

Zero Waste Program – Case Study



ILLINOIS SUSTAINABLE
TECHNOLOGY CENTER
PRAIRIE RESEARCH INSTITUTE

URBANA CITY BUILDING COMPLEX



The Urbana City Building Complex is comprised of three buildings, originally constructed in the early 1960s and modified in the 1990's. The complex houses the offices of the Executive (Mayor), Community Development, and Finance departments, as well as Police and Fire Department offices and garages.

The City of Urbana engaged the ISTC Zero Waste team to assist them with waste characterization and waste reduction implementation.

PURPOSE AND OBJECTIVES

The waste characterization study was intended to help the City of Urbana, Illinois fulfill the following objectives:

- Examine the composition and quantity of recyclable materials discarded;
- Evaluate the effectiveness of existing waste reduction and recycling programs;
- Provide baseline metrics to increase waste diversion rates and create directed institutional policies;
- Identify opportunities for increased materials recovery.

THE WASTE CHARACTERIZATION PROCESS

The waste characterization process is part of the ISTC Zero Waste Program services. In most cases it is used to provide baseline metrics and to direct recommendations and policies towards key materials that have the greatest impact. The waste characterization involves a complete mapping of the current material management system at a facility, followed by a hands-on waste audit of all the discarded materials. This allows our team of technical assistance engineers to recommend and help implement process changes to improve the entire material management system of the facility. This also establishes a benchmark to measure the success of education, outreach and other actions to improve recycling and reduce the volume of waste material generated.

We're ready to sort, anytime, anywhere.

ISTC has a mobile trailer equipped with proper sort equipment, lighting, and heating. We conducted this sort in the evenings during a cold week in December!



CASE STUDY HIGHLIGHTS



765 pounds of trash and recycling sorted (1 week)



31 customized material categories

ABOUT THE URBANA CITY BUILDING COMPLEX

Sector: **Local Government**

Building Type: **Offices, Information Technology, and Vehicle Storage**

Occupancy: **90 Employees**

ABOUT OUR ZERO WASTE PROGRAM

ISTC's Zero Waste Program provides a variety of cost-effective, sustainable waste minimization and diversion services, provided by our staff of trained engineers and scientists.

Our team provides information and technical assistance on issues such as integrated waste management planning and process redesign to minimize waste generation and increase process efficiency.

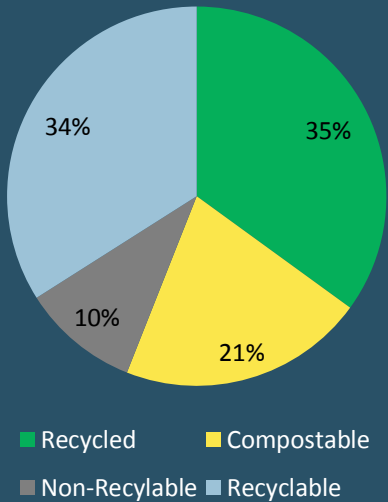
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WASTE CHARACTERIZATION RESULTS

Material Generation Profile

Green section is material currently being diverted from landfill.



Top three Divertable materials by weight

Material	Vol/week (lb)	% of landfill
Office paper	110	23%
Other recyclable	140	30%
Organics	150	31%

ABOUT THE ILLINOIS SUSTAINABLE TECHNOLOGY CENTER

ISTC is a division of the Prairie Research Institute at the University of Illinois at Urbana-Champaign. We are headquartered in Champaign and have offices in Oak Brook, Peoria, Godfrey.

Our mission is to be at the forefront of environmental and energy research and innovative technological advances that conserve natural resources and reduce wastes.

URBANA CITY BUILDING COMPLEX

OFFICE PAPER

Office Paper is the single largest category that is generated at the Urbana City Administration Building. Diverting just the office paper fraction from the waste stream would effectively decrease the landfill stream by about 23 percent. Actions to increase Office Paper recycling include:

- **Signage:** Put “No paper” signage on trash containers.
- **Individual trash containers:** Remove all the trash cans from individual desks is removed and only a comingled recycling container is placed. All trash containers to be moved to common hallways and break rooms.
- **Printer settings:** Change the default settings for all printers to print double sided
- **Purchasing:** Purchase lower grade paper for departments that use most of their printing for internal purposes.

OTHER RECYCLABLES

Other recyclables includes cardboard, plastic, glass, and aluminum containers. Each week, approximately 140 pounds of these materials do not make it into a recycling bin! We recommend:

- **Conduct training for employees:** Host lunch time training and include a demonstration of what is/isn’t recycled, how, and where.

ORGANICS

Most municipal-scale organics collection programs include all types of food scraps, including meat, bones, and cooked food. The Urbana area does not yet have such a system in place, so we made the following recommendations:

- **On-site composter:** Consider installing drum-composting units in the garage/outdoor area of the building. The drum composter can serve as a pilot organics diversion effort for other city buildings.
- **Start collecting organics separately:** Even though there isn’t an end market for organic waste currently available for the area, getting the staff acclimatized to the idea will ease the transition once there is an end market for organics collection.

NEXT STEPS

ISTC is partnering with the Center for People and Infrastructure to develop a mathematical model for determining what factors influence recycling and waste diversion behaviors. The methods developed through this partnership will be applied at the City of Urbana Administration Building to achieve maximum waste diversion compliance and results.

