

Food Waste Study

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Meals on Wheels

June 11th and 12th 2025

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Introduction

In the United States, approximately 35 percent of the food supply is wasted, resulting in around 149 billion pounds according to the USDA's Economic Research Service 2024.⁶ Food waste, landfill material being the largest category, represents not only the lost nutrients that could have supported families in need but also the wasted resources like water, energy, and labor that were used in logistics. Reducing food waste is not a single effort but it requires collaboration among federal, state, tribal, local governments, faith-based organizations, environmental agencies, communities, consumers, and food supply chains.^{1,2,3,6}

Globally, food waste is still a critical issue and needs to be addressed by all parties involved. In 2016, the USDA and the EPA launched the U.S. 2030 Food Loss and Waste Reduction Goal, aiming to cut food loss and waste in half by 2030.^{1,6} The EPA defines food waste as food sent to landfills, combustion, sewers, anaerobic digestion, composting, or land application, estimating 328 pounds per person a year in 2016.⁶ The goal would be to reduce this to 164 pounds per person by 2030. While food loss (occurring during production up to the retail levels) lacks a baseline at this point in time. Meals on Wheels has implemented innovative programs in Illinois, such as reusable trays, pre-planning to limit overproduction, and timely deliveries to maintain food quality, which indirectly reducing waste.⁴

Purpose

To demonstrate Meals on Wheels' commitment on mitigating food waste by conducting a food waste audit at the Bolingbrook Levy Center, following the "Student Guidelines for Food Waste Audit."

Objectives

- Conduct a food waste audit at Joshua Arms Senior Center during the Wednesday and Thursday C1 meal service.
- Collect and analyze food waste data, identify reasons for waste, develop an After-Action Report (AAR) to reduce waste across Will County sites that serve C1 meals.
- Produce an executive summary with data and images in an appendix.
- Develop a presentation for Director of Operations and Chief Executive Officer to share findings and recommendations.

Preparation of Audit

Meals on Wheels, operated by Community Nutrition Network & Senior Services Association, delivers meals to homebound seniors and individuals with disabilities and runs Cafes at sites but for this audit it was at Joshua Arms Senior Center (1315 Rowell Ave, Joliet, IL 60433). Joshua Arms C1, overseen by Michelle Gotchie, ensure daily deliveries every day and efficient café operations every weekday. This audit on the Café's C1 meal service is to quantify and analyze food waste, aiming to enhance their reduction techniques and strategies to run the program more efficiently. The audit, scheduled for Wednesday June 11th and 12th 2025, from 11:00am to 12:00pm,

aligns with their regular café hours. On June 6th, 2025, Charmiane Conley assigned Corey Gustafik (myself) to operate and conduct the audit, with Charmaine Conley assisting in gathering supplies and working the logistics.

Audit Process

The audit follows the Guide to Conducting Student Food Waste Audits, adapted for the café's senior congregate setting. Food waste will be collected from trays and the clients will be surveyed, with simplified questions to accommodate any potential cognitive or language barriers. All clients were fluent in English, so surveys will be offered in English only.

Equipment and Supplies

- Regular scale for weighing food waste.
- Buckets for collecting food.
- Disposable gloves and cleaning supplies.
- Clipboard, pens, and data collection forms.
- Labels sheets for each bin.

All equipment will be set up at the Joshua Arms at 10:30am on June 11th and 12th 2025.

Staffing and Roles

- Food Collection: Corey Gustafik will collect trays and note immediate client feedback (e.g., reasons for uneaten food).

- Survey: Corey Gustafik will administer brief surveys on meal satisfaction and reasons for waste, adapted to clients' needs.
- Weighing: Corey Gustafik will weigh and record waste data, compiling survey responses and calculating metrics.
- Cleaning and Disposal: Corey Gustafik will manage waste disposal and sanitation to maintain hygiene for equipment and the site.

Procedure

- Setup (10:30am): Arrange scale, bin, and forms: brief site manager, staff, and clients about SOP.
- Meals and Data Collection (11:00am-12:30pm): serve meals, collect food waste, administer surveys (noting reason for waste), collect food leftovers.
- Waste Management: 11:30am-12:30pm): sort and weigh food waste and leftovers, record data and maintain sanitation.
- Data compilation: Summarize waste data and analyze survey responses to identify patterns.
- Clean up: dispose of waste, sanitize equipment, and store supplies.

Considerations

- Client need: Seniors may have cognitive or physical limitations, requiring clear, respectful communications, simple questions, and food waste returns.
- Logistics: Limited time at Joshua Arms, which means Corey Gustafik had to be efficient with data collection and avoid disrupting the normal operations.

- Data accuracy: Scales will be calibrated, and food will be weighed and placed in proper bucket.

Goals

- Quantify the amount and types of food waste and left over from Café.
- Identify reasons for uneaten food.
- Provide recommendations to Meals on Wheels, such as adjusting portion sizes, modifying menus or enhance orders.

Overview of Audit Information

- Location: Joshua Arms Senior Center, 1315 Rowell Ave, Joliet, IL 60433
- Numbers of Clients Approximately 15-20 café participants
- Date: June 11th, 2025 and June 12th, 2025
- Meal Service: Wednesday C1 meal (lunch, 11:00am-12:00pm)
- Menu: Corn Beef and cheese, Cole Slaw , Marble Rye bread, Cottage cheese, chilled pears
- Staff: Corey Gustafik (Audit Manager), Michelle Gotchie (site Manager), Charmaine Conely (Corey's Preceptor)

Data Collection:

Data will be collected onsite by assigned participants. The following tables summarize meal service, equipment weights, food weights and percentages and survey results:

Table1:

meal Service- Menu Description (11:00am-12:00pm)

Food Item	Presentation Format
Corned Beef	Pan
Cole slaw	Pan
Marble Rye	Individual
Cottage cheese	Pan
Chilled pears	Pan, packaged in container

Table 2:

weight of equipment

<i>Weight of pans and buckets</i>
<i>1 Pan=1.25, 1.60, 1.25, 1.60lbs</i>
<i>Bucket 1= 1.54lbs</i>
<i>Bucket 2=1.54 lbs.</i>

Table 3:

Weight and units of food received.

<i>Meal Service</i>	<i>Food Items</i>	<i>Presentation Format</i>	<i>Total Weight or Units</i>

	<i>Corned beef</i>	<i>Pan</i>	3.31
	Cole slaw	<i>Pan</i>	7.68
	Marble rye	<i>individual</i>	4.2
	Cottage cheese	<i>Pan</i>	3.97
	Chilled pears	<i>Pan</i>	6.9

Table 4:*Client Survey*

Type of Food (one item per line)	Loss Reason (ex. Didn't like, not enough detail)
Chilled pears	Clients do not like fruit
Electricity out day before	Half of clients were not present
Red lobster trip	$\frac{3}{4}$ of clients were not present

Table 5:*food items for recycling or reuse*

Item	End Weight	Reasoning	Food wasted Weight	Food Waste %
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Bucket #1	1.44	Leftovers	4.76	18%
Bucket #2	6.12	Food waste	6.12	23%

Note: individual packaged items (e.g., milk cartons, water) will not be counted because the site itself supplied these resources.

Table 6:

Initial food weight, leftover weight/ percentage, and food waste weight/ percentage

Joshua Arms Menu 2 days	Weight	Leftover weight	Thrown away waste	Seconds weight	weight of pan w/o food	percentage of waste
Corn Beef with cheese	3.31	0	0	1.39	1.25	0
Cole Slaw	7.68	3.66	3.66	4.98	1.6	33%
Marble Rye	4.2	2.7	2.7	3	0	24%
Cottage Cheese	3.97	0	0	1.47	1.25	0
Chilled Pears	6.9	4.52	4.52	4.52	1.6	42%

Table 9: Percentage of food loss by category

total food weight=26.06
total leftover weight=10.88
thrown away weight=10.88
seconds weight =15.36
% of food wasted=39
Total cost of menu=596
Cost of waste=250.32

Table 10: cost of food and waste

menu	cost	waste cost
Corn Beef with cheese	75.7	0
Cole Slaw	175.64	83.7
Marble Rye	96.05	61.75
Cottage Cheese	90.79	0
Chilled Pears	157.8	103.37