



Photo by Kevin Rajaram

# CITY OF CHICAGO WASTE STRATEGY EXECUTIVE SUMMARY

JULY 2021

Dear Chicagoans,

On behalf of Mayor Lori E. Lightfoot and the City of Chicago, I am thrilled to share with you the 2021 Chicago Waste Strategy. The report is the culmination of a year-long effort to develop a plan and implementation strategy to overhaul the City’s traditional waste system and rebuild its overall health and function. The City of Chicago partnered with Delta Institute, a well-respected consulting firm specializing in municipal solid waste management planning, to look at the many interrelated aspects of waste in the City. From municipal structure, operations, policy, procurement, infrastructure, logistics, equity, culture, and funding sources, to the waste streams and materials themselves, the report provides a comprehensive understanding of Chicago’s waste ecosystem. The project team engaged a range of stakeholders represented by elected officials, City departments, private and nonprofit organizations, and individuals in developing these resources for the City of Chicago.

In 2020, the City of Chicago generated 4.13 million tons of materials. Landfilling and waste processing are a potent source of harmful greenhouse gas emissions, which accelerate climate change. In light of this issue’s urgency, we are eager to advance the sixty-three recommendations that are outlined in the report. Our new approach, prioritizing intervention before materials enter the waste stream, will minimize landfilling, improve recycling rates, drive new and innovative approaches for composting and materials reuse, and will bolster new economic opportunities that our communities and residents need now more than ever.

A reimagined waste system is critical to the long-term sustainability of our great city. The City of Chicago is committed to working with our partners, businesses, sister agencies, residents, institutions, and environmental leaders who are committed to achieving a zero-waste future. Thank you for the opportunity to better serve you.



Sincerely,



Angela Tovar  
Chief Sustainability Officer

## BACKGROUND & STRATEGY DEVELOPMENT

Effectively managing materials and waste requires a highly efficient system of interconnected infrastructure and personnel across the public and private sectors. There is an opportunity to improve this system using innovative technology, research, and design, but ultimately this challenge requires a coordinated effort by the City of Chicago, commercial and industrial businesses, institutions, and citizens. Delta Institute has partnered with the City of Chicago to identify and analyze existing data, policies, stakeholders, and impacts of Chicago's waste, recycling, composting, and reuse systems to develop strategies for improvement.

The goal of the *City of Chicago Waste Strategy* is to identify concrete actions to:

- Decrease waste disposal and associated negative environmental impacts;
- Reduce costs and increase efficiency;
- Maximize economic investment and workforce development opportunities; and
- Address social and environmental justice inequities.

Redesigning how the City manages materials and addressing long-standing environmental justice inequities requires a long-term commitment by many Chicago stakeholders. This holistic strategy represents the first step in that process. This first phase of work provides guidance that accounts for the many perspectives of Chicago's waste and civic stakeholders, addresses budgetary realities, and incorporates other systemic factors to comprehensively prioritize actionable strategies.

The complete *City of Chicago Waste Strategy* is comprised of the following documents:

- Executive Summary
- Existing Conditions Report
- Waste Characterization and Generation Update Report
- Peer City Analysis
- Materials Management Strategies

*Delta Institute is appreciative to the Office of the Mayor for the opportunity to prepare these important strategic recommendations. We would like to thank the University of Illinois at Chicago and Dr. Ning Ai for preparing the Waste Characterization and Generation Update report. Delta Institute would like to give warm appreciation to the more than 90 stakeholders composed of elected officials, City departments, private and nonprofit organizations, and individuals in developing these resources for the City of Chicago.*

## EXISTING CONDITIONS REPORT

The Existing Conditions Report sets the stage for current and historical waste and recycling programs and services, plans and policies, stakeholders, and related climate, economic, and equity impacts and challenges for the City of Chicago.

Chicago has a strong network of municipal and external stakeholders in the public and private sectors that will be critical partners in implementing materials management strategies. The waste and recycling system is complex and has significant impacts on Chicago's residents, environment, and economy. Recognizing these impacts, as well as the current and potential actors in the system, will support lasting and equitable improvements.

## WASTE CHARACTERIZATION & GENERATION UPDATE REPORT

The University of Illinois at Chicago (UIC) supported the Chicago Waste Strategy by conducting data analysis and modeling to project waste generation and characterization for Chicago in 2020. In lieu of a full-scale waste audit, the UIC team provided waste and recycling estimates based on Chicago historical data, along with regional and national datasets. Material-specific trends, innovations, and consumer expenditures were identified and summarized as well.

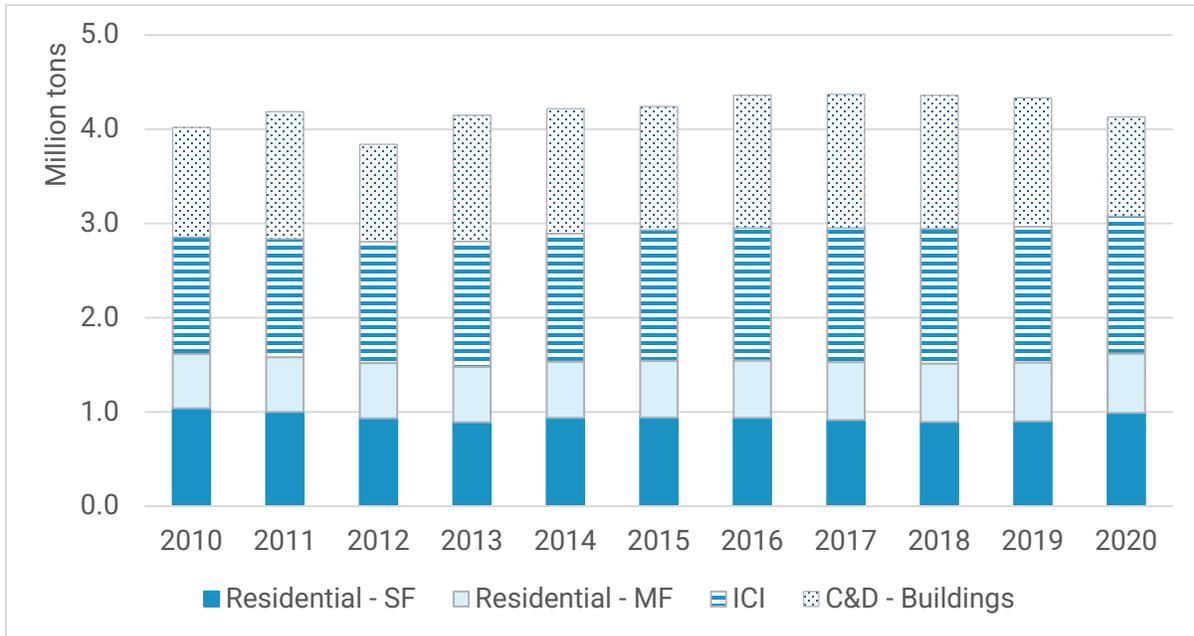


Figure 1: Chicago Annual Material Generation (2010-2020)

**The City of Chicago generated 4.13 million tons of materials in 2020.** This number is comprised of refuse, recycling, and yard waste collected from low-density (SF) residential buildings with four or fewer units (989,924 tons), high density (MF) 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). C&D debris from roadway construction was not included in this study but is an additional significant source of material generation.

## PEER CITY ANALYSIS

The Peer City Analysis Report describes various solid waste management programs, practices, and policies utilized in metropolitan areas across the United States to provide a better understanding of how peer cities have created and implemented innovative solid waste management strategies and help inform decisions about Chicago’s materials management system.

## MATERIALS MANAGEMENT STRATEGIES

Delta Institute identified implementation opportunities across seven categories from municipal management and policy to the many waste streams that flow through the city. In each of those categories, several potential options for the City are presented to allow for short-term implementation, as well as long-term budgeting, planning, and partnership building. Strategies across all categories are guided by a set of established principles intended to capture City and stakeholder priorities. The Chicago Waste Strategy guiding principles are listed below:

- Reframe Chicago’s materials as resources, instead of waste;
- Center equity and environmental justice in program design;
- As the City, identify opportunities for establishing internal and external partnerships;
- Prioritize initiatives with revenue potential, no/low cost, or a positive return on investment when applied at scale;
- Identify opportunities to include goal setting, metrics, and data sharing to demonstrate progress and increase transparency; and
- Equip consumers with the education and tolls needed to drive innovation in evolving waste systems.

## MUNICIPAL MANAGEMENT & DATA TRACKING

This section details opportunities for improved municipal management of waste and materials to lead by example, strengthen capacity for citywide programs and initiatives, and improve data collection and management to enforce policies, improve how trends are identified, increase transparency in the process, and build trust among Chicago’s residents more efficiently.

Municipal management and data tracking strategies are organized under the following sub-categories: **Identifying Opportunities to Lead by Example, Improving Data Tracking and Sharing, and Building Municipal Capacity.**

## SOURCE REDUCTION, REUSE, AND REPAIR

This section highlights impactful, upstream strategies related to source reduction, extending the useful life of materials, and reuse. Preventing materials from entering the waste (or recycling) stream reduces pressure on existing systems and infrastructure maximizes climate benefits, shifts the cultural norms towards circularity and away from traditional disposal models, unlocking potential for economic benefit and improved sustainability.

Source reduction, reuse, and repair strategies are organized under the following sub-categories: **Supporting Material Reuse, Opportunities for Source Reduction, and Repair and Share.**

## RESIDENTIAL WASTE REDUCTION

This section offers strategies to reduce the waste volume and increase diversion rates in recycling, yard waste, and compost programs for Chicagoans in both low-density (single family homes and multifamily buildings with four or fewer units) and high-density (multifamily buildings with five or more units) residences.

Residential waste reduction strategies are organized under the following sub-categories: **Improving Low-Density Residential Waste Diversion and Reducing Contamination, High Density Residential Waste Diversion, Public Education and Engagement, and Preventing Illegal Fly Dumping.**

## ICI (INDUSTRIAL, COMMERCIAL, INSTITUTIONAL) WASTE REDUCTION

This section details opportunities for reduction and diversion of waste is generated by Chicago's ICI (industrial, commercial, and institutional) sector. This sector includes businesses, like restaurants and office buildings; institutions including government, cultural, and educational; and manufacturing and other industrial processes.

ICI waste reduction strategies are organized under the following sub-categories: **Commercial Waste Generation and Hauling, Institutional Partnership Opportunities, and Waste System Infrastructure and Industrial Operations.**

## ORGANICS & WASTED FOOD

This section highlights opportunities to reduce organics and food currently sent to landfills in the residential and ICI sectors and bolster markets for finished compost.

Organics and wasted food strategies are organized under the following sub-categories: **Citywide Food Waste Prevention and Food Rescue, Organics and Food Scrap Collection for Chicago Residents, ICI Food Waste Prevention and Food Scrap Diversion, and Compost Market Development.**

## SPECIALTY MATERIALS

This section highlights strategies to address materials in Chicago's waste stream that cannot or should not be managed through traditional curbside recycling or composting initiatives including household hazardous waste (HHW), bulk items, electronic waste, pharmaceuticals, textiles, and plastic film.

Specialty materials strategies are organized under the following sub-categories: **Permanent Collection Facilities, High Priority Safe Disposal, and High-Volume Specialty Materials Diversion Opportunities.**

## CONSTRUCTION & DEMOLITION DEBRIS

This section provides strategies for diverting materials generated from construction, renovation, demolition, or deconstruction projects through recycling and reuse.

Construction and demolition debris strategies are organized under the following sub-categories: **C&D Debris Diversion and Developing Opportunities for Building Material Reuse.**

## IMPLEMENTATION NEXT STEPS

There are several activities that the City of Chicago can implement immediately to build momentum and begin processes as it launches longer-term planning, partnership development, and capacity building for major initiatives. The City is already working to reduce waste and improve recycling through initiatives including participating in the NRDC Food Matters Great Lakes cohort to reduce wasted food and implementing a new contract for the Blue Cart recycling program to improve low density residential recycling services and reporting requirements.

### SHORT-TERM PRIORITIES FOR 2021 AND 2022:

#### Policy Review and Exploration

The City of Chicago seeks to review existing materials management ordinances to identify opportunities to increase impact and conduct initial research for new potential legislation.

- Researching potential for implementing waste hauling zones for commercial waste
- Supporting ambitious statewide extended producer responsibility (EPR) legislation
- Assessing Construction & Demolition Debris (C&D) Recycling Ordinance compliance and identifying opportunities for increased contractor education
- Adjusting the C&D Recycling Ordinance to specify targeted material types and parameters for reuse

#### Increasing Opportunities for Community Interventions

The City of Chicago seeks to provide new programs and educational opportunities for Chicago's residents to engage with the materials management system and improve residential diversion.

- Leverage the National Resources Defense Council (NRDC) Food Matters Great Lakes Regional Cohort participation to pilot food waste prevention and recycling programs
- Maintaining clear and consistent messaging around recycling contamination
- Introducing organics drop off locations through seasonal "pumpkin smash" events
- Developing a directory of participating retail take-back options for e-waste and HHW in Chicago
- Establishing a revenue-sharing partnership with a textile recycling company for collection of clothes, shoes, and other textiles otherwise ending up in landfills

#### Strengthening Internal Operations

The City of Chicago seeks to improve internal operations related to materials management to increase efficiency across departments and improve waste diversion in the City.

- Identifying appropriate Blue Cart to black cart distribution and bin size options
- Improving high density residential recycling ordinance compliance based on 2020 Chicago Office of the Inspector General report findings
- Improving Chicago's existing yard waste collection program and incorporating potential food scrap "ride along" options

*Full strategy descriptions for the near-term priorities identified above, along with all other materials management strategies, can be found in the complete report.*