



2024 Campus Race to Zero Waste Case Study University of Tennessee Knoxville

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Focus of Case study:

Food Waste Reduction. Reducing food waste on a college campus and ending hunger by repurposing the recovered food into microwavable meals.

Detailed description of campaign or effort:

Founded in Fall 2021, food4VOLS is a food recovery and distribution program that strives to end hunger and waste on the University of Tennessee, Knoxville (UTK) campus by collecting unused and overproduced food from campus dining locations on a daily basis and transporting the food to the UTK Culinary Institute where the food is categorized, weighed, and turned into ready to heat microwavable meals that are distributed across campus for free.

Partnering with Vol Dining, food4VOLS recovers food from over twelve different locations on campus ranging from catering, fast food locations, athletic dining, and large campus dining halls. To make the program successful, food4VOLS provides each Vol Dining location with plastic food containers that food can be placed in at the end of service. food4VOLS comes daily to collect the plastic bins and provides additional clean bins for the next service.

Daily recovery of food averages over 500 pounds of food that falls into 4 categories, protein, starch, vegetable/produce, and dessert items. Each location's food recovery is recorded by weight and category allowing food4VOLS to assist Vol Dining with data that can reduce overproduction and overall waste.

food4VOLS distributes the bulk of the prepared meals to Big Orange Pantry, located in the Student Union of the UTK campus. Smaller food4VOLS cupboards have been installed around campus in food deserts where students have little to no other food options. Each cupboard comes equipped with a fridge filled with meals, a microwave to reheat the meals on-site, cutlery to be able to eat the meals, and a dry storage area where non-perishable foods are available.

In Fall 2023 food4VOLS worked with students in the department of Nutrition to create a nutrition program for food4VOLS. This program categorizes meals into four categories, heart healthy, reduced calorie, protein rich, and carb conscious. These meals allow for participants to choose meals that may best fit their dietary needs.

food4VOLS collects more food daily than can be distributed on campus via the ready to heat meals. Partnering with Second Harvest of East Tennessee, food4VOLS is able to donate excess food to four counties. The food is placed into aluminum pans, covered with foil, and labeled. food4VOLS donations to the non-profits have resulted in the non-profits being able to reallocate funding from their food budgets to other portions of their business.

Planning steps & timeline to implement:

- *The following items need to be done at the start of each semester*
 - Identify areas on campus with excess food production
 - Visit with managers at each dining location to discuss food4VOLS
 - Identify all community partners who will receive excess food for the semester
 - Establish a set schedule for non profits to pick up food
 - Hire federal work study students and establish schedules for semester
 - Develop a route for food recovery based on participating dining locations and work study worker availability
 - Develop a distribution schedule for distributing meals on campus to various locations based on work study availability and facility operating hours
 - Determine volunteer shifts for food production and community wrapping based on kitchen availability and staff availability
 - Set goals for meal production (daily and for semester)
 - Determine financial needs based on set goals for the semester
 - Brainstorm opportunities for meeting financial needs of the program
 - Once the semester begins
 - Collect data daily from food collection and record weights and locations
 - Protein
 - Starch
 - Vegetables
 - Desserts
 - Record meals produced daily
 - Record weight of food donated to community members daily
 - Assess how the routes are going and make adjustments as needed to accommodate the needs of the dining facility and the staff available
 - Evaluate daily meal productions to ensure there is not over production based on what is taken each day by customers
 - Increase or decrease meal production based on stock of meals

Resources and stakeholders involved

We are completely self-funded and rely on corporate funding, grants, private donations, and fundraisers

- Fundraisers
 - Fall 2023 \$25,000 from fundraising festival
 - \$5,000 from catered events with the Culinary institute
- Corporate funding
 - Kroger and Aldi have been donors in the past
 - No donation for 2023/2024 but in the past over \$26,000 from the two combined
 - Metro shelving
 - Spring 2024 awarded a \$50,000+ kitchen makeover to give food4VOLS new shelving, carts, and equipment to make the program more efficient
 - Aramark
 - Aramark runs VOL Dining and provides food4VOLS with access to the overproduced food that the program collects. The food's value is roughly \$2.00 per pound of food collected, resulting in over \$300,000 annually to the program.
- Private donors
 - Alumni provided \$3,000 in Fall 2023
 - Private donor gives \$2,000 a month
- Grants
 - \$790,000 in Fall 2023
 - Most of the grant funding is for research, and \$750,000 was split between UTK, USC, and Montana State University to create a certificate program, a lab-based upcycling class, and expand food4VOLS to the other 2 campuses.
 - \$40,000 for new fridges, microwaves, and carts to build cupboards. These funds will also allow for 10,000 meals to be produced
- Our main costs are the food container and the stickers / labels we use. We can produce 1 meal for approximately \$0.30. That covers the containers and any extra sauces, spices, or ingredients needed. Below is a list of items needed to start the program as well as daily operating costs.
- Daily operating costs
 - Plastic containers for meals, \$0.20 each
 - food4VOLS sticker, \$0.03 per sticker
 - Food label, \$0.05 per label
 - Gasoline for vehicles, ~\$5 per day
- Start-up costs
 - Purchase of 600 plastic hotel pans and lids, \$7,000
 - Vehicle for collection and distribution of meals (we leased the 1st van at \$100 per month)
 - We purchased our truck for \$60,000 in 2023 and currently pay \$1,000 a month for the truck with 5-year terms and no interest
 - Purchase of scale to weigh in food, \$100
 - Thermal printer, \$400
 - Tablet to operate printer, \$400
 - Speed racks to store food when collected, \$100 each (we purchased 10)
 - Carts to collect and move food, \$500

- 1 staff member, \$60,000/year, paid for by the college and not food4VOLS
 - We started the program with no staff member and used existing faculty to start the program and run it. After 6 months, we hired a full-time person to run food4VOLS.

Resources:

- food4VOLS has access to the UTK Culinary Institute, with this, the program has access to an existing facility and did not need to purchase items to assist the program, the Culinary Institute provides the following
 - Work space to prepare meals
 - Walk-in refrigerator to store all food collected
 - Shared use of a walk-in freezer
 - Shared use of a conveyor dish machine to wash the plastic hotel pans used to collect food
 - Storage space to store the food containers for meal production, plastic hotel pans, speed racks, and all other items needed for food4VOLS
 - The Culinary Institute also provides additional labor to assist food4VOLS with the culinary director assisting when needed

Staffing

- food4VOLS uses multiple options for staffing from paid to free help
 - food4VOLS director is a paid staff position paid for by the college
 - Federal Work Study students are used as paid students who help oversee daily portions of food4VOLS
 - This is a free source of labor and food4VOLS hires 4-6 per year to assist
 - Volunteers are used to do most of the manual labor for food4VOLS
 - Using the university's volunteer portal, we recruit 5-8 volunteers per day to help prepare meals and package food for the community

1. Describe the Results of this campaign component

a. General results

- i. *Purchased an 18' box truck to make food collection more efficient*
- ii. *Won the \$50,000 Kitchen Storage Makeover from Metro Shelving*

b. Specific measurable impact figures, if applicable

- i. *Recovered 151,154 pounds of food*
- ii. *Distributed 57,046 meals to UTK campus pantries*
- iii. *Provided 101,901 pounds of food to non-profits in four counties surrounding the university*
- iv. *Awarded \$790,000 in grants to grow and expand the food4VOLS program*
 1. *\$750,000 to create a food security certificate/minor, a food upcycling academic class, and expand the program to the University of South Carolina and Montana State University*
 2. *\$40,000 to expand distribution locations on the UTK campus. Add 3 food4VOLS cupboards and increase meal production to over 500 meals a day*

v. *Raised over \$45,000 from private donors to support the production of meals for UTK campus*

What would you do differently in the future?

- In the future we plan to do the following:
 - Hire an AmeriCorps state/national member
 - We need this person to assist in monitoring the Federal Work Study students. Having only one staff member limits when we can make meals and supervise the Work Study students
 - This will cost us \$17,000 per year
 - Keep more of the food for campus and increase meals to 500+ per day which will yield 70,000+ meals for students in need each year.
 - Increase the number of volunteers and offer more than 1 shift per day for volunteers to come and assist
 - Hire more Work Study students. Their schedules change each semester and it makes it difficult with fewer Work Study students to cover the shifts
 - Improve our social media and advertising of the program with help from the AmeriCorps member who will assist us with promoting the resource on campus
 - Focus on branding and image moving forward. As our fleet grows we are looking more at our image, and as such, we plan to get rid of our “free” van as it is not in good appearance and does not represent our program well

What advice would you give to another college that wanted to do a similar effort?

- This same program is easily replicable with minimal staff and equipment needed.
- The most important part of the program is a vehicle which can be used to collect food on campus.
- There are numerous grants and funding opportunities available for a program like this.
- Having a set routine with the same drivers and pick up schedule is very important. Our dining facilities informed us that having the same drivers on routes made it easier on them as they knew who and when they would be coming and made it a routine for their employees.
- Having a staff member in charge vs. this being a student group or organization is key. Our Dining Services administrators like that there is not constant turnover like that of a typical student-run group or organization. We have 1 main contact person that stays constant and can easily communicate with VOL Dining on issues or opportunities.
- Never stop fundraising. We have found that there are multiple opportunities for funding but they come available at different times of the year, so always be looking for money.
- Hire more Work Study students than you think you need

Photos and Graphics:



Reclaim food from VoDining, sporting events, UT Farms, and the UT Grow Lab



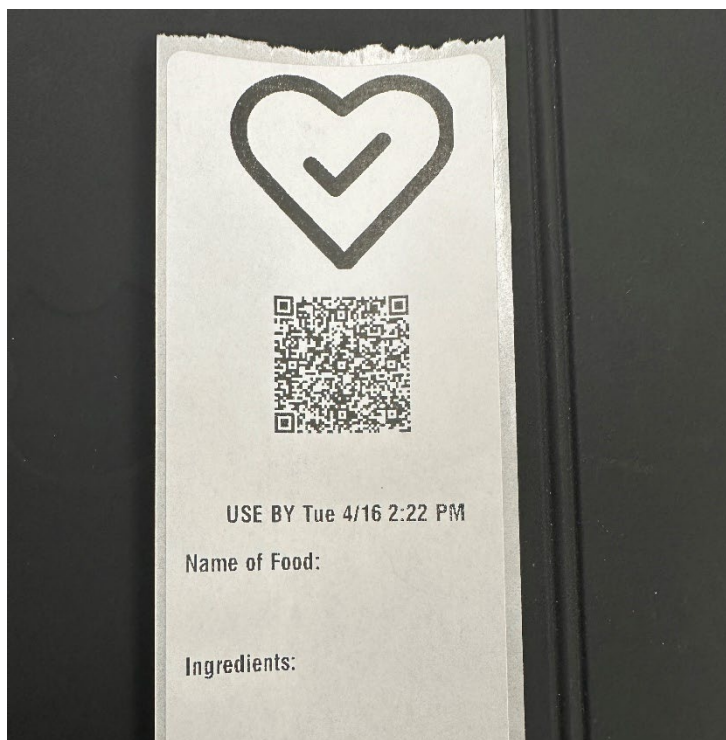
Repurpose reclaimed food at the UT Culinary Institute, leveraging student involvement, to create nutritionally balanced, ready-to-heat meals



Reduce food waste on the UT campus by creating a circular food economy



Revive food insecure students by offering free, ready-to-heat meals at the Big Orange Pantry





Heart Healthy

Heart healthy meals contain whole grains, fruits, vegetables, and/or lean proteins and lower in sodium and added sugars



Carb Conscious

Carb conscious meals follow Choose Your Food recommendations and contain 35g total carbs or less



What's in
YOUR
meal?



Reduced Calorie meals average 400 calories or less total per meal



Protein Rich meals lead with protein as the primary macronutrient Protein > Carbs/Fats

Reduced Calorie

Protein Rich

Hot Dogs Provided by:

food4VOLS

No Hunger. No Waste.

Ending hunger on the UT campus and surrounding communities since 2021

Donations Accepted

**The Department of Retail, Hospitality, and
Tourism Management**



related to the project. Include captions where necessary. Please include credit information for all photos.



*food*4VOLS

No Hunger. No Waste.







food4VOLS
No Hunger. No Waste.

FOOD4VOLS

2023
REPORT

160,000 Lbs.
of Food
Recovered
30% increase

100,000 Lbs.
of food to
surrounding
communities
17% increase

57,000
Meals for Students
145% increase

\$790,000 in
grant funding
to expand
program

640+ Volunteers
over 1,900 hours
200% increase

University of
South Carolina
Montana State

food4VOLS

Food4VOLS is a food recovery initiative that aims to reduce food insecurity and food waste by repurposing edible, discarded food to create meals for the University of Tennessee, Knoxville, community.

Over 350,000 pounds rescued since 2021

100,000+ meals prepared for students

Blount
County

Anderson
County

Sevier
County

Knox
County

The Department of Retail, Hospitality, and
Tourism Management

In partnership with Second
Harvest of East Tennessee
we support our community

FISH Pantries

KARM

True Purpose Ministries

Anderson County COA

Life Changers Outreach

Samaritans Place

Knoxville Dream Center



250,000 pounds of food to nonprofits

To support food4VOLS



rhtm.utk.edu/food4vols



FOOD4VOLS SUPER BOWL PARTY FOOD

**Big Orange Pantry
February 9th and 10th**

**Southwest Chicken Chili
Spinach Artichoke Dip
Philly Beef Cheese Dip
Chicken Wings
Sweet and Spicy Shrimp
Brisket Stuffed Potato Skins**