

2024 ANNUAL REPORT



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EXECUTIVE SUMMARY

The University of Kentucky's (UK) waste diversion strategies include reduction, reuse, composting, and recycling. This report details UK's waste diversion activities and accomplishments for calendar year 2024. Recycling and waste diversion have been operational priorities for the University for more than 30 years. UK's efforts first began with small-scale paper recycling in the early 1990's and have expanded to include recycling options for more than 30 different types of materials, food waste and organics composting, and a variety of large — and small —scale reduction and reuse initiatives. UK Recycling, a department within Facilities Management, is the lead unit on the majority of UK's waste diversion efforts.

Given the unique operating conditions and regulatory requirements for UK HealthCare, UK Recycling tracks the waste diversion rates for UK HealthCare and the Academic Campus as subtotals of the overall rate, called "University Overall" hereinafter. In 2024, the University Overall diversion rate was 31%. This means for every 100 lbs. of waste produced, 31 lbs were either recycled, composted, reused, or avoided, and 69 lbs were landfilled.

In late 2023, UK significantly expanded the Academic Campus footprint and reduced the footprint of HealthCare. A section of UK buildings, now called Area 5, which were previously under the operational control of UK HealthCare transitioned to the Academic Campus, significantly expanding the Academic Campus' building and waste footprint. 2024 was the first full year waste was tracked including this transition, which contributed to a 658-ton increase in waste for the Academic Campus from 2023.

In 2022, UK adopted the goal to **become a zero-waste campus by 2030**, targeting a 90% diversion rate on the Academic Campus in support of this goal. The Academic Campus achieved a 39% diversion rate in 2024, a 3-point decrease from 2023. This decrease was primarily attributed to the addition of Area 5 and a reduction in weight from three key waste streams: Surplus property sales, concrete, and pallets.

Despite a decline in diversion rate, UK recorded several significant accomplishments in 2024. Through a partnership between UK Recycling, Trucking, and Dining, food waste collection expanded to all Academic Campus dining locations and led to a 243% increase in food waste collection at 221 tons throughout the year. Additionally, UK reached a new milestone during the Fall football season at the home game against Auburn University. This game achieved a 42% diversion rate, the highest UK has ever achieved at a single football game. During the Fall semester, UK Recycling also launched the Waste Wizard, an online tool which functions as a search engine for users to type in any material they are curious about how to properly dispose of at UK. This tool has and continues to provide swift, clear, and specific information about waste disposal to everyone at UK.

UNIVERSITY WASTE DIVERSION

The University tracks its waste goals through waste diversion rates. A diversion rate is the sum of waste diverted from the landfill divided by the total waste produced. Diversion includes reduction, reuse, composting, and recycling. In addition to diversion, UK prioritizes its waste diversion operations using the waste management hierarchy (Figure 1). This means the University prioritizes reduction most and landfill least.



Figure 1: Waste management hierarchy. Adapted from: Solana Center for Enivronmental Inovation.

In 2024, the University Overall's total waste generated was 15,078 tons of material, a 3% increase over the 14,564 tons in 2023. In 2024, the University sent 10,372 tons to the landfill, comprising 69% of the total generated waste for the year (Table 1). This means the waste diversion rate for 2024 was 31%, a decrease from 34% in 2023 (Figure 2). This decrease was primarily driven by a reduction in weight from recycled concrete and sale of UK Surplus property. However, while the weight of Surplus' sales decreased in 2024, the number of items sold did not differ significantly.

UNIVERSITY OVERALL		
CATEGORY	TONS	%
Reduction	45	0.3%
Reuse	763	5.0%
Composting	1023	6.8%
Recycling	2869	19%
Total Waste Diverted	4661	31.1%
Landfill	10372	68.8%

Diversion Rates for University Overall Over Time 90% 80% 70% 60% 50% 40% 30% 20% 10% 0% 2024 2018 2020 2021 2022 2023 2017 2019 Reuse Organics Recycling Landfill TOTAL DIVERSION

Figure 2: Historical diversion rates by stream for the University Overall.

Table 1: Waste produced in tons and by percentage by stream in 2024 for the University Overall.

ACADEMIC CAMPUS

The University aims to achieve a 90% diversion rate on its Academic Campus by 2030. The waste tracked for the Academic Campus includes all office, research, and classroom buildings as well as UK Dining, Housing, and Athletics buildings on the Academic Campus. In 2024, UK achieved a 39% diversion rate, a 3-point decrease from 42% in 2023 (Figure 3). UK Recycling attributes this decrease to four major factors:

- 1. In late 2023, 18 buildings transitioned from operational management under UK HealthCare to the Academic Campus, thereby changing the Academic Campus' waste landscape. 2024 was the first year UK Recycling tracked waste diversion using the new footprint. This transition contributed a 658 ton or 8% increase in total waste on the Academic Campus for 2024 compared to only a 3% increase in total waste for the University Overall.
- 2. Reduction in weight from UK Surplus property sales. However, while the total weight decreased in 2024, the number of items sold by UK Surplus did not differ significantly. Therefore, UK Recycling anticipates this is a temporary decrease in weight from the reuse category and not a lasting setback.
- 3. Reduction in weight from concrete recycling. UK Recycling collected 309.48 less tons of concrete in 2024 than 2023.
- 4. Reduction in weight from pallet collection. UK Recycling collected 42.06 less tons of pallets in 2024 than 2023.



Figure 3: Historical diversion rates by stream for UK's Academic Campus. Total Diversion equals the sum of all diversion streams for that calendar year.

HEALTHCARE

UK HealthCare does not currently have a set diversion rate goal. However, the UK HealthCare Sustainability Steering Committee is currently working to set a goal specific to HealthCare. The committee will evaluate UK HealthCare's current diversion rate and potential and assess similar academic medical campuses to determine a diversion goal for UK HealthCare which is ambitious but achievable. The goal is on track to be set during calendar year 2025.

ATHLETICS - UK FOOTBALL

In 2022, UK Athletics established a goal to make Kroger Field a zero-waste facility, achieving a 90% waste diversion rate, by 2030. Throughout the 2024 football season, Kroger Field achieved a 31% diversion rate with 25% during the first half of the season and 35% diversion rate during the second half of the season (Figure 4). UK Recycling attributes the reduced diversion rates during the first half of the season to issues with inclement weather and kickoff time delays.



Figure 4: Historical diversion rates for the UK football season at Kroger Field.

The University also achieved two major milestones towards making Kroger Field zero-waste during the 2024 football season. The first was achieving a 42% diversion rate at the home game against Auburn University (Table 2). This was the highest diversion rate the University has ever achieved at a single game. The second milestone was collecting 5.26 Tons of food waste throughout the season thanks to a partnership between UK Dining, Trucking, and Recycling. This partnership piloted food waste collection during the 2023 football season at Kroger Field. In 2024, food waste collection expanded to include all bars within Kroger Field as well as the kitchen. This expansion increased food waste collection by 322% vs 2023, and there are plans to further expand food waste collection within Kroger Field for the 2025 football season.

	UK FOOTBALL DIVE	RSION RATES BY GAME	
OPPONENT	DATE	TOTAL WASTE (TONS)	DIVERSION RATE
Southern Miss	8/31/2024	22.71	23%
South Carolina	9/7/2024	29.75	27%
Georgia	9/14/2024	37.65	32%
Ohio	9/21/2024	23.34	27%
Vanderbilt	10/12/2024	31.47	35%
Auburn	10/26/2024	35.19	42%
Murrary State	11/16/2024	16.42	27%
Louisville	11/30/2024	14.06	30%

Table 2: Diversion rates by home game for the UK football season at Kroger Field.

NEW INITIATIVES

UK Recycling implemented several new initiatives in 2024. Thanks to a partnership between UK Dining and Recycling, plastic shopping bags were removed from all Wildcat Pantry locations in an effort to reduce disposable plastics. Now, shoppers are encouraged to bring a reusable shopping bag. If shoppers forget to bring a bag, paper bags are available upon request at checkout.

In Spring 2024, UK Recycling launched the availability of a 4-spigot, tabletop water dispenser, named the "hydration station", to all UK departments and registered student organizations at no cost to promote reuse and waste reduction. The unit is available for reservation for any outdoor event on campus on a first-come, first-served basis. Throughout 2024, the hydration station was used at 13 campus events resulting in the avoidance of nearly 1,300 disposable water bottles.

In 2024, UK Recycling also expanded its accepted materials list to include mattresses for recycling. Although landfills are often reluctant to accept mattresses due to the damage their internal springs can cause to equipment and the excessive space they occupy, mattresses remain challenging to recycle. This is largely due to the limited number of mattress recycling facilities available nationwide. During the 2024 summer break, UK Recycling identified a partner to recycle mattresses and worked with UK Housing to recycle 650 mattresses weighing 9.1 tons from the residence halls on campus.









DIVERSION BY STREAM REDUCTION & REUSE

Reduction and reuse are the preferred methods of waste diversion at UK because it both conserves resources and prevents unnecessary waste from being created. The University pursues waste reduction and reuse through several initiatives. The most extensive reuse programs are through UK Surplus. UK Surplus accepts and accounts for all excess property like furniture, monitors, and brief cases within UK while also allowing UK departments to check out its inventory at no charge. If items are not claimed by university personnel for use at work within a specific window of time, the items are then opened for purchase to the public.

2024 marked the first year UK Recycling tracked the weight of materials reused internally through UK Surplus (Table 3). UK Recycling calculated this reuse weight by identifying items which were operationally necessary (e.g. desks, equipment, and office supplies) and thus replaced a potential purchase. Non-essential items such as décor and personal refrigerators were not counted towards UK Surplus' waste diversion.

The University also reuses materials internally through programs such as the <u>Campus</u>. <u>Woods Project</u>, <u>UK Dining's reusable Green to Go containers</u>, and UK Environmental Quality Management's Chemical Upcycling Program. UK Recycling and UK Dining also partnered in 2024 to promote the reusable beverage cup programs at UK's coffee shops. This effort lead to a 36% increase in participation from 2023 and helped avoid 1,419 disposable cups throughout the year.

UK also practices reuse through donations and partnerships external to the University. Some of the donated materials include latex paint, clothing, and wooden spools (Table 4). UK Recycling also works diligently to form new and maintain existing local partnerships for material reuse. These local partners reuse materials like the University's pallets created from material transportation and deliveries, clean fill from construction, and sharps from UK HealthCare.

INTERNAL REUSE	
PROGRAM	TONS
Campus Woods Project	47.67
UK Surplus Property	65.29
Chemical Upcycling Program	0.47
UK Dining Green2Go containers	1.47
Coffee Cup Reuse	0.04
Other Reuse	1.21

EXTERNAL REUSE	
MATERIAL	TONS
UK Surplus Property	266.74
Pallets	110.85
Clean Fill	189.54
Sharps	41.40
Medical Equipment	4.19
T-shirts	1.14
Food Donations	9.92
Other Donations	16.01

Table 3: Internal reuse programs to University ofKentucky in tons for 2024.

Table 4: Materials reused externally to University of Kentucky in tons for 2024.

One of the strongest external reuse programs UK offers is through the Give and Go donation program at the end of each semester. This program provides containers in the lobbies of each residence hall for residents to donate unwanted household items, non-perishable food, and clothing as they move out. In 2024, 21,700 lbs. were collected and donated to Goodwill

Industries and the <u>Big Blue Pantry</u>, a 31% increase from 2023 (Figure 5). This program is possible thanks to a partnership between UK Recycling, Trucking, Residence Life, Campus Housing, Auxiliary Services, the Big Blue Pantry, and Goodwill Industries of the Bluegrass.



Figure 5: Historical donations collected in pounds by semester from the Give and Go Donation Program.

ORGANIC WASTE

UK achieved a record-high diversion of organic waste in 2024 at 1,023 tons, representing 7% of all waste in 2024 (Table 5). This was 79 tons more than in 2023. Similar to reuse, UK Recycling's organic waste diversion is handled both internally and externally. Food waste and leaves were transported to UK's C. Oran Little Research Center in Woodford County to be composted. The finished compost was then land applied to the fields at UK farms. This is a great example of how UK helps support a circular economy. UK Recycling also sends logs, brush, and woodchips to Lexington-Fayette Urban County Government to be mulched. Similarly, broken pallets are sent to an external partner to be mulched.

In 2024, food waste collection expanded significantly on UK's Academic Campus to include all dining halls, retail dining locations, and UK Athletics dining locations as well as University Flats residence hall and the Greg Page and Shawneetown apartments. This expansion of food waste collection increased the collected food waste by nearly 400% for a total of 221 tons in 2024, the largest amount UK has achieved since the program began in 2019 (Figure 6).

ORGANIC WASTE DIVERTED	
MATERIAL	TONS
Food Waste	221
Leaves	128
Logs, chips, & brush	667
Pallets	7

Table 5: Organic waste in tons collected during 2024.



Figure 6: Historical food waste collection in tons. Note: 2020 and 2021 experienced decrease in collection due to the COVID-19 Pandemic.

UK Recycling also collects organic material and sends it outside the university to be mulched. In 2024, the University sent 698 tons of logs and brush to Lexington-Fayette Urban County Government to be turned into mulch. Similarly, UK sent 21 tons of broken pallets to an external partner to be mulched.

RECYCLING

Nearly half of all recycling at UK is collected through the mixed recycling stream. The mixed recycling stream is collected through the blue bins throughout the University which accept comingled materials like office paper, paper and plastic cups, cardboard, and aluminum cans. <u>Visit UK Recycling's website</u> for a comprehensive list of all items that can be recycled at UK. Once collected, this material is taken to a facility in Louisville where items are sorted by material type (i.e. paper, aluminum). Of the 2,869 tons of recycling collected in 2024, 40% or 1,138 tons were from the mixed recycling stream.

In addition to mixed recycling, UK offers many other avenues for recycling (Table 6). These avenues are called source-separated recycling, meaning they are sorted by the consumer for recycling rather than at a facility like the mixed recycling stream. All of the recycling avenues are available to both the Academic Campus and HealthCare. However, the utilization of these recycling opportunities varies greatly between them due to the stark differences in their waste landscape. Figures 7 and 8 depict the recycling composition by material for the Academic Campus and UK HealthCare.

RECYCLING FOR UNIVERSITY OVERALL	
MATERIAL	TONS
Concrete	20.71
CDs and DVDs	2.31
Electronic waste	83.88
Freon-Containing Items	46.29
Scrap metal	322
Motor oil	65.47
Cooking oil	8.34
Aerosol cans	0.75
Tires	3.82
T-shirts	0.07
X-Ray film	2.19
Cardboard	621.65
Hardbound books	25.44
Confidential paper	462.97
Other plastics	13.54
Styrofoam	8.27
Printer and toner cartridges	2.16
Ballasts	23.99
Batteries	17.38
Lightbulbs	3.25
Oil filters	0.83

Table 6: University Overall source-separated recycled materials in tons for 2024.





Figure 7: Breakdown of the recycling collected within the Academic Campus by percentage for 2024.

Figure 8: Breakdown of the recycling collected within UK HealthCare by percentage for 2024.

UK Recycling also acknowledges the distrust some individuals may hold for the recycling industry and thus prioritizes transparency in their recycling operations. To this end, Figure 9 depicts the breakdown of UK's Academic Campus recycling composition, which partner receives each material, and examples of what those materials may be recycled into.



Figure 9: Composition of the Academic Campus recycling and its lifecycle after leaving the University in 2024.

EDUCATION AND OUTREACH

Education and outreach are important pillars in the University's zero-waste strategy. With a transient population like a university's, clear, concise, and consistent education and outreach is integral to becoming a zero-waste campus. 2024 was an excellent year for UK Recycling's education and outreach efforts. UK Recycling had nearly 190,000 interactions through their efforts which included: 12 tours, 18 presentations, 20 employee trainings, tabling 57 times, and being featured in 40 newsletters and articles (Figure 10). This is the second highest audience reach than any year prior.



Figure 10: Historical number of interactions and number of outreach events.

In April, UK Recycling held their sixth annual Thrift Shop Pop-Up in partnership with Student Organizations and Activities and Wildcat Wardrobe. A total of 1,470 lbs. of clothing was collected from students, staff, and faculty leading up to the event. This was a 101% increase in clothing collected from 2023. 1,156 lbs. of clothes were redistributed to the event participants, and the rest were donated. Additionally, participation reached a new peak with 380 attendees, an increase from 218 the year prior.



In September, UK Recycling held the fourth annual Sustainability Festival alongside UK Housing and UK Sustainability. The event brought 21 departments and organizations together from UK and Lexington to celebrate the many sustainability efforts our community has to offer.



Each November, UK Recycling plans a university-wide celebration and campaign to raise awareness for America Recycles Day. This year, UK Recycling celebrated with a series of installations around campus. Each installation displayed a different product that could be found at UK which is made of recycled material and could have come from UK's recycling efforts.

This effort highlighted the importance of not just the landfill avoidance side of recycling but also the opportunity it holds for creating new products.



In an effort to provide more swift, clear, and specific information about waste disposal at UK, UK Recycling developed and launched the <u>Waste Wizard</u>. The Waste Wizard is an interactive program on UK Recycling's website tailored to the waste disposal options found at the University. This tool functions as a search engine which allows users to type in words like "plastic bottle", "Styrofoam cup", or any other material they are curious about how to properly dispose of as well as how to dispose of items based on whether you are a student or employee. In addition to English, the Waste Wizard is available in multiple languages. This is part of UK Recycling's goal to take a tailored approach to the unique materials produced at the University.

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This annual report is intended to provide a concise set of facts and measurements to support environmental decision-making.

We welcome your questions and comments to:

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