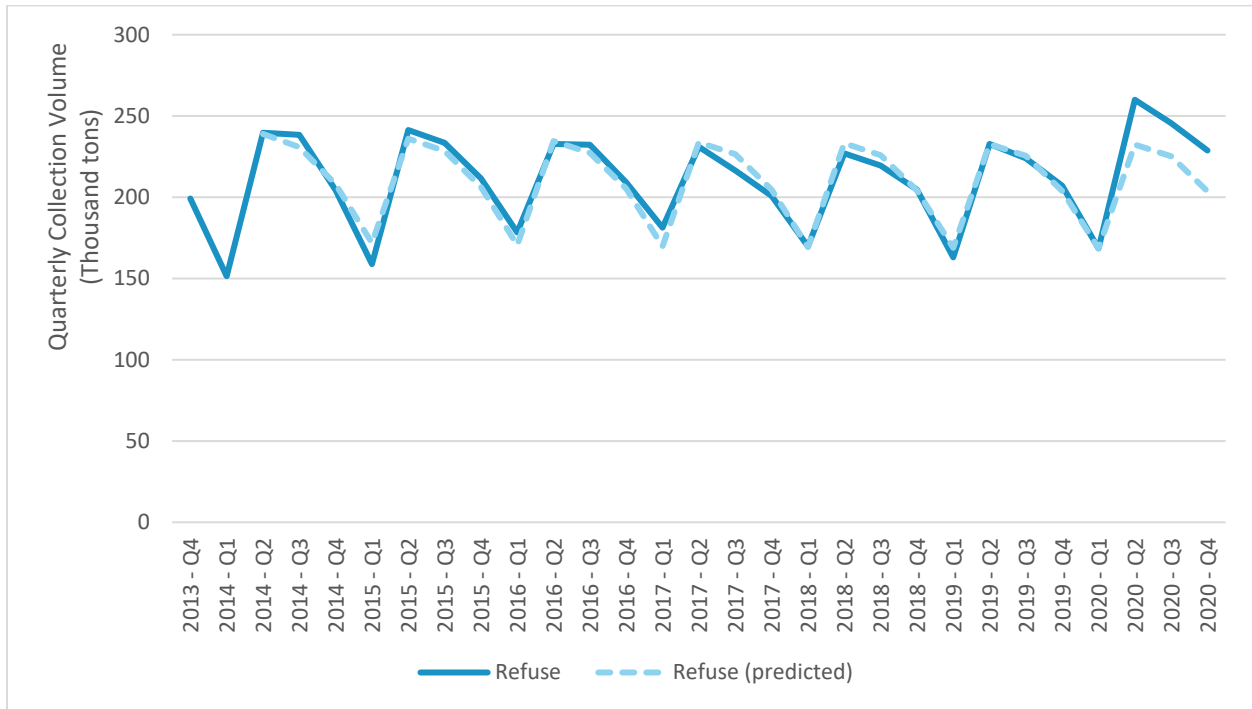


Figure 9: Low Density (4 or Fewer Units) Residential Refuse Volume

Note: Quarterly data are aggregated from monthly data recorded by City on waste collected by the Department of Streets and Sanitation (DSS) from residences (single-family homes/ apartments/condominiums/ townhomes with 4 or fewer units). Time-series modeling and chart are produced by the UIC team.

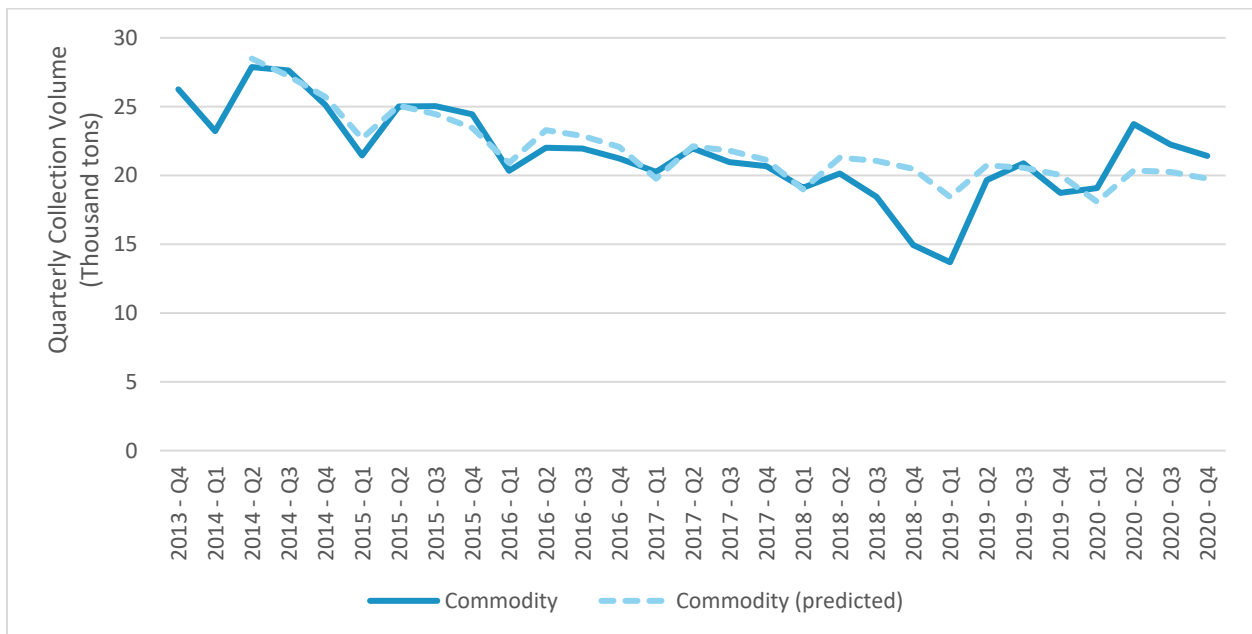


Figure 10: Low Density (4 or Fewer Units) Residential Recycling Volume

Note: 2018 variance is a result of service disruptions due to a fire at a Chicago area recycling facility. Quarterly data are aggregated from monthly data recorded by City on waste collected by the Department of Streets and Sanitation (DSS) from residences (single-family homes/ apartments/condominiums/ townhomes with 4 or fewer units). Time-series modeling and chart are produced by the UIC team.

Commercial and institutional waste generators have also been impacted by the pandemic and economic recession. Restaurants and food businesses significantly shifted to carry out and delivery services, resulting in an increased reliance on single-use polystyrene and plastic packaging and serveware. Chicago's Plastic Free Waters ordinance, proposed in January 2020, has been put on hold to avoid additional burden on restaurants working to adapt to pandemic conditions.¹⁸

Hospitals and other essential institutions and businesses have also required a massive increase in single-use personal protective equipment (PPE) to prevent the spread of COVID-19. George Washington University Hospital in Washington has estimated that their facility is generating two to three times the typical amount of typical medical waste, including PPE, since the start of the pandemic.¹⁹

WASTE IN CHICAGO: EXISTING SERVICES

Chicago’s waste materials are managed by the City, private businesses, and nonprofit organizations in a variety of ways depending on material type and material generator. Chicagoans currently interact with the existing waste system through residential waste and recycling collection, commercial materials management at their place of employment or businesses they patronize, and potentially additional programs for donation, recycling, or safe disposal of materials. This section includes a summary of existing materials management programs available in Chicago through the City, nonprofit organizations, and private businesses.

RESIDENTIAL WASTE & RECYCLING

Low Density Residential (Four or fewer units)

Household waste and recycling is managed by the Department of Streets and Sanitation (DSS) for low-density residences - single family homes and multifamily buildings with four or fewer residential units. These Chicago residents are served by the Blue Cart recycling program as well as grid garbage collection. For garbage collection, Chicago is divided into eight sanitation districts (Figure 11) to reduce truck deployment and increase efficiency.²⁰ Over 620,000 residential units (around half of all residential units in Chicago) are served by DSS for garbage collection at a cost of \$9.50 per residential unit per month.²¹

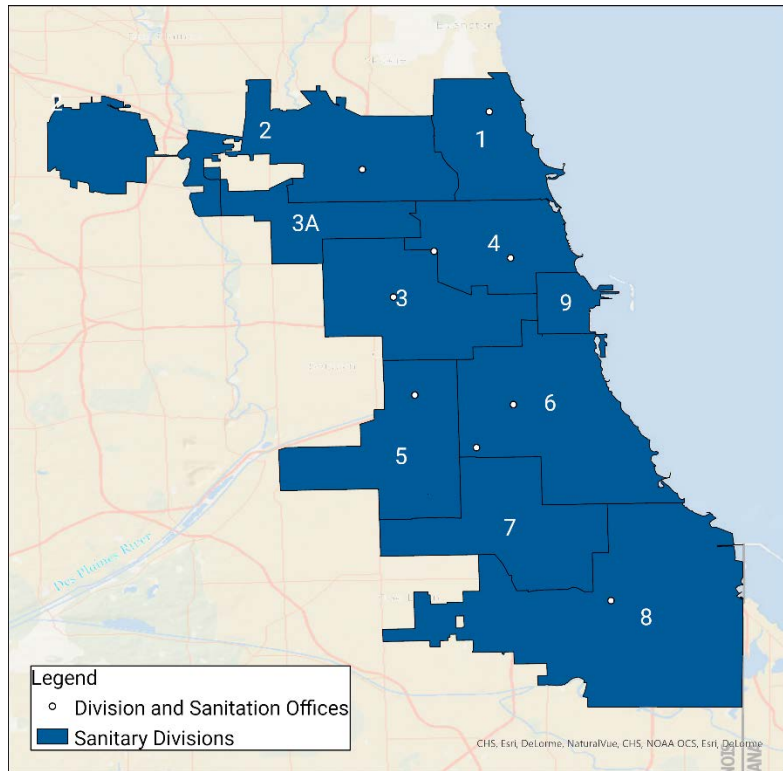


Figure 11: Figure 12: Map of sanitary districts (for grid garbage collection) (Source: City of Chicago)

The 2020 budget for DSS allocated over \$44 million for disposal (tipping fees) of approximately 850,000 tons of residential garbage.^{22 23} This amount exclusively covers disposal and does not include collection or labor costs, and the garbage collection fee for residents does not cover the cost of DSS-collected garbage.

For recyclable materials, low-density residences in the City of Chicago are served by the City’s Blue Cart program. Blue Cart eligible residences are divided into six Service Areas - four areas (Service Areas 1, 3, 5, and 6) are serviced by private contractors and two areas (Service Areas 2

and 4) are serviced by the City of Chicago Department of Streets and Sanitation. As of June 2021, the privately contracted areas are serviced by Lakeshore Recycling Systems (LRS).²⁴

DSS also manages two permanent drop-off locations for recyclable materials located in the Far North Side and Near South Side.

Once collected, Chicago's recyclables are sent to **transfer stations** and **material recovery facilities (MRFs)** for sorting and baling for resale and remanufacturing. Non-recyclable materials (contamination) in the recycling stream are either refused at the collection site or separated from recyclable materials to be landfilled. High contamination rates strain recycling equipment and lessen the value of recycled commodities.

The City collects data each month tracking the total tonnage and diversion rate of materials collected through the Blue Cart program. From 2015 to 2020, there was an average of over 75,000 tons of materials collected each month; an average of 9 percent of which was diverted from landfills.²⁵

Blue Cart recycling performance varies across the six service areas (Figures 12 and 13). While some service areas show relatively consistent performance over time, there is a general trend of declining performance across all areas.²⁶

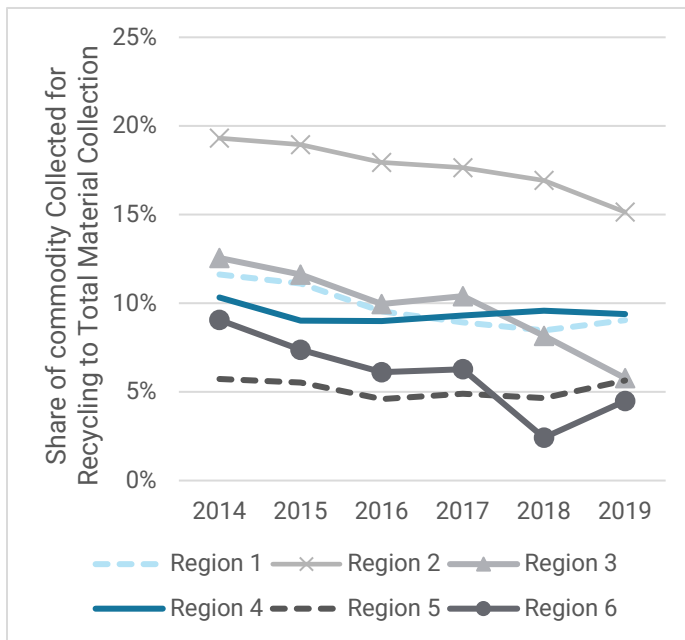


Figure 13: Blue Cart Program Performance by Chicago Waste Service Region. Data provided by the City of Chicago; Chart by the UIC team.

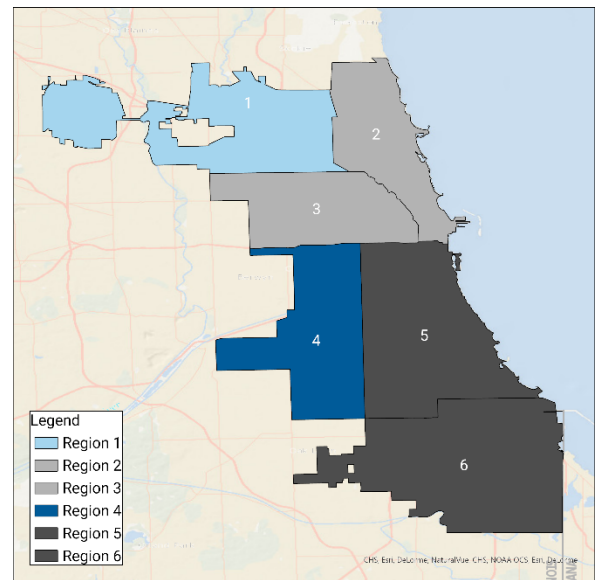


Figure 14: Blue Cart Service Area Map, City of Chicago DSS

Between 2013 (when the Blue Cart program for low density residential buildings significantly expanded) and 2020 (the emergence of the COVID-19 pandemic), refuse generation per household (left axis in Figure 14) remained relatively stable. Per household recycling generation (right axis in Figure 14) decreased until 2018, when the City launched community campaigns to boost residents’ participation in recycling and to reduce contamination.²⁷

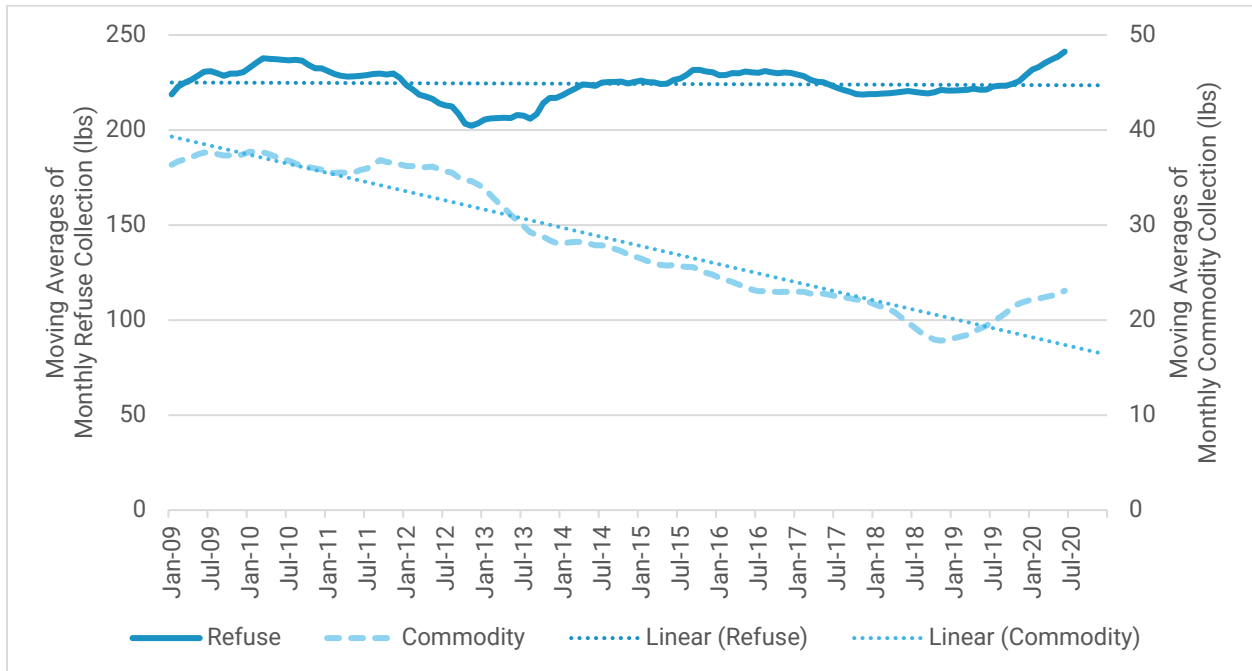


Figure 14: Low Density (4 or Fewer Units) Refuse and Commodity Collection Trends per Household (2009-2020)

Note: Refuse and commodity volume from low density residential buildings are recorded by the City. Per household rates and chart are produced by the UIC team. 12-month moving averages are adopted to address the seasonal effects.

High Density Residential

High density residential structures - buildings with five or more units - are not serviced by the City and must contract independently with private companies for recycling and garbage collection. Private companies and high-density residential buildings are not required to report their rates for garbage collection service, but a sampling conducted by DSS estimated that five- to six-unit buildings in Chicago typically pay between \$60 and \$80 per month for a two-yard dumpster container. This is equivalent to between \$10 and \$16 per residential unit per month.²⁸

INDUSTRIAL, COMMERCIAL, & INSTITUTIONAL (ICI) WASTE & RECYCLING

Industrial, commercial, and institutional (ICI) generators including high-density residential buildings (five or more units), restaurants, grocery stores, professional offices, manufacturing sites, schools, universities, and government are all required to coordinate private waste and recycling collection.

Under the Chicago Recycling Ordinance, private haulers are required to keep detailed records on the volume of recyclables collected and where it is delivered. Information is to be submitted to the city by the end of February each year. These numbers are used to inform diversion and total waste numbers from this waste collection.²⁹

Private Hauler Materials Collected and Report Response Rate, 2010-2015

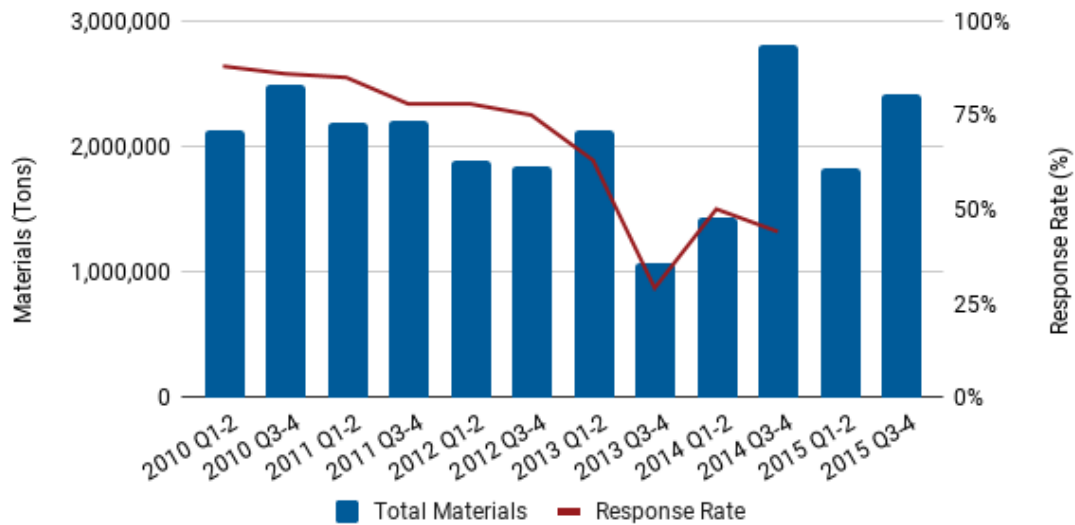


Figure 15: Total materials collected by reporting private haulers and response rates of private haulers from 2010 to 2015. Response rate is calculated as the number of private waste haulers expected to respond compared to those that do. Response rate data was not available for 2015 (Source: City of Chicago).

Private Haulers Recycling Rate, 2010-2015

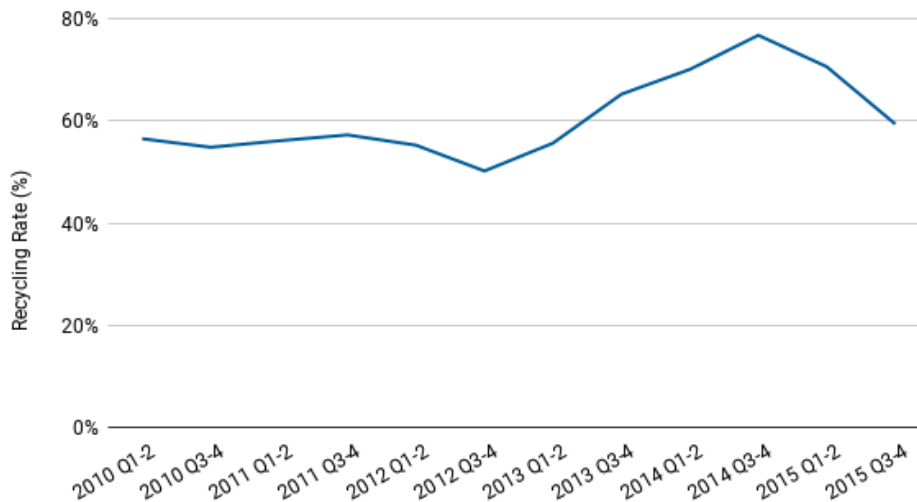


Figure 16: Recycling rate for reporting private waste haulers from 2010 to 2015 (Source: City of Chicago)

As indicated in the previous section, high-density residential buildings (buildings with five or more units) are required by the Chicago Recycling Ordinance to contract with a private company to provide recycling containers and collection service to residents.³⁰ In 2020, the Office of the Inspector General (OIG) conducted an audit of commercial and high-density residential buildings to determine if DSS enforcement adequately managed non-compliant buildings. The audit highlighted opportunities for improvement in enforcement of the approximately 500,000 households and 60,000 businesses due to staff capacity and technology constraints, data gaps, and diffused enforcement mechanisms across departments.³¹

ORGANICS & WASTED FOOD

Yard waste collection is available to Chicago residents through the 311-request program.³² DSS previously provided regularly scheduled collection service but switched to a request model due to staff capacity constraints and limited resident participation. The request-based yard waste program diverted over 1,100 tons of yard waste from landfills in 2019 but has caused frustration for residents with limited communication and accidental pick up with garbage collection.³³

Food scrap pickup services are available to residents and businesses through several private companies and nonprofits which offer subscription composting services. A list of companies offering subscription food scrap collection can be found in Appendix B. Additionally, companies like Block Bins provide larger containers secured with a combination lock for multi-family buildings or neighbors to share.³⁴ Organizations like the Illinois Food Scrap Coalition and Zero Waste Chicago also offer guidance for Chicagoans interested in composting at home with backyard compost bins or vermicompost (worms). At home methods do not reach the temperature of industrial composting, so are not appropriate for items like meat, bones, and some compostable serviceware.^{35 36}

Since 2014, Chicago Public Schools (CPS), in partnership with Seven Generations Ahead and Lakeshore Recycling Systems, has been expanding a commercial composting pilot program to reduce organic waste, improve purchasing, and provide waste diversion education to CPS students, faculty, and staff. The program has expanded to 14 CPS schools and (prior to the COVID-19 pandemic conditions) resulted in over 2,500 pounds of materials diverted from landfills every day.³⁷

SPECIALTY MATERIALS

Chicago's 311 non-emergency service line is available to residents for further waste and recycling requests. Yard waste and bulk items can both be requested for pickup through 311, and illegal fly dumping or litter can be reported for clean up through 311 as well.³⁸

There are also city and privately provided services to support additional waste streams such as electronic, pharmaceutical, and otherwise hazardous or difficult-to-recycle waste.

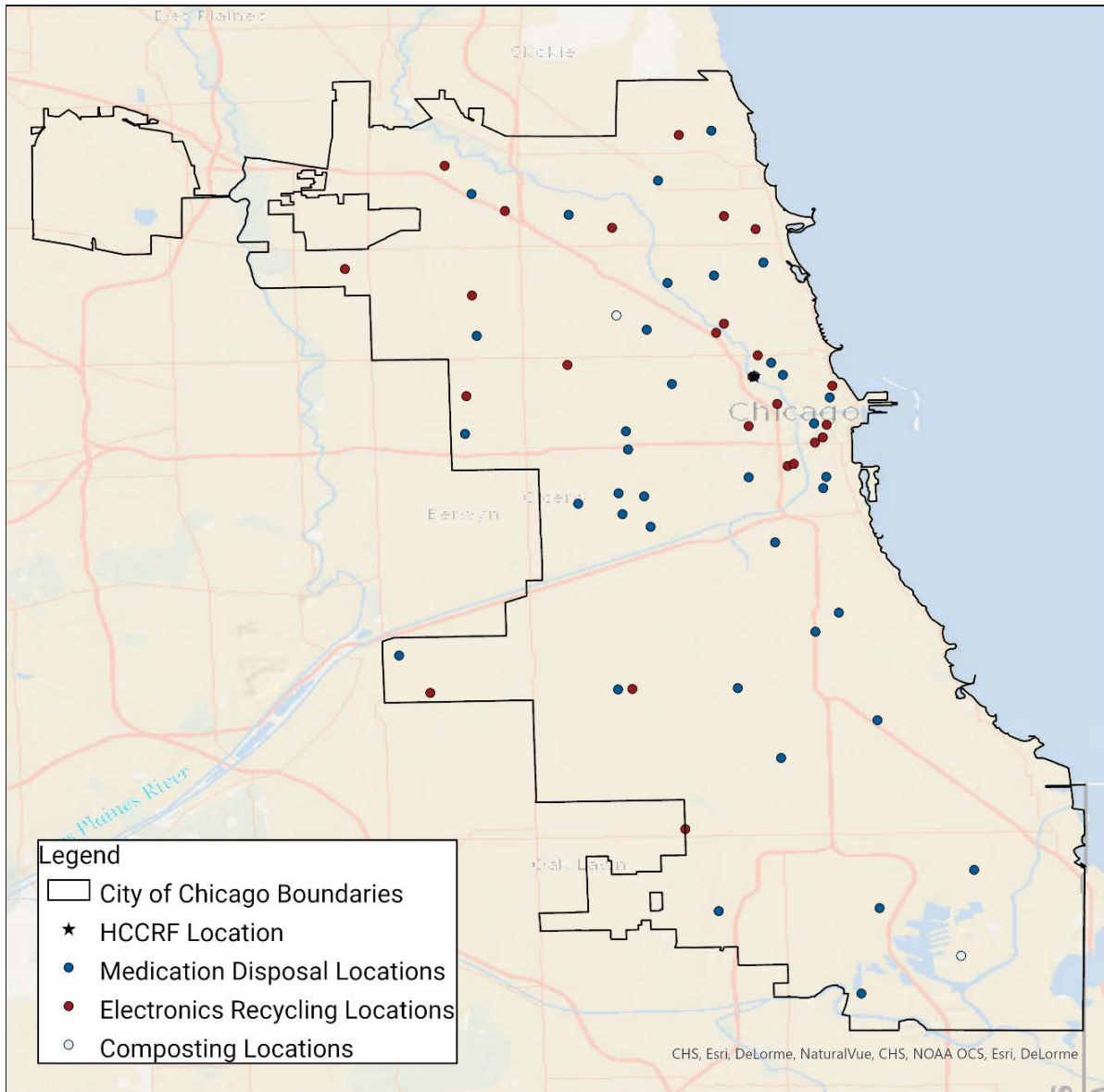


Figure 17: Recycling sites for various materials in Chicago as compiled by the Illinois Environmental Protection Agency (Illinois EPA). Some locations may accommodate multiple recycling waste streams. There are additional sites that accept pharmaceutical waste; they are associated with hospital systems and Walgreens pharmacies and not shown on this map (Source: Illinois EPA)

Household hazardous waste (HHW):

Hazardous household chemicals can be disposed of at the Household Chemicals and Computer Recycling Facility (HCCRF)^{39 40} located on Goose Island. Additionally, retail stores offer residents limited opportunities for collection of some special materials, typically limited to batteries, compact fluorescent lamps (CFLs), and automotive fluids.

The Household Chemicals and Computer Recycling Facility (HCCRF) is a 24,00 sq. foot permanent site operated by the City. HCCRF construction was funded in collaboration between the Illinois EPA, Illinois Department of Commerce and Economic Opportunity (DCEO), Illinois Clean Energy Fund, and the City.

Electronics (E-waste): E-waste is also accepted at the HCCRF. In 2020, the Chicago Department of Public Health and Department of Streets and Sanitation introduced a pilot program offering rotating e-waste drop off service at district sanitation offices. Additionally, select electronics retailers accept e-waste, but may have different requirements on what can and cannot be accepted.⁴¹

In 2019 the statewide Consumer Electronics Recycling Act (CERA) manufacturer program went into effect, requiring a minimum number of e-waste collection locations in each participating Illinois County (including Cook County).⁴² A “clearinghouse” of electronics manufacturers are required to provide and fund safe disposal of electronics once collected by the Chicago Department of Public Health.⁴³

Pharmaceutical waste: The Chicago Department of Public Health (in partnership with the Chicago Police Department) provides for pharmaceutical disposal at police stations across the city.⁴⁴ In addition, there are secure drop off sites located at hospital centers, select pharmacies, and at water reclamation plants managed by the Metropolitan Water Reclamation District of Greater Chicago (MWRD).⁴⁵

Polystyrene foam: Foam packaging and food service containers are not accepted in Blue Cart bins or City drop off locations. Dart Container Corporation offers free drop off collection at 7575 S. Kostner Avenue for all polystyrene foam except for packing peanuts, which can often be reused for shipping.⁴⁶

Shredded paper: Shredded paper is not accepted in Blue Cart bins because it clings to and contaminates other items and does not respond to recycling equipment like whole paper.⁴⁷ The City, Aldermen, and other organizations sponsor events for personal document shredding and collection (or collection of pre-shredded paper) for residents. Community shredding events were placed on hold during COVID-19, but private companies offer confidential document shredding services.⁴⁸ Shredded paper can often also be included in organics collection for composting.

In 2016, the City of Chicago established a \$0.07 fee on plastic checkout bags (replacing an initial plastic bag ban) to encourage reusable bag use and reduce generation of plastic film.

Plastic Film: Flexible plastic film, including plastic bags and common packing materials, can become tangled and damage recycling equipment, and is not accepted in Blue Cart bins. Recyclables placed in Blue Carts should also not be bagged.⁴⁹ This material can be recycled if collected separately, and several Chicago grocery stores and businesses host collection sites for plastic film. A list of participating businesses by zip code can be found at PlasticFilmRecycling.org.⁵⁰

CONSTRUCTION & DEMOLITION DEBRIS

Construction and Demolition (C&D) Debris is the material generated during construction, demolition, and renovation activities. Nationally, EPA estimated 600 million tons of C&D debris was generated in 2018, the largest share of which came from roads and bridges.⁵¹ C&D debris

includes dirt and aggregate, lumber, bricks, concrete and asphalt, drywall, plumbing and electrical fixtures, doors and windows, flooring, roofing shingles, and carpet, among other materials.

Based on building permit data, UIC estimated annual C&D debris generated from construction, renovation, and demolition activity for residential and non-residential buildings (Figure 18). Construction activities and associated waste generation decreased during and after the 2007/2008 financial crisis and in 2020 due to the COVID-19 pandemic. In typical recent years, C&D debris generation from buildings in Chicago has remained around 1.3 to 1.4 million tons per year.⁵²

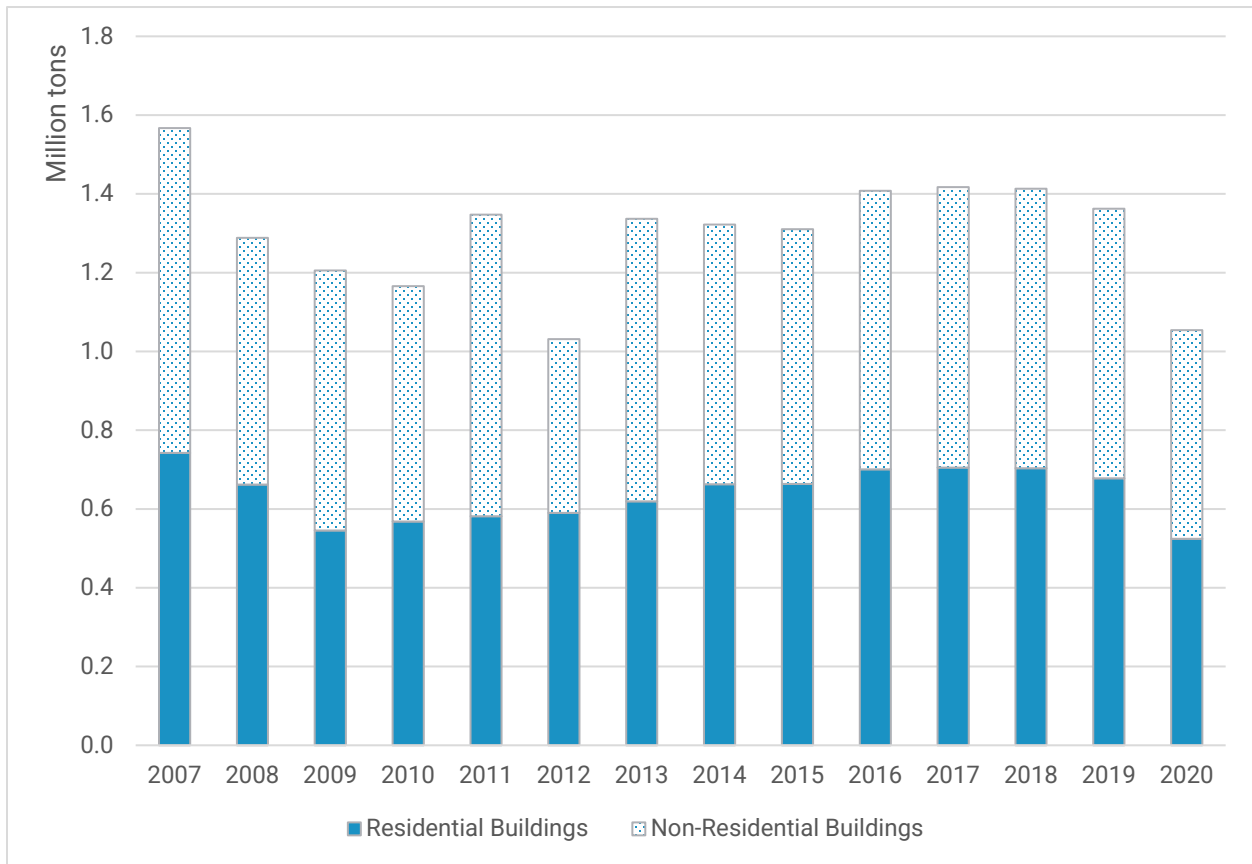


Figure 18: C&D Waste Volume from Buildings (2007-2020)

Note: Building permit data are extracted from the City of Chicago Data portal. Modeling and chart are produced by the UIC team. The method of building C&D waste estimates was built upon the 2009 Market Analysis of Construction and Demolition Material Reuse in the Chicago Region study by Weber, Kaplan, and Sokol.

The composition of C&D debris generated has evolved over recent years. Between 2010 and 2015, the proportions of general refuse and steel have decreased, and the proportions of asphalt, concrete, and wood have increased (Figure 19).

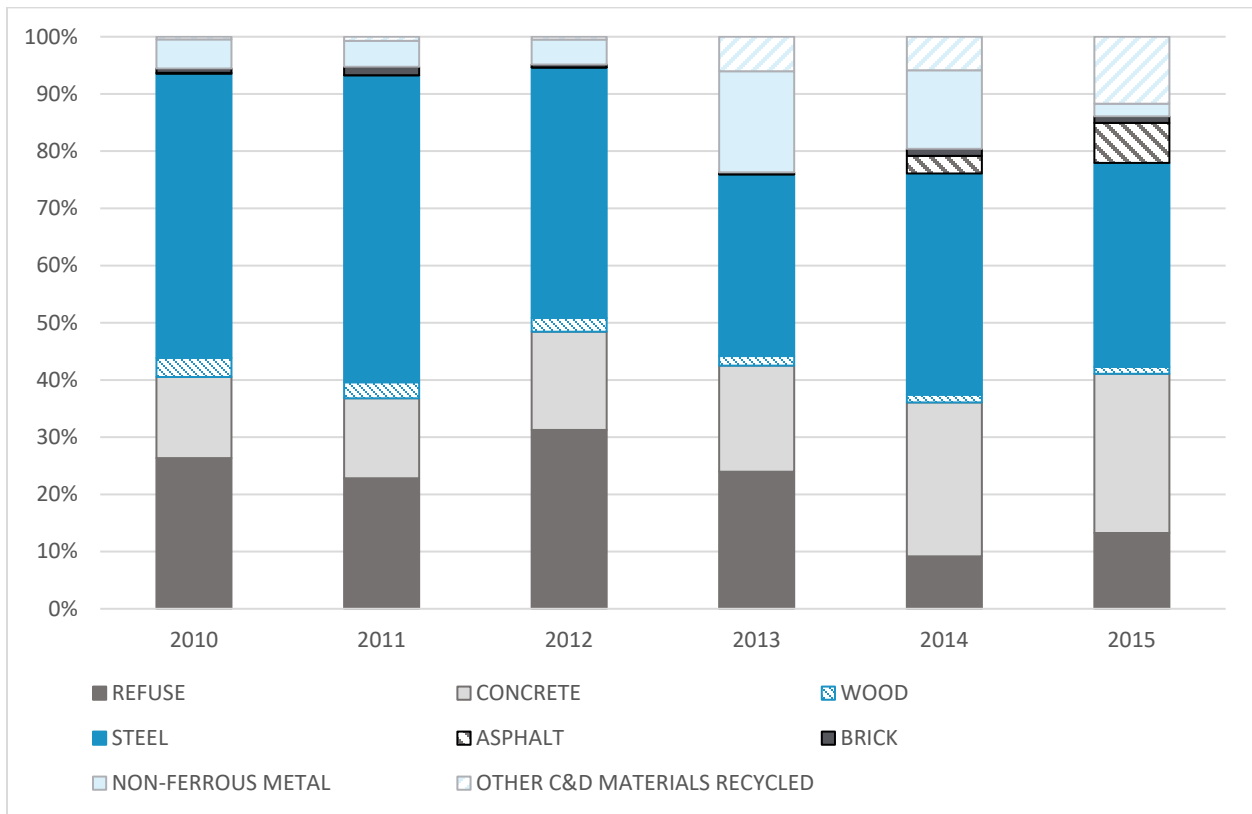


Figure 19: C&D Waste Composition (2010-2015)

Note: Data are provided by the Delta Institute and the City; Data aggregation and chart by the UIC team.

Chicago’s C&D Site Waste Ordinance requires construction, demolition, and renovation contractors to track C&D debris generated on project sites and recycle at least 50 percent of material generated. Compliance forms including generation and recycling tonnage, as well as material types are required to be submitted to the Chicago Department of Public Health (CDPH) with a signed affidavit from the C&D recycler(s).⁵³ As a resource for Chicago contractors, CDPH provides a list of over 40 C&D recyclers in the Chicago area.⁵⁴ The Construction and Demolition Recycling Association (CDRA) also maintains a nationwide directory of C&D recyclers and material-specific guidance for diversion options.⁵⁵ Chicagoland is also home to several building material reuse and salvage facilities, a list of which can be found in Appendix B.

Particularly for large construction projects, there are opportunities for on-site reuse of C&D debris, which prevents cost and emissions impacts of both disposal and transport. O’Hare Airport’s Modernization Program developed a Balanced Earthwork Plan (BEP) to keep the majority of the 26 million cubic yards of soil handled throughout the project onsite. The Chicago Department of Aviation (CDA) estimates the BEP has prevented 850,000 truck trips and 97,000 tons of associated CO2 emissions. CDA also estimated that 99 percent of all C&D debris (beyond soil) have been recycled and diverted from landfills.⁵⁶

CHICAGO WASTE STAKEHOLDERS

CITY OF CHICAGO DEPARTMENT MAP

The City of Chicago is an expansive organization with more 30,000 employees comprising more than 30 departments.⁵⁷ Many of these departments have a role in materials management in some capacity, and a holistic waste strategy will require participation and coordination between each of them.

Office of the Mayor

Mayor Lori E. Lightfoot's office, in partnership with the City Council, provides overarching leadership to direct City departments and guide inter-departmental efforts, including Chicago's Waste Strategy.⁵⁸

Additionally, the role of Chief Sustainability Officer is housed within the Office of the Mayor, providing leadership for environmental and climate initiatives.

City Council

Each of Chicago's 50 wards is represented by an elected Alderman in City Council, the City's legislative body. City Council and its committees are responsible for proposing and voting on City ordinances, resolutions, and orders, as well as elevating concerns and priorities of constituents.⁵⁹ Materials management policy strategies are developed by the City Council in partnership with the Mayor's Office and City departments.

The City Council Committee on Environmental Protection and Energy specifically holds jurisdiction over legislation relating to waste collection and disposal, recycling and reuse, and other environmental quality issues.⁶⁰

Department of Streets & Sanitation (DSS)

DSS is responsible for a broad range of City services including street operations and traffic services, forestry, graffiti removal, pest management, and sanitation. The Bureau of Sanitation is specifically responsible for collecting garbage from low-density residences, managing the Blue Cart recycling program (including collection for two of six low-density residential service areas), collecting yard waste upon request, enforcing high-density residential and commercial compliance with the Chicago Recycling Ordinance, planning and implementing street sweeping, and providing technical support for city-wide materials management and waste reduction programs.⁶¹

DSS also manages nine District Sanitation offices and supports District and Ward superintendents who manage services and requests locally.⁶²

Chicago Department of Public Health (CDPH)

CDPH manages health and safety programs for the City including environmental permitting and inspections, responding to illegal dumping reports, and managing programs for hazardous material (including household hazardous waste, electronic waste, unused pharmaceuticals, and

others) collection and disposal. CDPH is the permitting entity for Chicago materials management facilities including landfills, transfer stations, recycling facilities, and temporary C&D rock crushing sites.⁶³

In partnership with DSS, CDPH manages rotating electronic waste drop off events for residents, most recently located at DSS District Sanitation offices.⁶⁴

Business Affairs and Consumer Protection (BACP)

BACP's responsibilities include licensing businesses and enforcing Chicago's Municipal Code.⁶⁵ Related to materials management, BACP issues licenses and renewals for private scavenger vehicles (waste and recycling collection trucks). BACP is also responsible for enforcement of compliance with materials management legislation, including single use plastic bag tax implemented in 2017.⁶⁶

Department of Assets, Information, and Services (AIS)

AIS, formerly called the Department of Fleet and Facility Management (2FM) manages the City's physical and technological assets and the department's Environmental Health and Safety Bureau provides environmental support and consulting around sustainability planning, solid waste disposal, brownfield management (including former landfill sites), and C&D debris management.⁶⁷

Chicago Department of Transportation (CDOT)

CDOT is responsible for public way infrastructure, including providing permits for commercial refuse containers and C&D roll off containers.⁶⁸

Department of Planning and Development (DPD)

DPD manages planning efforts for the City including land use and zoning, sustainability planning, and historic preservation.⁶⁹ DPD also oversees the Chicago Sustainable Development Policy Handbook, through which new development projects must meet sustainability standards through a menu of options, including 80 percent C&D debris diversion during construction.⁷⁰

Office of Budget and Management (OBM)

The OMB implements the City's annual budget, which informs department operations, and plans for capital improvement projects for infrastructure upgrades.⁷¹

Department of Finance

Chicago's Finance Department is responsible for collection and disbursement of City revenues including residential garbage collection fees for low-density residences and Chicago's single use plastic bag tax.⁷²

Department of Procurement Services (DPS)

DPS is the City's authority for contracting, certification, and compliance for vendors, including waste management and diversion vendors.⁷³

Department of Law

Chicago's Law Department provides legal counsel. Aviation, Environmental, Regulatory (AER) attorneys provide specific guidance for environmental regulations including waste disposal and C&D debris diversion.^{74 75}

Department of Cultural Affairs and Special Events (DCASE)

DCASE manages Chicago's cultural and artistic endeavors including large events and festivals, film and television productions, and City farmers markets that provide opportunities for significant waste diversion and education.⁷⁶

Chicago Department of Aviation (CDA)

CDA administers all aspects of O'Hare and Midway Airports, including development of a sustainable airport manual that includes waste prevention and diversion best practices for airports.⁷⁷

Former Department of Environment (DOE)

Following the dissolution of Chicago's Department of Environment in 2012, several initiatives related to waste reduction and sustainable materials management were distributed to other departments, including those listed above. Mayor Lightfoot has indicated that reforming the Department of Environment is a priority for her administration.⁷⁸

CHICAGO WASTE STAKEHOLDERS

Understanding, and ultimately leveraging, the roles and resources presented by the myriad stakeholders working directly within and adjacent to Chicago's waste management will be a key component of any strategy adopted by the City of Chicago. As such, this section provides an overview of key stakeholders in the waste system. Though this strategy is intended for the City of Chicago and City departments, entities from the private, public, and non-profit sectors will be critical partners in reimagining Chicago's materials management system. This section is meant to provide an overview and examples of the stakeholder network in question, but it is by no means exhaustive.

Chicago Stakeholders

This subsection describes stakeholders that are currently involved in materials management within Chicago's city limits. Detailed information on the Municipal Department and City Council stakeholders can be found in the previous section.

Non-City Agencies

Several non-city agencies work closely with the City of Chicago to administer policies and programs throughout the city. Each agency interacts with the city's materials management system at different points and contributes to its success. These agencies include:

- Chicago Park District, an agency whose mission it is to enhance the quality of life in Chicago by providing recreation and leisure opportunities through safe and inviting parks and facilities that prioritize the needs of children and families.⁷⁹ The Park District engages with the waste system by managing waste and recycling in Chicago's parks, implementing programs to reduce waste in their programs and camps, and partnering with DSS on innovative programs like Christmas tree recycling collection.
- Chicago Public Schools (CPS), an agency whose mission it is to provide a high-quality public education for every child in Chicago.⁸⁰ CPS manages waste and recycling services for 642 schools,⁸¹ including a compost collection pilot program to reduce and divert cafeteria food waste.
- Chicago Public Library (CPL), an organization whose mission is to provide access to information, ideas and knowledge through books, programs and other resources.⁸² CPL has hosted innovative Repair Cafes and other programs to better manage Chicago's materials.

Nonprofit Organizations

Nonprofit organizations are important stakeholders within Chicago's materials management system. The goals of these organizations vary significantly but broadly encompass research, advocacy, and performance-improvement oriented activities. Some of the active nonprofits in Chicago (among many others) include:

- Edgewater Environmental Coalition, a coalition of community members and environmental stewards. Bringing a green voice to local challenges, we empower people to build and maintain a more sustainable future through action, organizing, education, and advocacy;⁸³
- Southeast Environmental Task Force, an organization whose mission it is to inform and educate all members of the southeast Chicagoland community, including residents, businesses, and leaders, in areas related to the improvement of the neighborhood's environment;⁸⁴
- Plant Chicago, an organization working to make our cities healthier and more efficient by developing and sharing the most innovative methods for sustainable food production, energy conservation and material reuse;⁸⁵ and
- Chicago Recycling Coalition, an organization that champions environmentally and fiscally sound management of solid waste through research, education, and advocacy, emphasizing waste reduction, reuse, recycling, composting, and buying recycled.⁸⁶

Academic Institutions

Schools, both of higher education and within Chicago Public Schools, are embedded securely within Chicago's materials management system as waste generators. Additionally, universities and colleges are a source of research that drives innovation and provides a deeper understanding of the system. There are many public, private and for-profit higher education institutions operating in Chicago, including community colleges, city colleges, independent colleges, universities, graduate schools and other institutions offering professional programs.

Private Sector Practitioners

Of course, the commercial entities that are contracted to fulfill materials management objectives are an important group of stakeholders. This group includes any business that derives profit from the materials management system. These entities include, but are not limited to, the numerous waste hauling, recycling and composting businesses that are active within the system.

Cook County and Chicagoland Region Organizations

Several organizations are actively engaged in planning, implementation, and information sharing within Cook County and the Chicagoland Region. These groups are represented by members that come from the private, public, and nonprofit sectors and include (but are not limited to):

- Cook County Dept of Environment and Sustainability, a governmental agency with a mandate to enforce county ordinances, implement cooperative agreements, administer grants, and otherwise monitor, permit, and plan for activities related to the environment;⁸⁷
- Metropolitan Mayors Caucus, a membership-based organization that provides a forum for Chicagoland's 275 municipalities to regularly collaborate on matters of public policy;⁸⁸
- Illinois Counties Solid Waste Management Association, nonprofit professional association for local level solid waste management professionals and other interested parties;⁸⁹ and
- Seven Generations Ahead, a nonprofit organization that works with local government, community and private sector leaders to help communities make the changes they need to build a healthy and sustainable future.⁹⁰

State of Illinois

Stakeholder groups that engage in materials management-related activities across the state often serve as funders, regulators, and advocates within the system. These entities drive policy and coordinate action that involves many of the stakeholder groups described above.

- Illinois EPA, a state regulatory and enforcement agency whose mission it is to safeguard environmental quality, consistent with the social and economic needs of the State, to protect health, welfare, property and the quality of life;⁹¹
- Illinois Environmental Council, a statewide nonprofit advocacy organization that coordinates over 90 affiliate member organizations to share resources, mobilize supporters and respond quickly to the most pressing issues facing the environment in Illinois;⁹²
- Illinois Food Scrap Coalition, a statewide nonprofit organization whose mission it is to advance diversion and composting of organics in Illinois through advocacy, program implementation, market and business development, policy, and outreach;⁹³
- Illinois Recycling Association and Foundation, two statewide sibling organizations created to address issues that rise to the level of needing legislative action and provide educational literature, events, tours, networking opportunities, webinars and more on a statewide basis, respectively;⁹⁴
- Illinois Sustainable Technology Center, an organization within the University of Illinois system that integrates applied research, technical assistance, and information services

to advance efforts in the areas of pollution prevention; water and energy conservation; and materials recycling and beneficial reuse;⁹⁵

- Illinois Product Stewardship Council, a statewide coalition of public and private entities including local governments, state governments, businesses, environmental groups, NGOs, solid waste agencies, associations, and individuals in Illinois;⁹⁶ and
- Statewide Materials Management Advisory Committee, a committee, created in 2019 by Governor Pritzker, which is responsible for investigating current recycling and solid waste practices and recommending options to the General Assembly to divert wastes from Illinois landfills.⁹⁷

National Organizations

Lastly, agencies and organizations working across the country have the unique ability to leverage a wide-reaching network of practitioners, policy makers, and advocates that crosses state lines.

- U.S. Environmental Protection Agency, a federal regulatory and enforcement agency that provides grants, conducts environmental studies, sponsors partnerships between private, public and nonprofit entities, and publishes scientific information;⁹⁸
- Natural Resources Defense Council, a national nonprofit, membership-based organization that partners with businesses, elected officials, and community organizations to address natural resources concerns;⁹⁹
- Build Reuse, a national nonprofit organization that encourages the recovery, reuse, and recycling of building materials in the United States;¹⁰⁰
- The Recycling Partnership, a national organization that puts private dollars to work in communities to protect resources and empower sustainable action in materials management systems;¹⁰¹
- National Recycling Coalition, a national non-profit organization focused on promoting and enhancing recycling in the United States with a network of more than 6,000 members extending across waste reduction, reuse, recycling, and composting;¹⁰² and
- ReFED, a national nonprofit dedicated to ending food loss and waste across the U.S. food system by advancing data-driven solutions.¹⁰³

ECONOMIC IMPACTS

How Chicago manages materials also has significant economic impacts including costs of collection, processing, and disposal on a city-wide scale, job creation potential, and missed value and opportunities in materials currently sent to landfills.

Tipping fees - direct costs associated with depositing waste at landfills - present an opportunity for cost savings if overall waste production was reduced. In 2020, the average municipal solid waste (MSW) tipping fee in Illinois was \$51.71 per ton and \$47.85 per ton in the Midwest region. Between 2016 and 2020, the Environmental Research and Education Foundation (EREF) reported an average year-over-year increase of 5.6 percent for tipping fees in the Midwest. Landfill tipping fees are impacted by land costs as well as landfill size, public or private ownership, and landfill density and competition.¹⁰⁴

MSW landfill tipping fees in the Midwest (average of \$47.85 per ton) are not the lowest in the country but are significantly lower than disposal fees in the Pacific (average of \$72.03 per ton) and Northeast regions (average of \$68.69 per ton). In the Midwest region in 2020, Missouri had the highest average statewide tipping fees at \$67.91 per ton and Indiana (where much of Chicago's waste is landfilled) had the lowest at \$36.27 per ton.

Source: EREF, Analysis of MSW Landfill Tipping Fees: 2020

In addition to tipping fees, Illinois charges a state surcharge of \$2 per ton and/or \$0.95 per cubic yard. Smaller landfills pay a set annual fee regardless of tonnage or volume. This generates approximately \$20 million dollars annually, of which the state requires \$2 million per year to go towards the state's Hazardous Waste Fund. The remaining \$18 million per year is included in the Solid Waste Management Fund managed by the Illinois Environmental Protection Agency (IEPA) to support program activities.¹⁰⁵

Increased material diversion through reuse and recycling has potential to create more jobs than would be created through disposal. A 2011 report by The Tellus Institute compared jobs per 1,000 tons of material for activities associated with disposal and diversion including collection, processing, remanufacturing, landfilling, and incineration. Job production for diversion varied across material types, but all materials demonstrated increased job creation for diversion. The study found that reaching a national diversion rate of 75 percent for MSW and C&D debris by 2030 would create 1.5 million jobs beyond 2008 employment numbers for diversion and disposal.¹⁰⁶

Additionally, commodity materials in landfills represent a lost opportunity for Chicago's economy. The Illinois Commodity/Waste Generation and Characterization Study Update published in 2015 calculated the market value of recyclable materials, including subcategories of paper, plastic, glass, and metal, that were ending up in landfills. The study found that the value of these materials was more than \$360 million.¹⁰⁷

Though this study was based on 2014 market values, which have been impacted by several factors including international policies (most notably, China's 2018 National Sword policy), these materials still represent significant missed value for Illinois and Chicago.

CONTAMINATION & GLOBAL COMMODITY MARKET DISRUPTIONS

Chicago's complex materials management and waste infrastructure is further impacted by policies and activities around the globe. The waste and recycling industry has seen several years of market-based disruptions on an international scale. For example, an increase in contamination rates, caused by the presence of non-recyclable materials (e.g. plastic film, organics) in recycling streams, is a major contributor to local sorting issues and international regulatory noncompliance.

Current recycling technology and equipment cannot appropriately process materials like plastic bags and can halt operations and result in damage to processing facilities when included in curbside recycling streams. Additionally, soiled materials (e.g. greasy pizza boxes, food containers that have not been emptied) can lessen the quality of the entire recycling stream, making it difficult to sell the materials for remanufacturing.¹⁰⁸ Recycling processors like Resource Management Companies have reported significant increases in processing costs paired with decreases in material value as contamination rates rise (Figure 20).

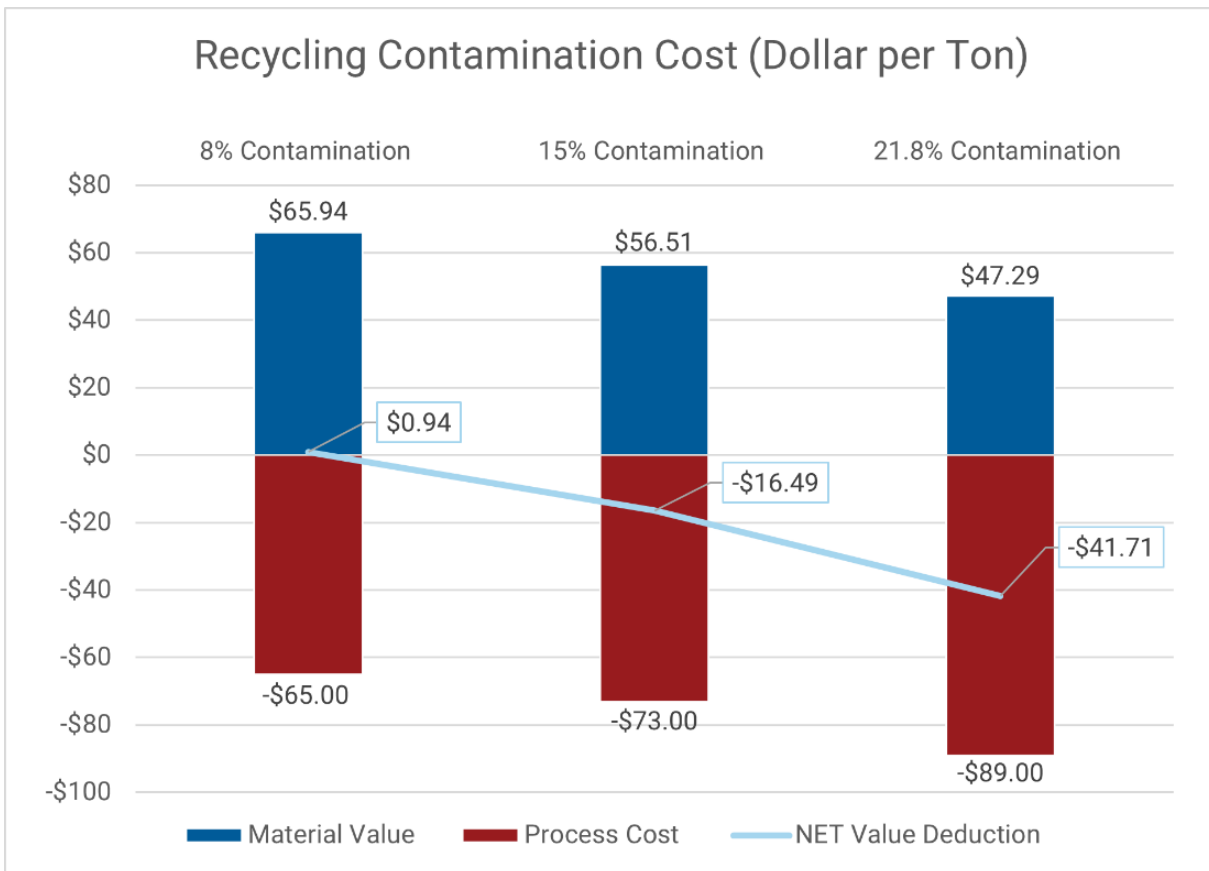


Figure 20: Recycling Contamination Cost in 2017. Source: Presentation by Greg Maxwell, Resource Management Companies

In the early 2000s, the U.S. began selling and shipping much of the domestically collected recyclable materials to mills in China for processing. This market allowed for municipalities to offset costs of collection and education incurred by recycling programs. In 2018, China

implemented the National Sword policy that placed restrictions on the types of scrap material that can be imported and placed rigorous contamination standards on accepted materials.¹⁰⁹

As a result of this significant market shift, municipalities and companies in all 50 states have made difficult decisions including increasing the cost of recycling collection, reducing or halting collection services for residents, and landfilling recyclable materials.¹¹⁰

Mixed plastic has been particularly difficult to effectively recycle since the implementation of the National Sword policy. In Illinois, organizations like Keep Northern Illinois Beautiful and Southern Recycling have accumulated a stockpile of sorted and baled plastic without a buyer. Keep Northern Illinois Beautiful reported seven tons of plastic stored in their Rockford, Illinois facility¹¹¹ and Southern Recycling in Carbondale, Illinois held 200 tons of baled plastic as of 2019.¹¹²

In 2017, The Recycling Partnership sampled Blue Carts from a pilot area of nearly 4,500 household to determine baseline contamination rates. The study found that slightly over a quarter of material placed in Blue Cart bins is unrecyclable contamination, including recyclable materials in plastic bags (Figure 21).¹¹³

Contamination Rates in Recycling

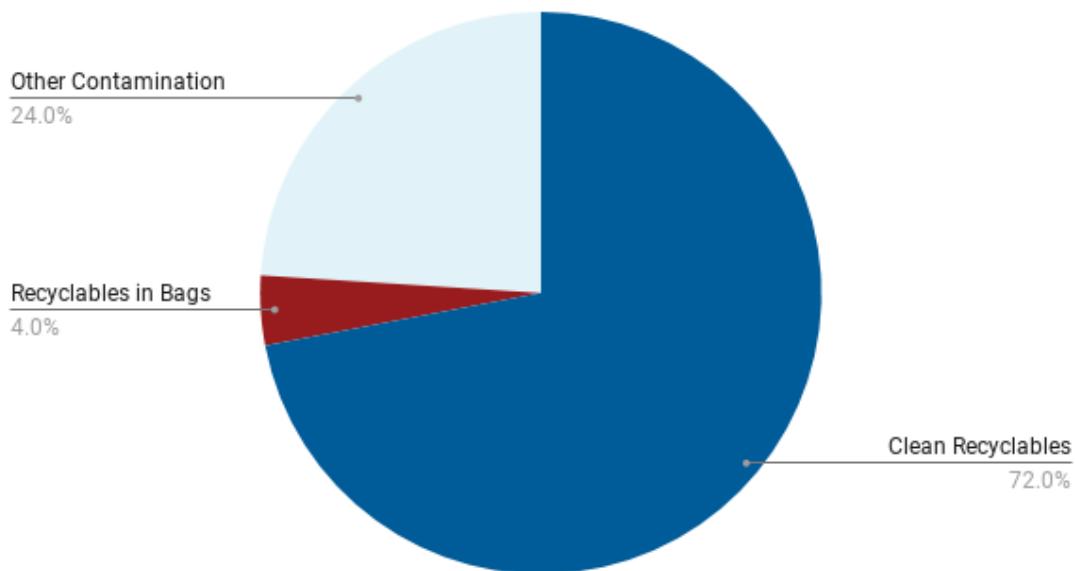


Figure 21: Baseline contamination rates found in Blue Cart, Source: The Recycling Partnership, "It's All You, Chicago" Report

ENVIRONMENTAL IMPACTS

Materials management programs and policies have broad impacts on the overall environmental health of a community. Strategies that encourage a reduction in source materials entering waste streams, reuse, and recycling not only prevent those materials from ending up in landfills but also mitigate the environmental impacts of these practices.

Specifically, the transportation and processing of waste materials and the extraction of virgin materials for manufacturing and other industrial uses are resource intensive practices that significantly contribute to climate change. However, the negative impact of these practices on the global climate can be reduced by adopting sustainable transportation and processing strategies and lessening our reliance on virgin material extraction. For example, making cans from recycled aluminum requires 95 percent less energy and generates 90 percent less GHG emissions than virgin stock.¹¹⁴

EPA's Waste Reduction Model (WARM) is a tool that calculates impacts of changing waste disposal methods in greenhouse gas emissions, energy savings, and economic benefits. WARM can account for 60 different kinds of waste streams commonly found in municipal solid waste streams and several different disposal mechanisms, including waste reduction.¹¹⁵

WARM can be used to understand the impacts of historical waste diversion activities on emissions and the effects of future activities on emissions. In 2020, 86,477 tons of recyclable materials were collected through Blue Cart. The diversion of this material from landfill reduced emissions by 248,035 MTECO₂, the equivalent of removing emissions from 52,661 cars annually. Figure 6 shows the estimated ICI waste for 2020. If 100 percent the paper, beverage containers, plastic, glass, metal, and organics identified here were recycled or composted as opposed to going to landfill, the emissions savings would equate to 2,441,346 MTECO₂. Realistically, much of this material was probably not recycled or composted, but even diverting 10 percent of this material would have an emissions reduction of 244,134 MTECO₂. For 2015 C&D waste (Figure 18), material recycled equates to 3,243,264 MTECO₂ in prevented emissions that would have occurred if the materials were landfilled instead.

Though landfills may be the safest and most appropriate waste management approach for some materials, landfill space is a limited resource. The Chicago Metropolitan Region has seen a decrease in the number of active landfills in recent years. In 2004, there were eight active landfills in the region, and as of 2020, there are only four: Veolia ES Zion Landfill in Zion, Countryside Landfill in Grayslake, Laraway Recycling and Disposal Facility in Joliet, and Prairie View Recycling and Disposal Facility in Wilmington.¹¹⁶ These four landfills had an average life expectancy of 12.4 years respectively as of January 2020 (Figure 22). There are no active landfills in Chicago or Cook County.¹¹⁷

Life Expectancy of Region 2 Landfills

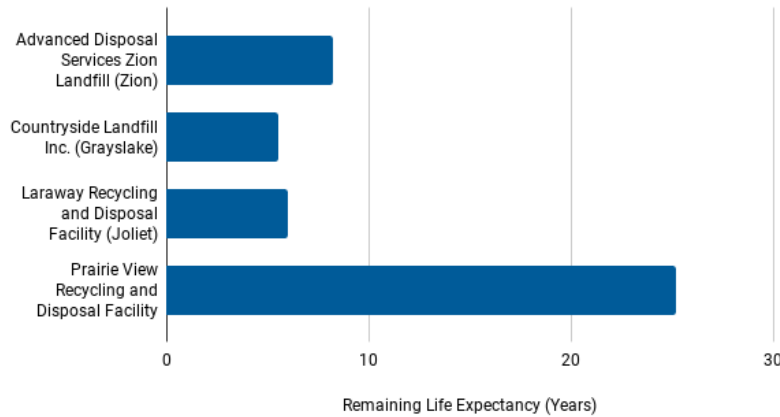


Figure 22: Remaining life expectancy for the four landfills located in Region 2 (Northeastern Illinois) (Source: Illinois Landfill Disposal Capacity Report)

In addition to landfills in Illinois, Chicago’s waste is disposed across state lines in Indiana. In 2019, over 2.6 million tons of waste generated in Cook County (including the city of Chicago) were sent to six landfill locations in Indiana (Figure 23).¹¹⁸ These six landfills had an average life expectancy of 26.4 years as of 2014.¹¹⁹

Indiana Landfills Receiving Waste from Cook County

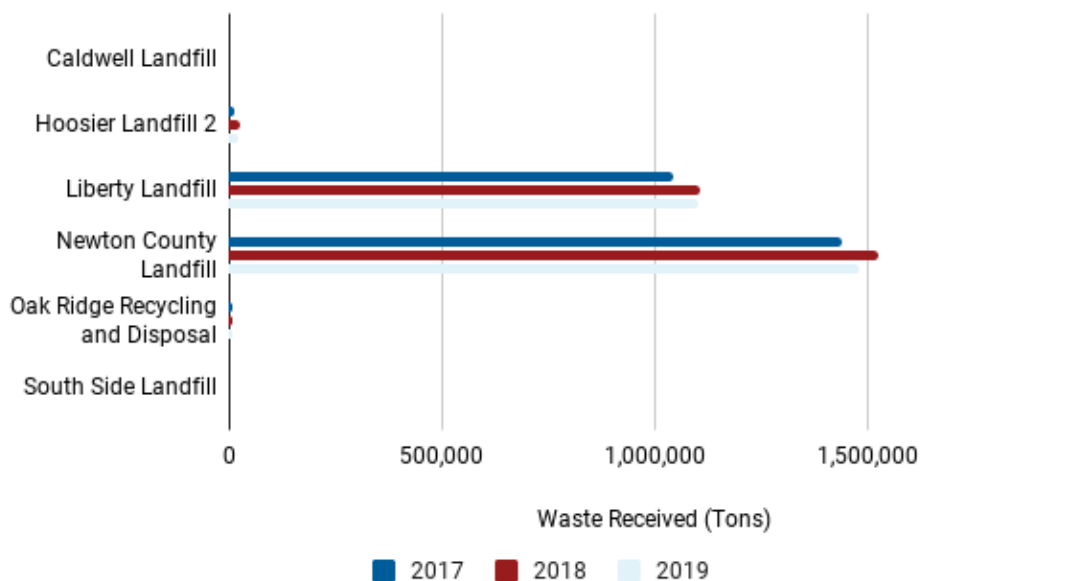


Figure 23: Waste received by Indiana landfills from Cook County (including City of Chicago) (Source: Complete Solid Waste Quarterly Report Database, 2011-2019)

PUBLIC HEALTH & ENVIRONMENTAL JUSTICE

Neighborhoods on the south and west sides of Chicago have been disproportionately affected by the impacts of disposal methods on air quality and the location of waste management infrastructure. In addition to disproportionate environmental burden, these communities also typically have less access to other important services which compounds the negative impacts even further (e.g. transportation, health services, food, green space and others). As such, the systems and infrastructure through which waste travels are highly consequential both in terms of public health and environmental justice.

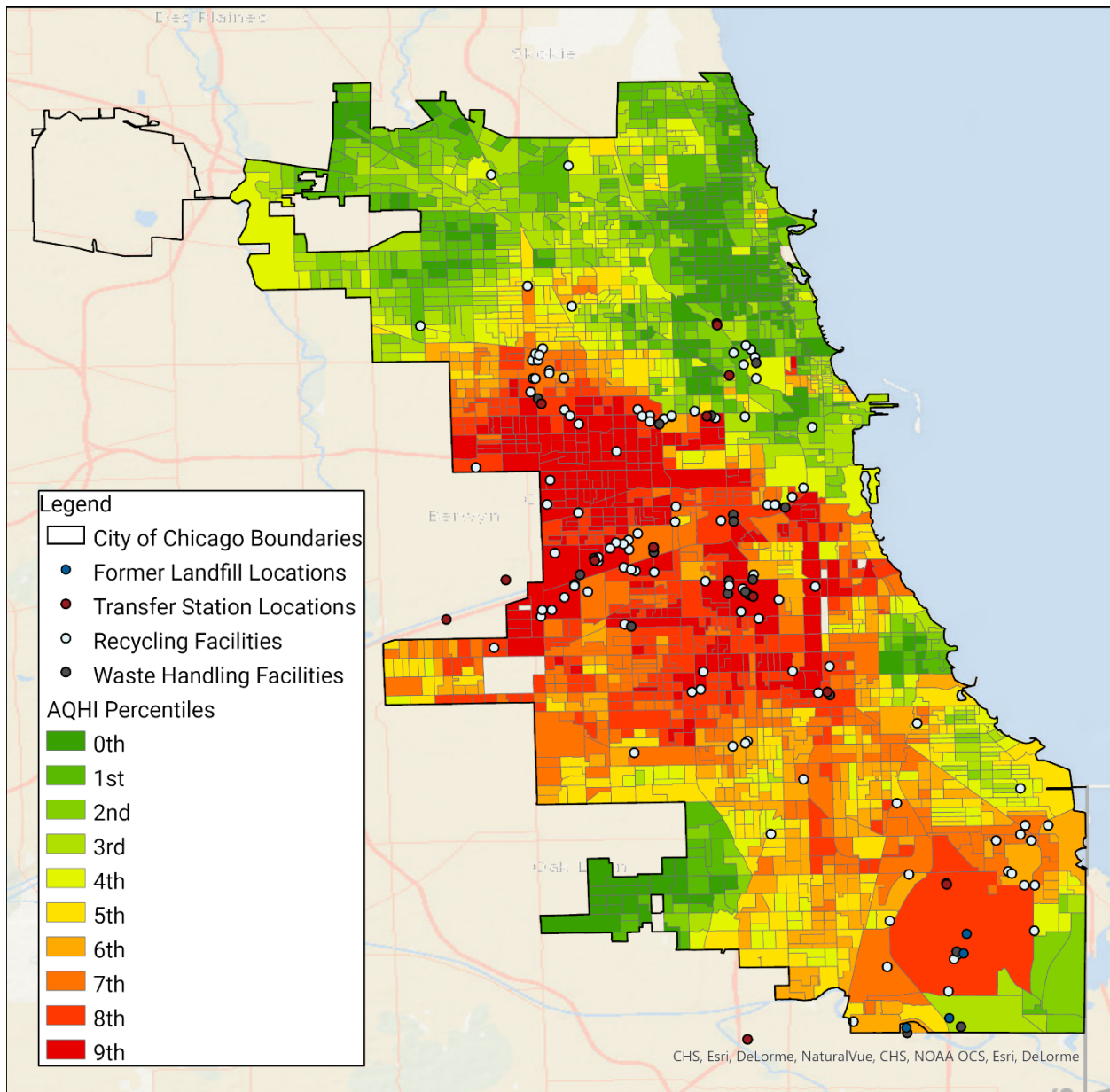


Figure 24: Map of waste disposal infrastructure overlaid with the City's Air Quality and Health Index (Source: City of Chicago Dept of Public Health)

In 2020, the Chicago Department of Public Health (CDPH) assessed air quality (including ozone, particulate matter, traffic volume, proximity to Superfund Program sites, proximity to hazardous waste sites) and health data (including prevalence of asthma and other health issues, concentration of elderly and children, income, educational attainment, employment, race and ethnicity, and others) to index vulnerabilities to air pollution at the census block level across the City.¹²⁰ Though some impacts of the waste management system are captured through represented data like traffic, particulate matter, and hazardous waste site proximity, it is evident that much of the current and historical waste infrastructure of the City is located in and near highly vulnerable populations (Figure 24).

Community organizations like the Southeast Environmental Task Force (SETF) experience impacts of both historical waste disposal (e.g. concentration of now-closed landfill sites) and current materials management infrastructure (e.g. scrap metal and large composting facilities).¹²¹

In addition to the impacts of the normal waste system, communities are also impacted by “fly dumping,” the discarding or dumping of any waste materials on private or public property without a CDPH permit.¹²² Materials discarded in this way typically have a greater likelihood of toxicity or nuisance. Fly dumping can be reported for the City’s 311 service for cleanup. Concentration of 311 reports of fly dumping by ward can be seen in Figure 25.

As Chicago moves toward a materials management system that prioritizes waste reduction and economic opportunity, historical and future environmental justice issues must be prioritized as part of the new system.

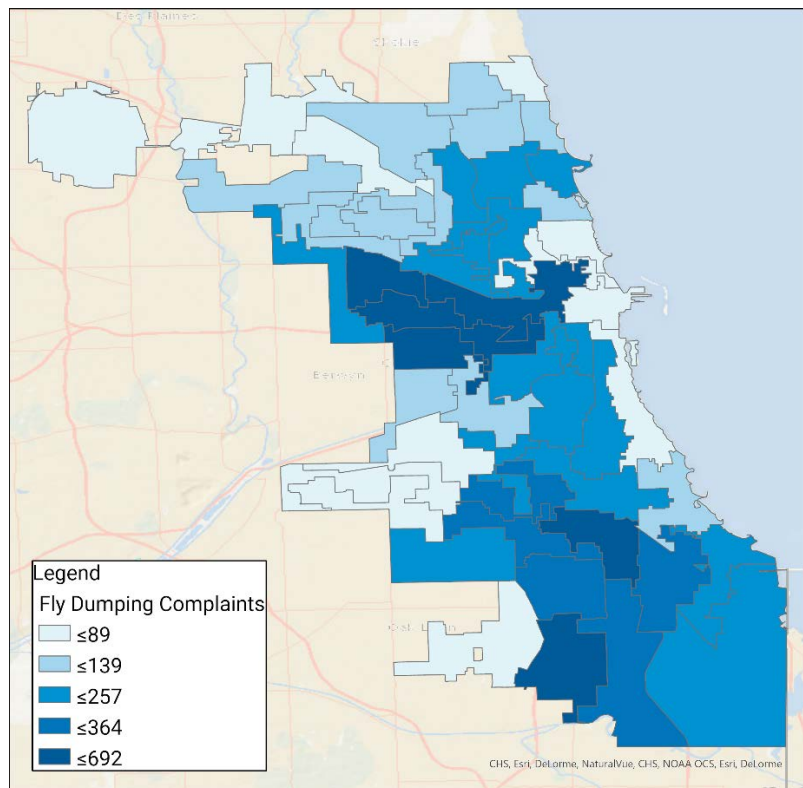


Figure 25: Fly dumping 311 requests by ward submitted to DSS from non-DSS sources in 2020 (Source: City of Chicago)

EXISTING POLICY OVERVIEW

The following table outlines the various policies that affect waste management within the city. Waste management is subjected to policies outlined specifically for Chicago, but also falls under the jurisdiction of policies covering the state of Illinois and federal policies. County-level policies concerning all of Cook County may also affect waste management. However, many Cook County policies are limited in scope to suburban and unincorporated areas, excluding the city proper.

In addition to the legislation included below, goals to improve materials management and increase diversion rates in the City of Chicago align with both State of Illinois and federal initiatives. In 2019, Illinois Governor J.B. Pritzker established the Statewide Materials Management Advisory Committee, composed of representatives from government, industry, academia, and education, to recommend statewide practices to increase diversion from landfills.¹²³ The work of the committee is ongoing but will include recycling improvement recommendations. At the federal level, in 2020 the EPA announced an updated goal to reach a 50 percent recycling rate by 2030.¹²⁴ Currently, the EPA estimates that 23.6 percent of MSW is recycled and 8.5 percent is composted at the national level.¹²⁵

FEDERAL POLICIES			
Name	Date	Category	Summary
Resource Conservation and Recovery Act (RCRA) 42 U.S.C. §6901 et seq.	1976	Waste Reduction	Authorizes the EPA to oversee the management of hazardous waste Creates a framework for the management of non-hazardous waste
Bill Emerson Good Samaritan Food Donation Act Public Law No: 104-210	1996	Waste Reduction	Reduces liability to encourage the donation of food to nonprofit organizations
Save Our Seas 2.0 Public Law No: 116-224	2020	Waste Reduction	Creates requirements and incentives to reduce plastic waste in waterways
<i>Several pieces of materials management legislation have been proposed and referred to federal committees, aimed at expanding food recovery and donation, improving food labeling, reducing plastic usage, and expanding recycling infrastructure and education.</i> ^{126 127}			
STATE OF ILLINOIS POLICIES			
Name	Date	Category	Summary
Environmental Protection Act 415 ILCS 5/1 et seq.	1970	Landfill Regulation	Provides overarching legislation on the protection and restoration of the environment Regulates disposal of waste items and the operation of waste facilities

			<p>Establishes issuance of permits and funds for waste management work</p> <p>Imposes various fees on both retail and landfills</p> <p>Amendments to EPAct banned the disposal of yard waste, lead-acid batteries, waste tires, white goods, used oil into landfills</p>
<p><u>Solid Waste Management Act/Fund</u></p> <p>415 ILCS 20/1 et seq.</p>	1986	Waste Reduction	<p>Establishes waste management hierarchy from volume reduction at the source to disposal in landfill facilities</p> <p>Sets out requirements for recycled commodities</p> <p>Requires state-supported colleges to develop waste management plans</p>
<p><u>Solid Waste Planning and Recycling Act</u></p> <p>415 ILCS 15/1 et seq.</p>	1988	Waste Reduction	Requires all Illinois counties and city of Chicago to develop a management plan with 25% of municipal waste generated to be recycled
<p><u>Mercury Thermostat Collection Act</u></p> <p>415 ILCS 98</p>	2010	Hazardous Household Waste	Prohibits the disposal of mercury-switch thermostats in landfills
<p><u>Safe Pharmaceutical Disposal Act</u></p> <p>210 ILCS 150</p>	2010	Pharmaceuticals	<p>Prohibits disposal of unused medication into public wastewater and septic systems</p> <p>Allows for unused medicine collection municipal and county facilities</p>
<p><u>Compost Dropoff</u></p> <p>HB0437</p>	2015	Food Scraps/Organics	Allows collection of organics for composting at temporary and permanent sites
<p><u>PCB Disposal</u></p> <p>HB1326</p>	2015	Household Hazardous Waste	Restricts disposal of waste from gas plants and polychlorinated biphenyl waste to protect the Mahomet Aquifer
<p><u>Food Donations</u></p> <p>HB5530</p>	2016	Food Scraps/Organics	Allows food donations from schools and government facilities to avoid landfill
<p><u>Consumer Electronics Recycling Act (CERA)</u></p> <p>415 ILCS 151</p>	2017	E-Waste	<p>Establishes system for recycling and reusing of unwanted electronic devices</p> <p>Sets convenience standard for the minimum number of collection locations in each county</p>
<p><u>Bulk Containers</u></p> <p>HB3440</p>	2019	Waste Reduction	Allows for the use of personal containers for bulk foods at retailers

Amendment to Illinois Food, Drug and Cosmetic Act			
State Action on Waste HB3068 Amendment to Solid Waste Planning and Recycling Act	2019	Waste Reduction	Requires the state to develop a comprehensive waste plan Provides for establishment of recycling at state agencies with specific reduction goals

CITY OF CHICAGO POLICIES – MUNICIPAL CODE

Name	Date	Category	Summary
Checkout Bag Tax Chapter 3-50	2017	Recycling	Imposes a \$0.07 tax per checkout bag used, paid by the user
Plastic Bag and Film Plastic Recycling Chapter 7-30	2017	Recycling	Requires an in-store bag recycling program and availability of reusable bags for purchase at groceries and pharmacies
Construction and Demolition Site Waste Recycling Ordinanceⁱ 11-4-1905 et seq.	2007	C&D Debris	Keep track of the amount of C & D debris that is generated on project sites; Recycle at least 50% of the recyclable debris that is generated; Submit a Recycling Compliance Form to the Department of Public Health at the end of each project, along with an affidavit from the waste hauler or recycler.
Reduction and Recycling Program Chapter 11-5	2017	Recycling	Requires property owners to provide source-separated, single-stream recycling Defines acceptable and unacceptable waste for those to whom this ordinance applies, they must make materials available upon request by the city Requires collection provider to provide designated recycling containers, to post requirements and collection procedures, and to educate consumers on proper recycling

ⁱ A similar Cook County policy also regulates construction and demolition site waste. The [Cook County Demolition Debris Diversion Ordinance](#) requires demolition contractors to recycle 70% of debris from projects in suburban and unincorporated areas. 5% of demolition debris from residential projects should go towards reuse.

			<p>Requires private waste haulers to notify customers on recycling requirements, acceptable materials, and collection process</p> <p>Requires private waste haulers to record annual total tonnage, facilities delivered to, percentage of waste delivered to each facility with records to be kept for a period of three years</p>
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CITY OF CHICAGO PROPOSED POLICIES

Name	Date Proposed	Category	Summary
<p><i>Call for Dept. of Public Health to Reestablish Residential Electronics Recycling Pilot Program</i></p>	2019	E-Waste	<p><i>Reestablish the Residential Electronics Recycling Program and expand to allow drop off at City buildings</i></p> <p><i>Designate a minimum number of drop off locations for wards</i></p>
<p><i>Polystyrene Container Ban & Single-Use Plastic Bag Ban</i></p> <p>11-4-4010 11-4-4020</p>	2020	Waste Reduction	<p><i>Chain stores cannot provide single-use plastic bags or polystyrene containers</i></p> <p><i>Carryout bags provided must be reusable, recyclable, or compostable</i></p>
<p><i>Ordinance Requiring Recycling and Composting for Special Events</i></p> <p>Section 1. Chapter 10-8-335</p>	2020	<p>Recycling</p> <p>Food Scraps/Organics</p>	<p><i>Event organizers must plan for and provide recycling and composting at special events</i></p>
<p><i>Plastic-Free Water Ordinance</i></p> <p>Chapter 7-60</p>	2020	Waste Reduction	<p><i>Limits the use of single-use plastics within restaurants</i></p>
<p><i>Call for Hearing(s) on Commercial and High-Density Residential Recycling Program</i></p>	2020	Recycling	<p><i>Call to convene a joint hearing to review the enforcement of the Commercial and High-Density Residential Recycling Program</i></p>

APPENDIX

APPENDIX A: PLAN REVIEW

The City of Chicago is well-positioned to undertake a holistic and targeted waste strategy implementation process. Existing planning documents and studies, including those listed below, have emphasized the need for an effective strategy and support improvements to materials management practices to achieve citywide goals.

Sustainable Chicago 2015 Action Agenda

Published in 2012

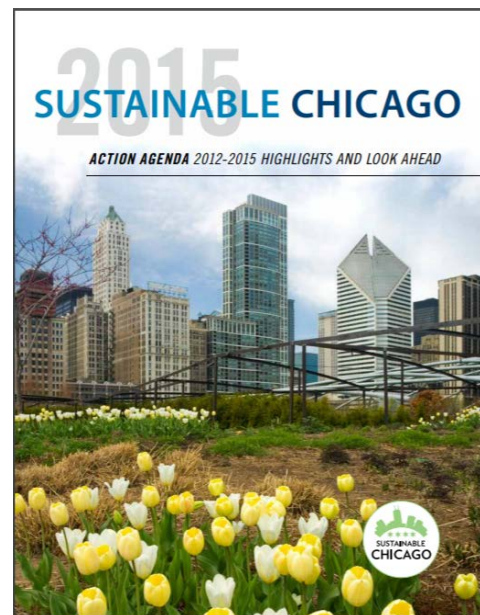
The Sustainable Chicago 2015 Action Agenda highlighted challenges and opportunities related to:

- Economic Development and Job Creation;
- Energy Efficiency and Clean Energy;
- Transportation Options;
- Water and Wastewater;
- Parks, Open Space, and Healthy Food;
- Waste and Recycling; and
- Climate Change.

Goals related to waste and recycling included *Goal 20: Increase Access to Recycling and Improve Policies to Promote Waste Reduction and Reuse* and *Goal 21: Incorporate Standard Green Practices in All City Operations*.¹²⁸

A summary report on progress made and recommended next steps toward Sustainable Chicago goals was published in 2015. Highlights included the completion of the city-wide curbside recycling rollout through the Blue Cart program and implementation of the grid-based garbage pick up structure; the launch of the Recycle by City educational resource; the adoption of a compost ordinance in support of urban agriculture initiatives, and a major infrastructure reuse initiative through the 606 trail development project.¹²⁹

The report also outlined priorities for next steps beyond 2015 which included improving high density residential and commercial recycling; expanding public engagement and messaging (specifically “go bagless”) to reduce



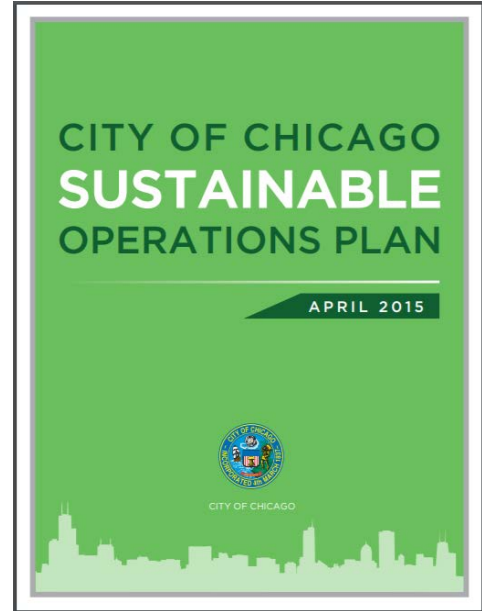
plastic film contamination; and increasing the use of recycled content in infrastructure projects.¹³⁰

City of Chicago Sustainable Operations Plan

Published in 2015

One outcome of the Sustainable Chicago 2015 Action Agenda was the 2015 Sustainable Operations Plan, providing specific guidance for City facilities. Materials management-related goals include improving waste and recycling; conserving natural resources and diverting waste from landfills; transitioning City processes to paperless systems; and diverting 75 percent of municipal C&D debris.

The plan includes recommendations for all employees, and tailored strategies for facility operations staff, managers, and engineers. The plan also includes sustainability strategies specifically for fleet managers and staff involved with design and construction of City facilities.¹³¹



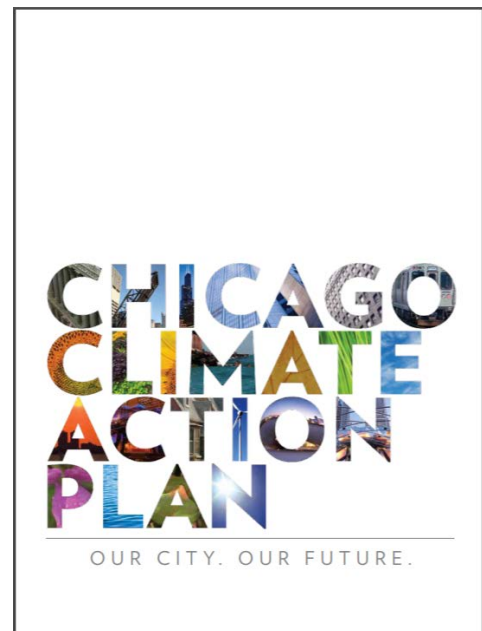
Chicago Climate Action Plan

Published in 2008

The Chicago Climate Action Plan introduced greenhouse gas (GHG) emissions reductions targets for the City - 25 percent by 2020 and 80 percent by 2050. GHG emissions mitigation is critical to preventing the most devastating impacts of a changing climate. The Climate Action Plan includes recommendations for:

- Energy Efficient Buildings;
- Clean and Renewable Energy Sources;
- Improved Transportation Options;
- Reduced Waste and Industrial Pollution; and
- Adaptation.

Though solid waste management directly generates less GHG compared to sectors like energy and transportation, improvements to the materials management system can have powerful climate impacts. Actions related to materials management in this plan include



reducing waste sent to landfills through reduction, recycling, and reuse, and capturing and phasing out harmful refrigerants.¹³²

Healthy Chicago 2025

Published in 2020

The Healthy Chicago 2025 Roadmap seeks to highlight opportunities to improve public health and develop anti-racist programs and policies in Chicago to address environmental justice issues and the racial life expectancy gap.

Recommendations related to the environment and addressing disproportionate pollution burdens include further refinement of the Air Quality and Health Index, creation of an environmental equity working group, assessment of cumulative pollution impacts, and new legislation around land use, environmental regulation and enforcement, and community engagement.¹³³



working group, assessment of cumulative land use, environmental regulation and

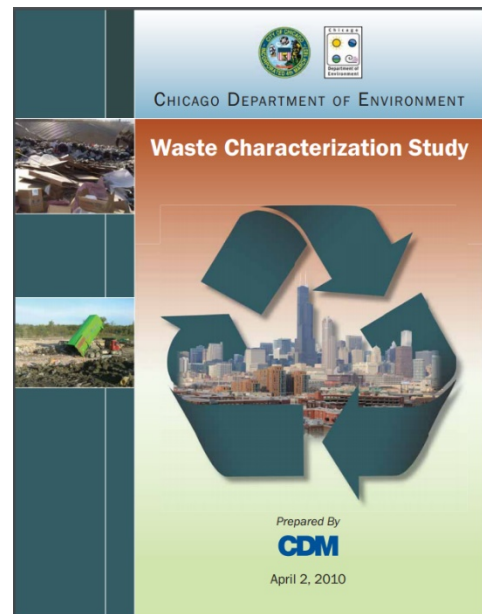
Waste Characterization Study

Published in 2010

Chicago’s former Department of Environment tasked a consultancy firm with sampling and analyzing 2008-2009 disposal data to develop waste generation and composition estimates for the City.

The firm, CDM Smith, recommended that the City of Chicago prioritize the following five material types for diversion impact:

- Food Scraps;
- Paper;
- Construction & Demolition Debris;
- Plastics; and
- Textiles.



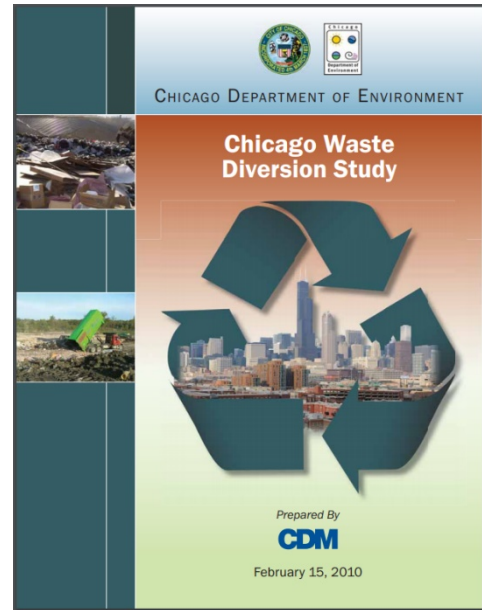
The firm also recommended that the City update estimates annually and conduct a waste characterization study every five years.¹³⁴

Chicago Waste Diversion Study

Published in 2010

In addition to the Waste Characterization Study, the former Department of Environment also tasked CDM Smith to develop a Waste Diversion Study to calculate current diversion and material capture rates, and estimate the maximum possible diversion based on material composition.

The study found that if Chicago reached diversion rates similar to those in peer cities (including New York, NY, Seattle, WA, Columbus, OH, and others), DSS-collected residential could increase from 8 to 43 percent, private-collection diversion could increase from 19 to 42 percent and rates for construction and demolition operations could increase from 65 to 67 percent. These improvements would bring the City's overall diversion rate from 45 to 57 percent.¹³⁵



APPENDIX B: EXISTING CHICAGO WASTE INFRASTRUCTURE & ORGANIZATIONS

The following are a series of tables summarizing various aspects of the City’s existing waste infrastructure including recycling sites for specialty materials, waste management facilities, food scrap pickup services, and building materials reuse organizations.

This table contains information on sites for composting, medication disposal, and electronics in Chicago as identified by the Illinois EPA. There are additional opportunities to recycle medication with larger chain pharmacies and some hospital systems. Some items, such as CRT televisions, may not be accepted at certain sites. This information corresponds with the map in Figure 17.

RECYCLING SITES FOR SPECIALTY MATERIALS ¹³⁶					
Name	Address	City	Postal Code	Telephone	Items Accepted
Altgeld Sawyer Corner Farm	2501 N Sawyer Ave	Chicago	60647		Composting
Harbor View Compost Facility	2000 E 122nd St-a	Chicago	60633	(847) 825-5000	Composting
Calumet Water Reclamation Plant	400 E 130th St	Chicago	60628		Medication
Cook County Building	120 N Clark St	Chicago	60602		Medication
Cook County Criminal Court Building	2650 S California Ave	Chicago	60608		Medication
Metropolitan Water Reclamation District Main Office Building	100 E Erie St	Chicago	60611		Medication
Saint Anthony Hospital	2875 W 19th St	Chicago	60623		Medication
Rexall Drugs	1000 N Western Ave, Suite 1	Chicago	60622	(773) 486-4000	Medication
Roger Pharmacy	131 East 47th St	Chicago	60653	(773) 624-0010	Medication
Halsted Pharmacy	1460 N Halsted, Suite 101	Chicago	60642	(312) 624-9400	Medication
Kedzie-Madison Drugs	3179 W Madison St	Chicago	60612	(773) 722-2630	Medication
Lawndale Christian Health Center	3256 West 24th St	Chicago	60623	(773) 843-3000	Medication
Lawndale Christian Health Center	3860 W Ogden Ave	Chicago	60623	(773) 843-3000	Medication
Ballin Pharmacy	3330 N Lincoln Ave	Chicago	60657	(773) 348-0030	Medication
New England Pharmacy	6918 W Archer Ave	Chicago	60638	(773) 586-2230	Medication
Well Future Pharmacy, LLC	1442 S Michigan Ave	Chicago	60605	(312) 589-7620	Medication

Chicago Police Department 14th District (Shakespeare)	2150 North California Avenue	Chicago	60647	(312) 744-8290	Medication
Chicago Police Department (Area 3)	2452 West Belmont Avenue	Chicago	60618	(312) 744-5983	Medication
Chicago Police Department (Area 4)	3151 West Harrison Street	Chicago	60612	(312) 746-8386	Medication
Chicago Police Department (Area 1)	5101 South Wentworth Avenue	Chicago	60609	(312) 747-8366	Medication
Chicago Police Department (Area 5)	5555 West Grand Avenue	Chicago	60639	(312) 746-8605	Medication
Chicago Police Department (Area 2)	727 East 111th Street	Chicago	60628	(312) 747-8210	Medication
Chicago Police Department	7040 S Cottage Grove Ave	Chicago	60637	(312) 747-8201	Medication
Chicago Police Department	1718 S State St	Chicago	60616	(312) 745-4290	Medication
Chicago Police Department	2255 East 103rd St	Chicago	60617	(312) 747-7851	Medication
Chicago Police Department	7808 S Halsted	Chicago	60620	(312) 745-3617	Medication
Chicago Police Department	1438 West 63rd St	Chicago	60636	(312) 747-8223	Medication
Chicago Police Department	3420 West 63rd St	Chicago	60629	(312) 747-8730	Medication
Chicago Police Department	3120 S Halsted	Chicago	60608	(312) 747-8227	Medication
Chicago Police Department	3315 W Ogden Ave	Chicago	60623	(312) 747-7511	Medication
Chicago Police Department	1412 S Blue Island	Chicago	60608	(312) 746-8396	Medication
Chicago Police Department	5701 W Madison	Chicago	60644	(312) 743-1440	Medication
Chicago Police Department	5151 N Milwaukee Ave	Chicago	60630	(312) 742-4480	Medication
Chicago Police Department	4650 N Pulaski Rd	Chicago	60630	(312) 742-4410	Medication
Chicago Police Department	1160 N Larrabee St	Chicago	60610	(312) 742-5870	Medication
Chicago Police Department	850 W Addison St	Chicago	60613	(312) 744-8320	Medication
Chicago Police Department	5400 N Lincoln Ave	Chicago	60625	(312) 742-8714	Medication
Chicago Police Department	1900 W Monterey Ave	Chicago	60643	(312) 745-0710	Medication

Chicago Police Department	6464 N Clark St	Chicago	60626	(312) 744-5907	Medication
Household Chemicals & Computer Recycling Facility	1150 N North Branch Street	Chicago	60642	(312) 744-3060	Electronics, Medication
Best Buy	1000 W North Ave	Chicago	60642	(312) 988-4067	Electronics, Household Batteries
Best Buy	2100 N Elston Ave	Chicago	60614	(773) 486-0142	Electronics, Household Batteries
Best Buy	555 W Roosevelt Rd	Chicago	60607	(312) 733-6635	Electronics, Household Batteries
Best Buy	875 N Michigan Ave	Chicago	60611	(312) 397-2143	Electronics, Household Batteries
Goodwill Industries SEW/Metro Chicago	1201 W Washington Blvd	Chicago	60607	(312) 563-1187	Electronics
Goodwill Industries SEW/Metro Chicago	9321 S Western Ave	Chicago	60643	(773) 344-3380	Electronics
Staples	111 North Wabash Ave.	Chicago	60602	(312) 641-1213	Electronics
Staples	1130 South Canal Street	Chicago	60607	(312) 588-0924	Electronics
The Salvation Army	2151 W Devon	Chicago	60659	(800) 182-1285	Electronics
The Salvation Army	2270 N Clybourn	Chicago	60614	(800) 182-1285	Electronics
The Salvation Army	2941 N Central Ave	Chicago	60634	(800) 182-1285	Electronics
The Salvation Army	3301 W Montrose Ave	Chicago	60618	(800) 182-1285	Electronics
The Salvation Army	4052 W Grand Ave.	Chicago	60651	(800) 182-1285	Electronics
The Salvation Army	4315 N Broadway Ave.	Chicago	60613	(800) 182-1285	Electronics
The Salvation Army	509 N Union Ave	Chicago	60654	(800) 182-1285	Electronics
The Salvation Army	5713 W Chicago Ave.	Chicago	60651	(800) 182-1285	Electronics
The Salvation Army	6434 W. 63rd St.	Chicago	60638	(800) 182-1285	Electronics
Staples	4610 North Clark Chicago	Chicago	60640	(773) 769-0536	Electronics
AVA Recycling (Martroy Electronics)	6259 S Kedzie Ave	Chicago	60629	(773) 776-7000	Electronics
AVA Recycling (Pro-Technology Professionals)	5019 W Lawrence Ave	Chicago		(773) 729-2062	Electronics
AVA Recycling (Air Tec Wireless)	242 S State St	Chicago	60604	(312) 877-8775	Electronics

AVA Recycling (Air Tec Wireless)	410 S Clark St	Chicago	60605	(708) 932-4233	Electronics
AVA Recycling (Comset Computers)	5732 N Milwaukee Ave	Chicago	60646	(773) 594-9807	Electronics
AVA Recycling (RJ Computers Inc.)	7545 W Addison St	Chicago	60634	(773) 637-1244	Electronics

The following table contains information compiled by the City of Chicago on former landfill sites, recycling facilities, transfer stations, and waste handling facilities in and neighboring Chicago. This information corresponds with the map in Figure 24.

WASTE DISPOSAL INFRASTRUCTURE¹³⁷			
Name	Address	City	Facility Type
122nd Street Landfill - Land and Lakes		Chicago	Former Landfill
138th Street - Land and Lakes		Dolton	Former Landfill
CID Landfill		Chicago	Former Landfill
Paxton Landfill		Chicago	Former Landfill
41st Street Recycling Facility	1350 W 41st St	Chicago	Recycling Facility
A & A Midwest	4050 S Wentworth Ave	Chicago	Recycling Facility
A Metals Scrap Inc.	9301 S Baltimore Ave	Chicago	Recycling Facility
AA Chicago Metal Group Corps.	4430 W 14th St	Chicago	Recycling Facility
Abco Metal	1020 W 94th St	Chicago	Recycling Facility
Adelman'S Truck & Equipment	3033 E 106th St	Chicago	Recycling Facility
Aero Auto Parts	6339 S Wentworth Ave	Chicago	Recycling Facility
Again Auto, Llc	1300 N Kostner Ave	Chicago	Recycling Facility
Akat Scrap Metal, Inc.	12100 S Stony Island Ave	Chicago	Recycling Facility
All American Recycling, Inc.	11900 S Cottage Grove Ave	Chicago	Recycling Facility
Alpha Metals Corporation	341 N California Ave	Chicago	Recycling Facility
American Metals Co	5580 N Lynch Ave	Chicago	Recycling Facility
American Metals Company	2420 W Cermak Rd	Chicago	Recycling Facility
Antek Madison Plastics	8822 S Dobson Ave	Chicago	Recycling Facility
Archer Paper And Metals Co	4619 S Knox Ave	Chicago	Recycling Facility
Azcon Corporation	13733 S Avenue O	Chicago	Recycling Facility
Barry's Metals	820 W Cermak Rd	Chicago	Recycling Facility
Biltmore Metals	813 W Cermak Rd	Chicago	Recycling Facility
Bionic Auto Parts	4655 W North Ave	Chicago	Recycling Facility
Brickyard Metals Co.	6449 W Grand Ave	Chicago	Recycling Facility
Bridgeport Metals Racine Yard	3802 S Racine Ave	Chicago	Recycling Facility
C & B Scrap Metal Inc.	3649 S Albany Ave	Chicago	Recycling Facility
C&B Scrap Metal, Inc.	3104 S Homan Ave	Chicago	Recycling Facility
Central Metal Recycling, Llc	5618 W Fillmore St	Chicago	Recycling Facility
Cermak C&D Inc.	1001 W Cermak Rd	Chicago	Recycling Facility
Chicago Industrial Catalytic	4427 W 45th St	Chicago	Recycling Facility
Chicago Rail And Port	3250 E 106th St	Chicago	Recycling Facility
Chicago Scrap Iron And Metal	4555 W Grand Ave	Chicago	Recycling Facility

CHK Holdings LLC	3333 W Harrison St	Chicago	Recycling Facility
Christy Webber Class V	2900 W Ferdinand St	Chicago	Recycling Facility
Chuangyi Metals Corp.	3939 S Karlov Ave	Chicago	Recycling Facility
Continental Paper Grading Co.	1623 S Lumber St	Chicago	Recycling Facility
Cronimet Corporation	3219 E 106th St	Chicago	Recycling Facility
Cruz Recycling	240 N Harding Ave	Chicago	Recycling Facility
Darling Ingredients Inc.	3443 S Lawndale Ave	Chicago	Recycling Facility
Eco Green Recycling Inc.	1965 W Pershing Pl	Chicago	Recycling Facility
Edco Recycling Llc	8224 S Vincennes Ave	Chicago	Recycling Facility
El Paso Auto Parts, Inc.	3245 S Kostner Ave	Chicago	Recycling Facility
Elemento S.A. Inc.	3252 W 31st St	Chicago	Recycling Facility
Elg Metals, Inc	10301 S Muskegon Ave	Chicago	Recycling Facility
Emesco Marine Services	12100 S Stony Island Ave	Chicago	Recycling Facility
Englewood Auto Parts	620 W 59th St	Chicago	Recycling Facility
Ez Tree Recycling, Inc	7050 S Dorchester Ave	Chicago	Recycling Facility
Family Recycling Center, Inc.	1851 S Clinton St	Chicago	Recycling Facility
Frank's West Side	3001 S Kedzie Ave	Chicago	Recycling Facility
Freddy's Auto Recycling, Inc	4146 W Division St	Chicago	Recycling Facility
Gen Iron West	4600 W Division St	Chicago	Recycling Facility
GII, LLC - Clifton #1	1909 N Clifton Ave	Chicago	Recycling Facility
GII, LLC - Kingsbury	1800 N Kingsbury St	Chicago	Recycling Facility
GII, LLC - North Ave	1066 W North Ave	Chicago	Recycling Facility
GII, LLC - Yard 2	1909 N Clifton Ave	Chicago	Recycling Facility
GII, LLLC - Magnolia	1441 N Magnolia Ave	Chicago	Recycling Facility
Green Electronics Solution	3950 S Karlov Ave	Chicago	Recycling Facility
Green Metal Distribution, Inc	4325 S Halsted St	Chicago	Recycling Facility
Greenway Resource Recovery	2100 S Kilbourn Ave	Chicago	Recycling Facility
Gus Recycling Services	1334 N Kostner Ave	Chicago	Recycling Facility
Haborview - Or Composting LLC	2000 E 122nd St	Chicago	Recycling Facility
HHW Recycling Facility	1150 N North Branch St	Chicago	Recycling Facility
Huron Paper Stock	2545 W Fulton St	Chicago	Recycling Facility
Industrial Metal Enterprises	901 N Kilpatrick Ave	Chicago	Recycling Facility
J & S Metals, Inc	4700 W Belmont Ave	Chicago	Recycling Facility
J R Metals, LLC	4157 W Kinzie St	Chicago	Recycling Facility
Jay Ben Scrap	2910 W Carroll Ave	Chicago	Recycling Facility
Jayben Scrap Metal	6301 S Bell Ave	Chicago	Recycling Facility
JJ Metal Recycling	1111 W 47th Pl	Chicago	Recycling Facility
Larcker's Recycling Services	4400 W 45th St	Chicago	Recycling Facility
Loop Paper Recycling	2401 S Laflin St	Chicago	Recycling Facility
Mahzel Metals, Inc	325 N Elizabeth St	Chicago	Recycling Facility

Marcell's Paper and Metal Inc.	4221 W Ferdinand St	Chicago	Recycling Facility
Maryland Pig of Illinois	12901 S Stony Island Ave	Chicago	Recycling Facility
Mccoys Auto Parts	2301 S Pulaski Rd	Chicago	Recycling Facility
Metal Management - Artesian	350 N Artesian Ave	Chicago	Recycling Facility
Metal Management Midwest, Inc	2500 S Paulina St	Chicago	Recycling Facility
Metal Management Midwest, Inc	9331 S Ewing Ave	Chicago	Recycling Facility
Metal Recycles Here LLC	3711 S California Ave	Chicago	Recycling Facility
Mid-America Paper Recycling Co	3865 W 41st St	Chicago	Recycling Facility
Midway Recycling	5787 S Archer Ave	Chicago	Recycling Facility
Napuck Salvage Of Waupaca	11600 S Burley Ave	Chicago	Recycling Facility
Napuck Salvage of Waupeca, LLC	11610 S Avenue O	Chicago	Recycling Facility
Newtech 3159	3159 W 36th Pl	Chicago	Recycling Facility
Nickleson Industrial Services	8501 S Baltimore Ave	Chicago	Recycling Facility
Northwest 1 Trucking and Metal	3200 S Kedzie Ave	Chicago	Recycling Facility
Northwest 1 Trucking, Inc	2749 S Whipple St	Chicago	Recycling Facility
On State Recycling	5807 S State St	Chicago	Recycling Facility
Optimus Recycling	11363 S Corliss Ave	Chicago	Recycling Facility
Pilsen Recycling, Inc	2513 S Artesian Ave	Chicago	Recycling Facility
RDI Inc.	3333 W 36th St	Chicago	Recycling Facility
RDI Inc.	4101 W 42nd Pl	Chicago	Recycling Facility
Recycling Services, Inc	3301 W 48th Pl	Chicago	Recycling Facility
Regency Technologies	11600 S Burley Ave	Chicago	Recycling Facility
Reliable Asphalt Grand Avenue	4613 W Grand Ave	Chicago	Recycling Facility
Reserve Marine Terminals	11600 S Burley Ave	Chicago	Recycling Facility
Resource Center - Npv	5801 N Pulaski Rd	Chicago	Recycling Facility
Riverfront Recycling Center	222 E 135th Pl	Chicago	Recycling Facility
Robbins Auto Salvage	5845 S Seeley Ave	Chicago	Recycling Facility
S & G Auto Parts	7500 S Ashland Ave	Chicago	Recycling Facility
Safran Metals	1679 N Elston Ave	Chicago	Recycling Facility
San Pancho Auto Parts	10333 S Commercial Ave	Chicago	Recycling Facility
Sarabia Auto Parts	7423 S Loomis Blvd	Chicago	Recycling Facility
Seaton Trucking	6229 S Hoyne Ave	Chicago	Recycling Facility
Serlin Iron & Metal Co	1800 N Kilbourn Ave	Chicago	Recycling Facility
Service Battery, Inc.	2048 W Hubbard St	Chicago	Recycling Facility
Sim's Rail Yard Facility	3200 E 96th St	Chicago	Recycling Facility
South Chicago Iron And Metal	1313 W 74th St	Chicago	Recycling Facility

South Lawndale Metals, Inc.	3344 S Lawndale Ave	Chicago	Recycling Facility
South Shore Recycling, Inc	11600 S Burley Ave	Chicago	Recycling Facility
Standard Auto Parts	3018 E 95th St	Chicago	Recycling Facility
Stockyards Materials	4031 S Ashland Ave	Chicago	Recycling Facility
Strategic Materials, Inc	10330 S Woodlawn Ave	Chicago	Recycling Facility
T&Z Metals, Inc.	4009 W Parker Ave	Chicago	Recycling Facility
The Plant	1400 W 46th St	Chicago	Recycling Facility
Torrence Auto Wreckers	9601 S Torrence Ave	Chicago	Recycling Facility
Tower Alloys, Inc.	330 N California Ave	Chicago	Recycling Facility
Tri-State Metal	1745 W Fulton St	Chicago	Recycling Facility
Universal Scrap Metals, Inc	321 N Artesian Ave	Chicago	Recycling Facility
Universal Scrap Metals, Inc.	2500 W Fulton St	Chicago	Recycling Facility
U-Pic-A-Part	3250 S St Louis Ave	Chicago	Recycling Facility
U-Pull It, Inc	4555 W North Ave	Chicago	Recycling Facility
USA Recycling Prof. Inc.	7601 S Kedzie Ave	Chicago	Recycling Facility
Windy City Metal	4617 W Division St	Chicago	Recycling Facility
64th & State	6330 S. State St.	Chicago	Transfer Station
Heartland Recycling	6201 W Canal Bank Rd	Forest View	Transfer Station
Hooker Street Transfer	1500 W. Division	Chicago	Transfer Station
Laramie	3815 S. Laramie	Stickney	Transfer Station
Northwest Sorting Center	700 N. Kilbourn Ave.	Chicago	Transfer Station
Planet Recovery	1859 W. Carroll St.	Chicago	Transfer Station
Shred-All	1234 W. 43rd St.	Chicago	Transfer Station
Tri State	13903 S Ashland	Riverdale	Transfer Station
1300 W Exchange LLC	1300 W Exchange Ave	Chicago	Waste Handling Facility
34th St. MRRF	3757 W 34th St, Chicago, Il	Chicago	Waste Handling Facility
64th Street Transfer Station	16 W 64th St	Chicago	Waste Handling Facility
CID Transfer Station	13707 S Jeffery Ave	Chicago	Waste Handling Facility
Clean Harbors - 42nd St	1445 W 42nd St	Chicago	Waste Handling Facility
Department of Water Management	3901 S Ashland Ave	Chicago	Waste Handling Facility
Groot/6747 N Elmhurst		Chicago	Waste Handling Facility
Land and Lakes Transfer St	1258 E 138th St	Chicago	Waste Handling Facility
Lindahl Brothers, Inc.	3301 S California Ave	Chicago	Waste Handling Facility
Liquid Environmental Solutions	12123 S Stony Island Ave	Chicago	Waste Handling Facility
Loop Transfer - Laflin	2401 S Laflin St	Chicago	Waste Handling Facility
Medill MRRF	1633 W Medill Ave, Chicago, Il	Chicago	Waste Handling Facility
Northwest MRRF	750 N Kilbourn Ave	Chicago	Waste Handling Facility
Ozinga - Lumber Street	2255 S Lumber St	Chicago	Waste Handling Facility
Planet Recovery Transfer Sta	1800 W Carroll Ave	Chicago	Waste Handling Facility

Ravenswood Disposal Services	200 N Talman Ave	Chicago	Waste Handling Facility
Reliable - Grand Ave	4613 W Grand Ave	Chicago	Waste Handling Facility
Reliable - Laflin	2501 S Laflin St	Chicago	Waste Handling Facility
Reliable Asphalt/Materials	3741 S Pulaski Rd	Chicago	Waste Handling Facility
S. Kedzie Rec & Transfer Fac	4837 S Kedzie Ave	Chicago	Waste Handling Facility
Shred-All Recycling Facility	1231 W 42nd St	Chicago	Waste Handling Facility
Stockyard Materials	4031 S Ashland Ave	Chicago	Waste Handling Facility
Vulcan Materials Co - Rock Cru	3900 S Racine Ave	Chicago	Waste Handling Facility
Waste Management Hooker	1500 N Hooker St	Chicago	Waste Handling Facility
34th St. MRRF	3757 W 34th St	Chicago	Waste Handling Facility, Transfer Station
Calumet Transfer	2040 E 106th St	Chicago	Waste Handling Facility, Transfer Station
Lakeshore Recycling Systems	3152 S California Ave	Chicago	Waste Handling Facility, Transfer Station
Medill MRRF	1633 W Medill Ave	Chicago	Waste Handling Facility, Transfer Station

The following table contains information concerning food scraps pickup service providers operating within Chicago as compiled by the Illinois Food Scraps Coalition (IFSC).

FOOD SCRAPS PICKUP SERVICE PROVIDERS¹³⁸			
Name	Service Area	Type of Service	Website
Advanced Disposal	northern Cook County	Commercial pick up only	advanceddisposal.com
Block Bins LLC	Chicago	Commercial and residential pick up	blockbins.com
Collective Resource Compost	Chicago north of I55, North & Northwest Suburbs	Subscription for commercial and residential pickup - all food waste is taken to a commercial compost facility	collectiveresource.us
Flood Brothers	Chicago and northern Illinois	Commercial pickup	floodbrothersdisposal.com
Healthy Soil Compost LLC	Belmont to 63rd and Western to the Lake	Commercial and residential pickup, bicycle pickup – all food waste	healthysoilcompost.com
Lakeshore Recycling Systems	Chicago and near north suburbs	Commercial pickup	lrsrecycles.com
Midwest Material Management Compost	Chicago and surrounding suburbs	Commercial pickup only	mwcompanies.com
Organix Recycling	All Illinois	Commercial pickup only	organixrecycling.com
Republic Services	City of Chicago, east of Harlem Avenue	Commercial pickup only	republicservices.com
Resource Center	Chicagoland – Western Spring at the west; Evanston at the north; Southern border of Chicago	Commercial and residential pickup	theresourcecenterchicago.org
Roy Strom	Chicago, West Cook County, Western DuPage County	Commercial and residential pickup	roystrom.com
The Ground Rules / Social Ecologies	City of Chicago – downtown, near north, near south and near west side	Commercial and residential pickup	socialecologies.net
Urban Canopy	Service boundary is I-290, I-294, Cicero, I-55	Subscription for commercial and residential pickup - veggie scraps, egg shells, coffee grounds, spoiled fruit and other compostables	theurbancanopy.org/compost-club

Waste Management	Chicago and the surrounding suburbs	Commercial and residential pickup	wm.com
WasteNot Compost	Chicago only – downtown, west, and north neighborhoods	Subscription for commercial and residential pickup – all food waste	wastenotcompost.com

The following table contains information on organizations who accept construction and demolition materials for reuse as compiled by the Illinois EPA.

BUILDINGS MATERIALS REUSE ORGANIZATIONS¹³⁹					
Name	Address	City	Postal Code	Telephone	Website
Vulcan Materials	3910 S Racine	Chicago	60609	773-890-2360	
Lakeshore Recycling Systems	3152 S California Ave	Chicago	60608	773-579-0100	
GreenWay Resource Recovery	2100 S Kilbourn Ave	Chicago	60623	773-522-0025	
Salvage One	1840 W Hubbard St	Chicago	60622	312-733-0098	http://www.salvageone.com
ReBuilding Exchange	1740 W Webster Ave	Chicago	60614	773-252-2234	http://www.rebuildingexchange.com

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