2023 Campus Race to Zero Waste Case Study
The Ohio State University

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Focus of Case study:
Facilitating peer-to-peer engagement, collaborative learning opportunities, and reducing recidivism though campus-wide compost expansion.

Detailed description of campaign or effort:
Food waste represents nearly a quarter of all materials landfilled nationwide. Food in landfills occupies limited space and releases methane, a potent greenhouse gas that can trap 25 times more heat in the atmosphere than carbon dioxide.

During the 2022-23 academic year, Ohio State set out to meaningfully impact the sustainable management of food waste and organics. Composting has historically been present in key Ohio State buildings, such as centralized production kitchens and dining halls. Though strategically placed organics diversion systems were operating, a waste characterization study identified that organics represented 27% of the university’s landfill stream, uncovering an opportunity to improve management of the single largest waste material generated on campus.

Ohio State expanded compost collection services from 39 to 120 locations in under a year. During this time, Ohio State also expanded a pilot initiative to provide all faculty, staff, and students living off-campus with free access to composting using a drop-off program. Ohio State is the largest employer in the State of Ohio to provide free access to home composting to all staff and students.

To assist with the educational needs of the campus-wide compost expansion, Ohio State launched a robust peer-to-peer education and student engagement program. Nearly 500 students attended formal volunteer training sessions. Volunteers assisted with tabling, bin guarding, and other activities which resulted in collecting an additional 600 tons of compost during the 2022-23 academic year. Outreach was amplified through an academic collaboration with a design class that developed mobile compost engagement carts.

Amid the compost program expansion, Ohio State was confronted with limited options for local processors who were willing to manage post-consumer organics. Ohio State collaborated with the Ohio Department of Rehabilitation and Correction (ODRC) to revamp a voluntary re-entry success program to reflect a culture of social
justice, equity, sustainability, and rehabilitation. The enhanced program not only created a processing outlet for the new influx of organics, but also demonstrated impressive results: none of the individuals who participated in the Zero Waste job program have returned to ODRC, and all individuals who stayed connected to their ODRC supervisor post-release have reported that they are gainfully employed.

The benefits of Ohio State’s compost expansion far exceed reducing the university’s reliance on landfills; the program has also made an impact on reducing prison recidivism, stabilizing the lives of formerly incarcerated people and their families, and reducing crime rates.

**Planning steps & timeline to implement:**

**June-July 2022** (Included for context)

- To temporarily expand the department’s bandwidth in preparation for a rapid compost program expansion, Facilities Operation and Development’s (FOD) Recycling and Refuse Services (RRS) collaborated with a consulting firm and secured their services for the 2022-23 academic year, which included assistance with student volunteer recruitment, training, and coordination, as well as waste audits and dining facility assessments.
  - The consulting firm was launched by a recent Ohio State alumna who was awarded the 2021 President’s Prize, the highest university recognition bestowed on exceptional students committed to social change. With a $50,000 living stipend and up to $50,000 in startup funding, this alumna launched the firm to use predictive analytics to help prevent unnecessary waste, leverage community resources to rescue waste, and implement innovative strategies to compost necessary waste to cut business expenses and propel the goals of the community.

- Weekly meetings were held with FOD-RRS and ODRC to reimagine the Zero Waste job program. FOD-RRS involved students from the Undergraduate Student Government and arranged for staff and students to visit the London Correctional Institution (LoCI) to converse with incarcerated individuals about their experience working with the Zero Waste job program. Using feedback from visits to LoCI, an enhanced Zero Waste job program was drafted. The university’s Task Force on Racism and Racial Equities reviewed the improved collaboration and recommended to not only maintain it, but expand it. FOD-RRS and ODRC executed a service agreement for the 2022-23 academic year.

- Purchased new compost collection truck and trained drivers on the new collection process.

**August 2022**

- Acquired necessary equipment for expansion, including 5,000 compost mini-bins, 90 32-gallon compost carts, 160 64-gallon compost carts, 50 23-gallon slim profile compost bins for back-of-house food service operations, and 200 public-facing indoor compost collection bins with backboard signage.

- Graphic designs were created for compost bin backboard signs, compost mini-bin labels, volunteer t-shirts, and stickers.

- Outlined details related to Residence Hall Opt-In Mini-Bin program for students, where all students can sign up to receive a free mini-bin for their residence hall room or suite. They are responsible for transporting the material to centralized collection bins inside their residence hall.

- Engaged with facilities leaders from research labs, cafes, and dining halls to establish expanded back-of-house services and front-of-house services.

- Launched Compost Education Program to solicit student volunteers for peer-to-peer education programs and sign-up students for the mini-bin program. Volunteers were solicited through flyers, webpages, social media posts, e-mails, and direct engagement with student organizations.
• Trained frontline environmental services staff on composting procedures and distributed a compost liner guide with instructions for ordering the correct compostable liners for the variety of compost containers on campus.

September 2022
• Indoor and outdoor compost collection containers and supplies were deployed to buildings across campus, increasing compost collection services from 39 to 120 locations, including dining halls, cafes, residence halls, greenhouses, laboratories, and common spaces on campus.
• Electronic opt-in forms for the residence hall and off-campus student drop-off composting programs were created. QR codes linking to the electronic opt-in forms were designed and added to flyers.

October 2022
• Performed campus-wide waste characterization study to create 14 trash and recycling profiles representing different building types to understand the percentage of organic materials remaining in the waste stream.

February-March 2023
• Collaborated with the “Sustainability Activism in Design” class. Students planned and constructed interactive mobile “engagement wagons” made from salvaged materials from Campus Surplus and created unique educational handouts. Design students used wagons on campus for peer-to-peer engagement.
• Partnered with the Office of Off-Campus and Commuter Student Engagement to streamline the off-campus drop-off program.
• Secured $50k from Ohio State Energy Partners to expand the off-campus student drop-off program in FY24.
• Performed two building-level waste audits and six facility assessments to increase the organics capture rate in targeted high-volume areas.
• Designed a computer-based training module related to zero waste and composting for custodial on-boarding and training, which will launch in FY24.
• Distributed “thank you” cookies to cafes and buildings participating in the compost program with customized flyers indicating each establishment’s impact on organics diversion.

Resources and stakeholders involved:

FOD-RRS secured nearly $200k in external funding to support the program and over $300k from the internal President and Provost’s Sustainability Fund. During the 2022-23 academic year, major expenses included:

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<th>Item</th>
<th>Description</th>
<th>Cost</th>
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<td>Infrastructure</td>
<td>Indoor/outdoor compost bins, mini-bins, signage, and miscellaneous supplies</td>
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<td>Organics hauling and</td>
<td>Compost collection truck, monthly hauling and processing fees</td>
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<td>Engagement</td>
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Stakeholders include:
Facilities Operations and Development (FOD) Recycling and Refuse Services (RRS) served as project manager and operations lead for the compost expansion project. FOD-RRS played a pivotal role in overseeing various crucial aspects, including internal hauling services, the compost processor agreement, metrics tracking, and the achievement of project goals. FOD-RRS coordinated the complex interplay of diverse stakeholders, departments, and resources to achieve optimal efficiency and effectiveness. Through meticulous planning, resource allocation, and clear communication, FOD-RRS successfully navigated the multifaceted challenges inherent in an expansion project of this magnitude.

Residence Life played a pivotal role in generating innovative ideas for collecting and transporting compostable material, as well as effectively communicating with students and engaging staff. Their enthusiasm and dedication significantly enhanced the success of the compost program. They have been involved in all pieces of operations and student engagement for the Mini-Bin program, including expanding internal operations and transporting material to collection points.

Dining Services has been an instrumental partner in the compost expansion initiative, committing to changing operational procedures and training staff in new standard operating procedures.

Office of Off-Campus and Commuter Student Engagement (OCCSE) collaborated to streamline services for off-campus and commuter students by promoting a food scrap drop-off program and serving as a distribution point for mini-bins.

Wexner Medical Center (WMC) emerged as a key stakeholder in establishing and launching new collection programs in their cafes, contributing to our shared goal of promoting sustainability. The significant contributions of WMC led to new pathways for waste diversion and expanding food rescue initiatives at food establishments. WMC also facilitates a Green Team Employee Resource Group, a collective of thousands of sustainability-minded staff. The Green Team ERG sends biweekly communications to members and works on a variety of environmental projects and programs. They launched a Composting Innovation Team, which consists of staff volunteers who support existing composting efforts and identify opportunities to expand or enhance organics diversion throughout the Medical Center. Green Team ERG promoted the compost expansion through its listserv and at in-person events.

Green Scope Consulting is the consulting firm launched by recent Ohio State alumna, Dominique Hadad. Green Scope Consulting assisted with student volunteer recruitment, training, and coordination, as well as waste audits and dining facility assessments.

Department of Design played a crucial role in the successful execution of the "Sustainability Activism as Design" course. As an academic partner, Professor Susan Melsop conceptualized and implemented a course curriculum focused on leveraging design principles to create compelling outreach materials. Through this collaboration, we aimed to enhance our organization’s capacity to effectively communicate our composting initiatives to student audiences.

Ohio Department of Rehabilitation and Corrections (ODRC) and Ohio Penal Industry (OPI) - Ohio State’s campus organic waste is composted at the ODRC facility in London, Ohio. The manual sorting capability provided by ODRC/OPI allows for a higher threshold for non-compostable contamination in the organics stream that is commonly found in post-consumer compost. Following all recommendations of the Zero Waste Subcommittee of the University Task Force on Racism & Racial Inequities, our collaboration with ODRC and OPI is focused on sustainability, education, and rehabilitation. Participants earn a $10.10 per hour wage (with increased overtime
wage rates when applicable), learn several trade skills, and can earn composting certifications through the university’s College of Food, Agricultural, and Environmental Sciences and additional training through Ohio State Extension. In addition, individuals are eligible to earn credit towards early release through their participation. Participation in the composting program is voluntary, and participants must complete an application process and undergo additional screening. The composting program reduces recidivism by introducing program participants to potential employment opportunities. Participants learn how to manage a composting facility and gain transferable skills.

**Describe the Results of this campaign component:**

- **General results:**
  
  The home and residence hall composting program for faculty, staff, and students fosters a campus-to-community culture of sustainability-oriented practices that individuals can transfer into local and global communities. This program expanded no-cost access to composting to thousands of households in Central Ohio. Approximately half of the participants who responded to a November 2022 survey reported that this program is their first experience with composting.

  The peer-to-peer education program was well-received amongst passionate students. Students were invited to attend a brief in-person or virtual training session and sign up for volunteer slots either tabling to distribute mini-bins or performing “bin guarding” duties, which consisted of standing next to new indoor compost bins and helping to educate students about which materials are acceptable in compost bins. The program generated significant interest in composting and spread through campus through word of mouth. Student volunteers logged their hours and were able to receive incentives for achieving various milestones. For example, students who completed the training session received a “Buckeyes Compost” t-shirt and stickers; students who logged 5 volunteer hours could receive a set of reusable utensils or metal straws; and students who completed 10 volunteer hours could receive a Hydro Flask with a “Buckeyes Compost” sticker.

  The academic collaboration with the Sustainability Activism as Design class provided students with an opportunity to use a design-led approach to gain the expertise needed to address challenges and opportunities for sustainability. The students built ‘Engagement Wagons’ to be wheeled out to different spots around campus to encourage peer-to-peer engagement about sustainability and the benefits of regenerative agriculture, a conservation and rehabilitation approach to food and farming systems through food scrap collecting and composting. The wagons were made entirely from repurposed materials sourced from Ohio State’s Surplus Warehouse.

  The enhanced ODRC Zero Waste Job Program resulted in benefits for all stakeholders. Previously, only materials from seasonal football games were transported to ODRC for processing. The compost program expansion increased the amount of materials that could be sent to ODRC year-round, creating a more consistent job opportunity. Ohio State raised wages to $10.10/hour for LoCl participants and is one of the first two organizations in Ohio that committed to paying incarcerated individuals state minimum wage. This has created immense benefits for the participants. With ODRC’s new mandatory savings program, money earned in excess of $200 by incarcerated individuals is put into a savings account, which individuals can access upon release to assist with down payments on housing, paying off fines, or obtaining a vehicle.
Incarcerated individuals who apply for the Zero Waste Job Program and pass the screening process gain access to a national environmental literacy program aimed at successful re-entry. They are taught several trades and skills to expand their opportunities and facilitate future success. Participants go through Ohio EPA’s Composting Facility Operator Certification Program, have access to Compost Resource training and seminars via Teams through The Ohio State Extension Office, are trained to operate skid loaders, tractors, grinders, compost screeners, and complete annual OSHA safety trainings. They can also earn job skills certifications (such as forklift operator certification), credit for early release, and receive assistance with job-placement post-release.

The compost expansion garnered interest among the campus community. At least 12 articles on the compost program were published by university news sources in addition to numerous zero waste program promotions in A&P Newsletters, Sustainability Institute Faculty Newsletters, OnCampus Today, OSU/WMC Green Team Employee Resource Group (ERG) biweekly emails, and HealthBeat Hub.

- **Specific measurable impact:**
  
  **Home and Residence Hall Composting Program**
  During the 2022-23 academic year, 1,041 residence hall rooms representing approximately 1,900 students and 1,700 faculty, staff, and commuter students’ households representing approximately 4,000 individuals have opted-in to the program and received complimentary countertop compost bins.

  **Compost Education Program**
  The robust peer-to-peer education program engaged 492 students through 29 in-person and 37 virtual training sessions, registering 322 student compost volunteers. These students volunteered a total of 394 hours and signed up 1,041 on-campus compost participants and 164 off-campus compost program participants. Over 15 student organizations received outreach training related to composting and waste diversion, volunteering a total of 84 hours.

  **Academic Collaboration**
  Design students enrolled an additional 50 students in the residence hall compost program during the debut of the Engagement Wagons.

  **ODRC Zero Waste Job Program Collaboration**
  Incarcerated individuals in the Zero Waste Job Program collectively earn an average of $4,500 per month in wages from processing Ohio State’s composting. Of the individuals who have been released, zero have returned to ODRC and 100% report that they are gainfully employed.

  **Landfill Diversion Impact**
  An additional 600 tons of organic material was diverted from landfills during the 2022-23 academic year.

**What would you do differently in the future?**
An opt-in model for residence hall composting was necessary to build buy-in amongst university stakeholders. However, promoting the program and managing the opt-in process was labor-intensive. The university plans to continue the opt-in model for the upcoming school year but is in the process of working with stakeholders to consider transitioning to a model where compost bins are available in all residence hall rooms for future years, similar to how the university provides recycling bins in all residence hall rooms. Providing bins in all residence hall rooms would be nearly cost-neutral if the opt-in process was discontinued.

Approximately one year has passed since FOD-RRS transitioned to collecting compost from exterior containers, which was previously done by an external hauler. We have learned during the first year of operations that a mobile bin washing system is needed to maintain approachable bins, and the university will be investing in such a system this summer.

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

Communication is critical for success. If another university would like to model a program after Ohio State’s composting program, regular, recurring meetings with key stakeholders are recommended. Having dedicated time on a bi-weekly or as-needed basis to review plans and equipment options, discuss the status of programs, obtain feedback, and notify staff about upcoming changes kept lines of communication open amongst the staff who were responsible for the successful rapid campus-wide compost expansion. Because these staff were involved during the planning, implementation, and maintenance phases of the expansion, buy-in and cooperation was easier to achieve since involved staff had a sense of ownership of the program that was created.

Ohio State will gladly share additional details and/or samples of opt-in forms, equipment selections, etc. with any interested colleges or universities upon request.

Photos and Graphics:

Above left: Compost volunteers tabling at a sustainability fair, educating peers about campus composting. Above right: Processed organics generated at Ohio State at ODRC LoCI compost facility. Photo credit: (Left) The Ohio State University, Facilities Operation and Development; (Right) Ohio Department of Rehabilitation and Corrections.

Above left: FOD-RRS compost collection truck consolidating organics into roll-off. Above right: Organics collected from Ohio State awaiting transportation to LoCI for processing. Photo credit: The Ohio State University, Facilities Operation and Development.
Above left: FOD-RSS Zero Waste Intern distributing “thank you” cookies to cafes that were early adopters of composting, with a flyer educating staff on their establishment’s impact. Above right: FOD-RSS Zero Waste Intern educating a class of compost volunteers on organics and new compost programs. Photo credit: The Ohio State University, Facilities Operation and Development.
Above: Sustainability Activism as Design final class project, completed in collaboration with FOD-RRS. Students designed educational flyers and mobile compost bin distribution and engagement wagons. Wagons constructed using salvaged materials. Photo credit: The Ohio State University, Facilities Operation and Development.
Composting programs expanding at Ohio State

Students involved as participants, researchers, ambassadors

Franny Lazarus
Ohio State News
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In a major expansion of its zero waste efforts, The Ohio State University is taking composting well beyond dining halls and its well-known Ohio Stadium zero waste program. New options exist for students in residence halls, staff in research labs, and any Buckeye living off campus to join in the composting fun.

Beginning this year, composting is available in common areas of residence halls. Interested students are even able to compost in their own rooms.

In residence halls, Ohio State has distributed more than 100 composting bins to be placed in common areas and nearly 30 students have requested bins for their rooms. The goal is to have bins in 1000 rooms this year.

Additionally, a campus drop-off program allows students, faculty and staff who live off campus to bring compost to the university. More than 10,000 Buckeyes have signed up to participate, joining a composting program that has already diverted more than 14 tons of food waste from landfills since July, supporting Ohio State’s zero waste sustainability goal and reducing methane emissions.

“Ohio State is leading the region on this,” said Mary Leciejewski, Ohio State’s zero waste manager working within Facilities, Operations, and Development. “We’re one of the largest waste generators within Franklin County, so if we’re able to test different options and pilot different programs on campus, they can then be replicated across the region and other universities.”

About one-third of the waste generated at Ohio State is organic matter like food scraps and animal bedding from research labs. Organic matter in landfills is the third-leading human-related cause of methane emissions in the United States, Leciejewski adds. Methane contributes more to climate change than carbon dioxide, but composting breaks down organic matter, turning it into soil fertilizers.

[Link to full article]
RESIDENCE HALL COMPOST PROGRAM TO HELP OHIO STATE REACH 2025 ZERO-WASTE GOAL

October 3, 2023  ▪  Nathan Kaiser

Ohio State students can sign up to collect a compost bucket for an Ohio State effort to divert 30 percent of waste away from landfills by 2025. Credit: Christian Harsa | Managing Editor for Digital Design

One person's trash is Ohio State's treasure as the university expands its composting program to students living in residence halls.

Students can now sign up for the composting program by signing a roommate agreement to collect their own residence hall compost bucket, participating in a new initiative aimed at helping Ohio State reach its goal of achieving zero waste by 2025, Tom Reeves, director of sustainability for the Office of Student Life, said.

Molly Kathleen, zero waste coordinator in Facilities Operations and Development, said the goal of achieving zero waste by 2025 was one of eight sustainability goals pledged by Ohio State in 2015 when only 29 percent of the university’s waste was being diverted away from landfills.

Link to full article
Campus Race to Zero Waste Kicks Off

mckivenganl@osu.edu | February 7, 2023

Campus Race to Zero Waste has officially started! For the next eight weeks, Ohio State will be competing against other universities across the country to determine who has the highest landfill diversion rate. Students, faculty, and staff are asked to participate by recycling more, recycling right, and composting.

Ohio State achieved a record-high landfill diversion rate of 40% this year. While we can be proud of this milestone, more participation in recycling is needed to achieve the university’s zero waste goal.

You can help Ohio State become a national zero waste champion by:

- Learning what can and cannot be recycled on campus. Ohio State recycles:
  - Plastic cups, jugs, tubs, and bottles (leave the lids on!)
  - Paper, cardboard, paper coffee cups/fountain drink cups, and cartons (like soy milk or broth cartons)
  - Glass bottles and jars
  - Metal food and beverage cans
  - In the Wexner Medical Center, paper documents should be placed in shredding bins to protect patient privacy. Learn more about waste reduction efforts in the medical center.
- Keeping recyclables clean and dry! Keep liquids and food out of recycling bins.
- Participating in recycling every day! All campus buildings have recycling. Look for red "RECYCLE" bins or other bins labeled for recycling.
- Exploring the answers to frequently asked recycling questions.
- Think beyond the bin! Not all materials can be accepted in the commingled recycling program. Use SWACO’s search tool to learn where to locally recycle specialty items.
- Compost on campus in green bins or sign up for Ohio State’s free compost drop-off program.

If you have any questions about recycling or composting on campus, contact recycle@osu.edu.
Facilities Operations and Development

Recycling the Present, Saving the Future: The Results of Ohio State’s Waste Characterization Study

mckiverpan.1@osu.edu | March 29, 2023

The results are in from Facilities Operations and Development’s (FOD) two-phase waste characterization study on waste and recycling generated on Ohio State’s main campus.

Baseline data was collected in fall 2021 as part of phase one and multiple waste program enhancements were made to improve how materials were being managed on campus, including:

- Food waste composting collection expanded from 3% to 120 locations.
- Paper towels were removed from various restrooms and occupants were asked to use existing hand dryers. The change is anticipated to deliver a 9% reduction in the university’s total annual landfill waste.
- A Sustainability and Zero Waste elearning module was developed to improve environmental literacy and sustainable operations training for custodial staff. The training will launch in April 2023.

The second phase of the study, completed in fall 2022, collected comparison data to evaluate the effectiveness of the program enhancements as well as the 2021 education campaigns.

Zero Waste Coordinator Molly Kathleen says these waste studies allow her team to gather important information on the efficacy of Ohio State’s recycling systems in different types of buildings. “Having this granular data helps Ohio State strategically prioritize waste reduction initiatives so we can most effectively and efficiently make progress toward achieving zero waste.”

Phase two findings showed that the number of recyclable materials found in the trash decreased by approximately 190 tons. That’s comparable to 300,000 trees! While positive changes were realized, there’s more work to do.

Food waste, compostable serving ware, and compostable fibers like paper towels and napkins made up 33% (4,356 tons) of the materials discarded in the trash. Paper represented the recyclable material that was most thrown away in the trash and the largest recycling contaminant was non-recyclable plastics.

The campus community can help Ohio State make progress toward the university’s zero waste goal by learning what can and can’t be recycled on campus. All campus buildings have recycling. Just look for red "RECYCLE" bins or others labeled for recycling. Keep your recyclables clean and dry. Finally, explore the answers to frequently asked recycling questions.
A&P Announcements
A quick glimpse at the opportunities happening around Ohio State for the next two weeks.

- **Campus Composting**
  Reduce your carbon footprint and return nutrients to the soil by composting!

- **Flower Bed Prep Volunteers Needed**
  Join FOD on April 18 for flower bed prep to celebrate Earth Month.
The latest news and information for Ohio State faculty and staff.

Tuesday, April 4, 2023

Opportunities

USAC seeking staff senators
The University Staff Advisory Committee (USAC) is now accepting applications for staff senators. An optional “Q&A session with current staff senators” will take place via Zoom on March 24 at noon. Apply by April 7.

Read more »
Contact »

Campus composting
Reduce your carbon footprint and return nutrients to the soil by composting! Ohio State’s composting program accepts plant and animal-based products, including food scraps, like fruits, vegetables, meat, dairy, bones, shellfish, eggshells, coffee grounds and fillers. Faculty and staff can sign up for a free compost bin and drop off their compost at one of multiple campus locations. Residence Hall composting is also available. Visit Facilities Operations and Development’s website to learn more.

Read more »