



RICE

Sustainability Initiatives at Rice University

Rice University Office of Sustainability  
Kristianna Bowles

24 July 2024

# Rice University Office of Sustainability Overview

---

- Rice's campus sustainability program was created in 2004
  - Prior to the creation of the office, the management of energy and water was split
  - Our now Senior Executive Director, Richard Johnson, was brought on to bring the teams together
  - Work on short-term management & long-term planning for energy, water, & other resources
- Currently staffed by 6 full-time employees
- Member of the Association for the Advancement of Sustainability in Higher Education (AASHE) and the US Green Building Council (USGBC)
- All buildings and renovations on campus must be LEED gold or higher (silver or higher pre-2022)
- 2030 goal to be carbon neutral
- Campus is a designated arboretum (Lowrey Arboretum) and a recognized Tree Campus USA institution

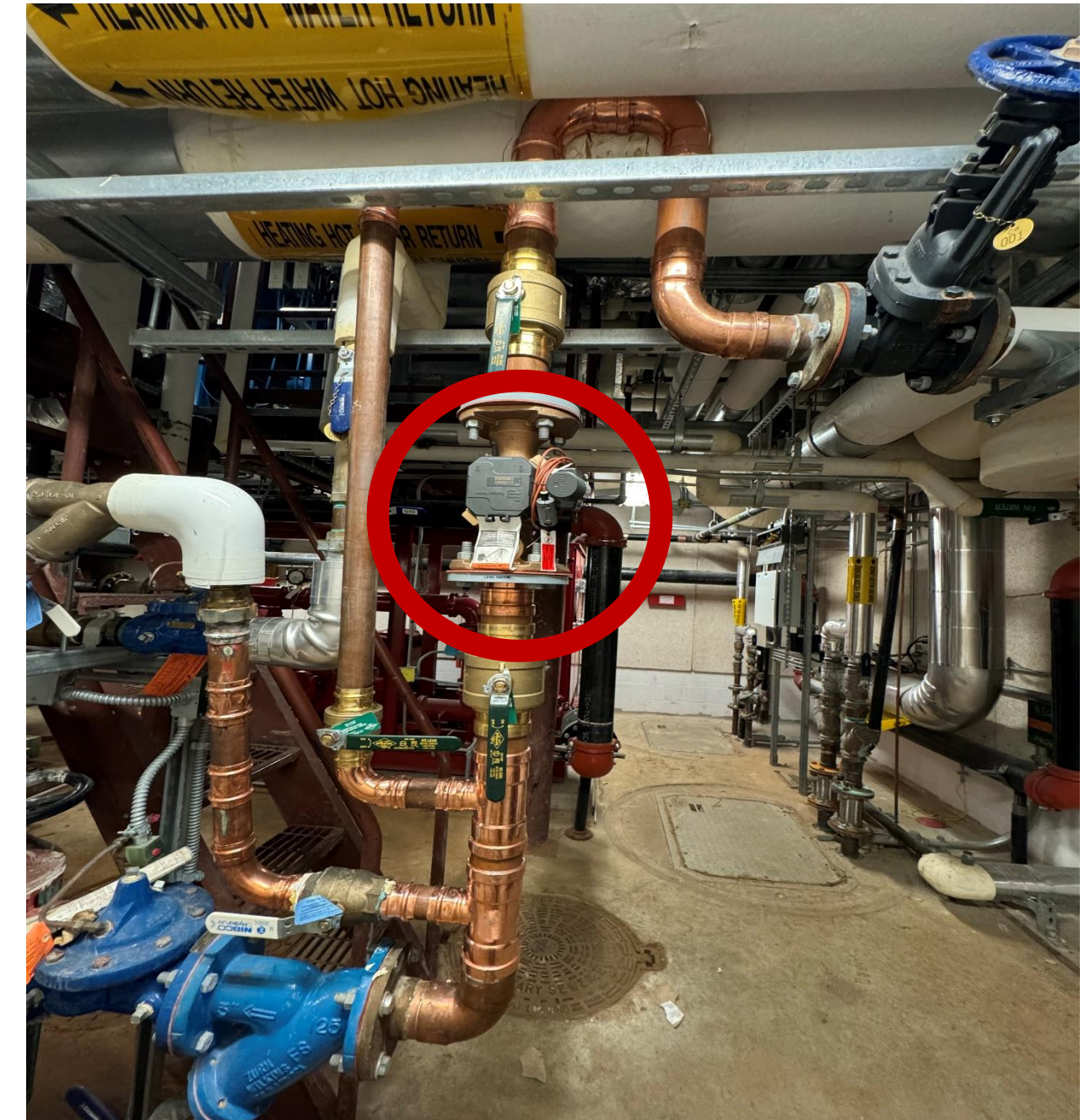


RICE

# Utility Programs

# Water Metering & Water Master Plan

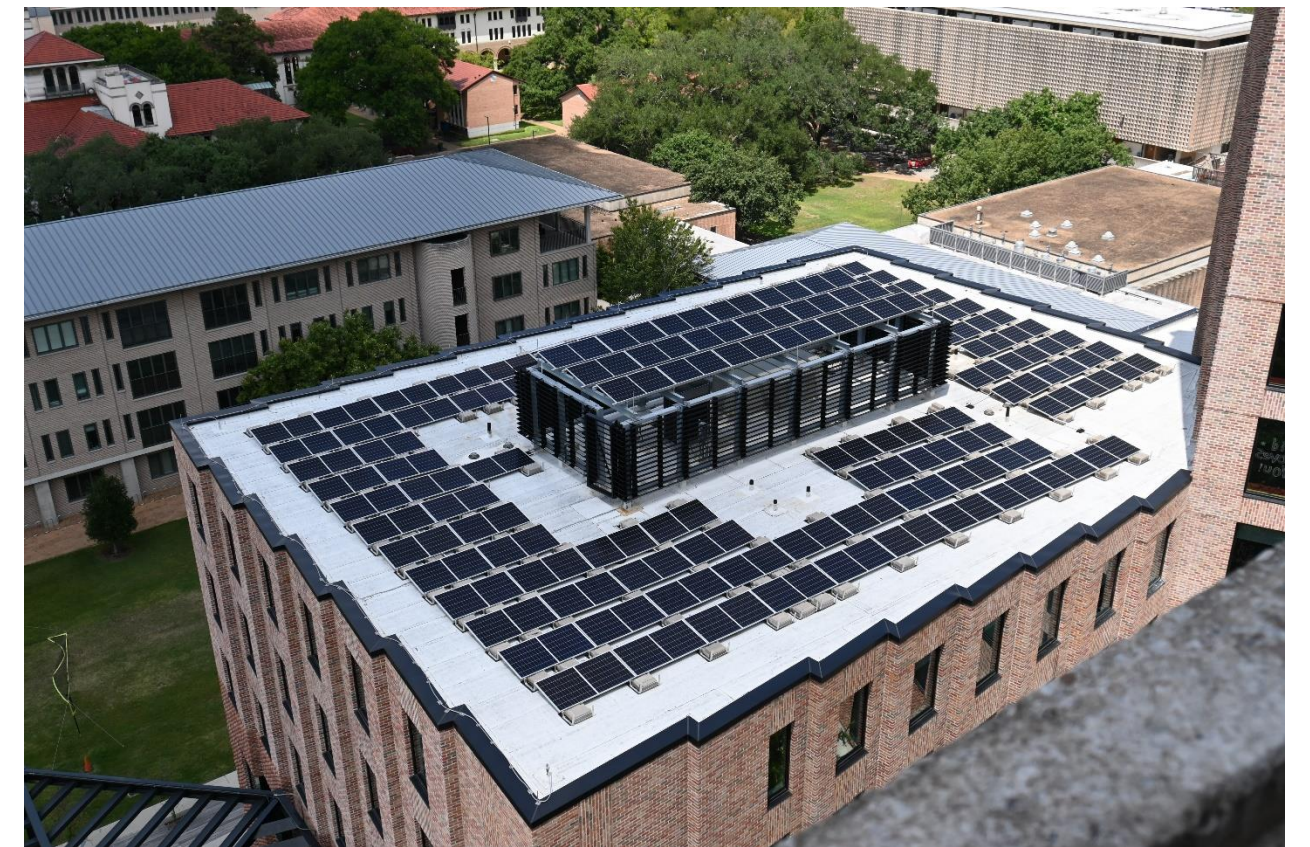
- From the start of our water metering project in 2019, we have installed 116 water meters on campus
- We now have reliable data for our water consumption for around 60% of the buildings on campus, and 100% of our irrigation water
- Net savings from water meter leak detection for FY24 is around \$175,000
- Walter P. Moore and Associates have worked on our Water Management Plan, which aims to cut our water footprint in half by 2035
- The final report for the Water Management Plan is set to be completed in September





# Utility Procurement & Programs

- 3 electricity curtailment programs where we commit to reduce 3 MW off of the local grid. Programs include ERCOT ERS, CenterPoint CLM, and 4CP
  - Rice has earned ~ \$3M in revenues from participation in electricity curtailment programs since 2012
- 352.5 kW of onsite solar generation: Jones College, Sid Richardson College, Rice Village Apts.
- Committed to carbon neutrality by 2030. Currently involved with the carbon neutrality master plan, which is happening simultaneously with the land use plan. This alignment is beneficial for campus planning, optimizing the use of limited space while incorporating new carbon-free infrastructure strategically.





RICE

# Zero-Waste Programs



# Student-Led Project: Reducing Construction & Demolition Waste



In the U.S., approximately 35-40% of the solid waste stream consists of construction and demolition waste.

-US Army Corps of Engineers







# Rice Children's Campus: Reusing 10,000 Bricks





# Typical Construction and Demolition Waste Diversion Results

Project	lbs generated	lbs recycled	% recycled
Biosciences Research Collaborative	5,400,674	4,772,672	88.4%
Duncan College	5,357,169	4,855,101	90.6%
Gibbs Recreation Center	2,276,531	2,029,667	89.2%
McMurtry College (est.)	5,357,169	4,855,101	90.6%
Oshman Engineering Design Kitchen	374,025	259,350	69.3%
Rice Children's Campus	1,466,500	788,380	53.8%
Rice Village Apartments	1,712,903	1,298,822	75.8%
total	21,944,970	18,859,092	85.9%

Context: That's enough recycled material to completely fill **over three Allen Centers!**

We generate about **5 million lbs.** of municipal solid waste at Rice every year, of which about **25%** is recycled. Construction waste recycling is much larger in magnitude!



# Reducing Food Waste





# Student-Led Project: Implementing Trayless Dining at Rice





# Rice Launches Food Waste Composting with Moonshot

SUBURBS // BELLAIRE, RIVER OAKS, WEST U

## Montrose company Moonshot Compost helps Houstonians limit carbon footprint

Ryan Nickerson, Staff writer

Nov. 17, 2020 | Updated: Nov. 18, 2020 10:13 a.m.



1 of 4



moonshotcompost • Follow



moonshotcompost Moonshot has partnered with Rice University for its composting initiative. Hoot! Hoot!

#composting #sustainability  
#riceuniversity #foodwaste  
#ecofriendly #zerowaste #compost  
#environment #compost

15w



bikepimp2020 Awesome 🙌💪

15w 1 like Reply



Liked by riceuniversity and 41 others

NOVEMBER 25, 2020



Add a comment...



# Over 1 Million Pounds Composted Since Nov 2020!

1,073,460 lbs.  
Diverted from landfill

54,844<sup>i</sup>  
Planted Trees

825,667<sup>i</sup>  
Miles Undriven

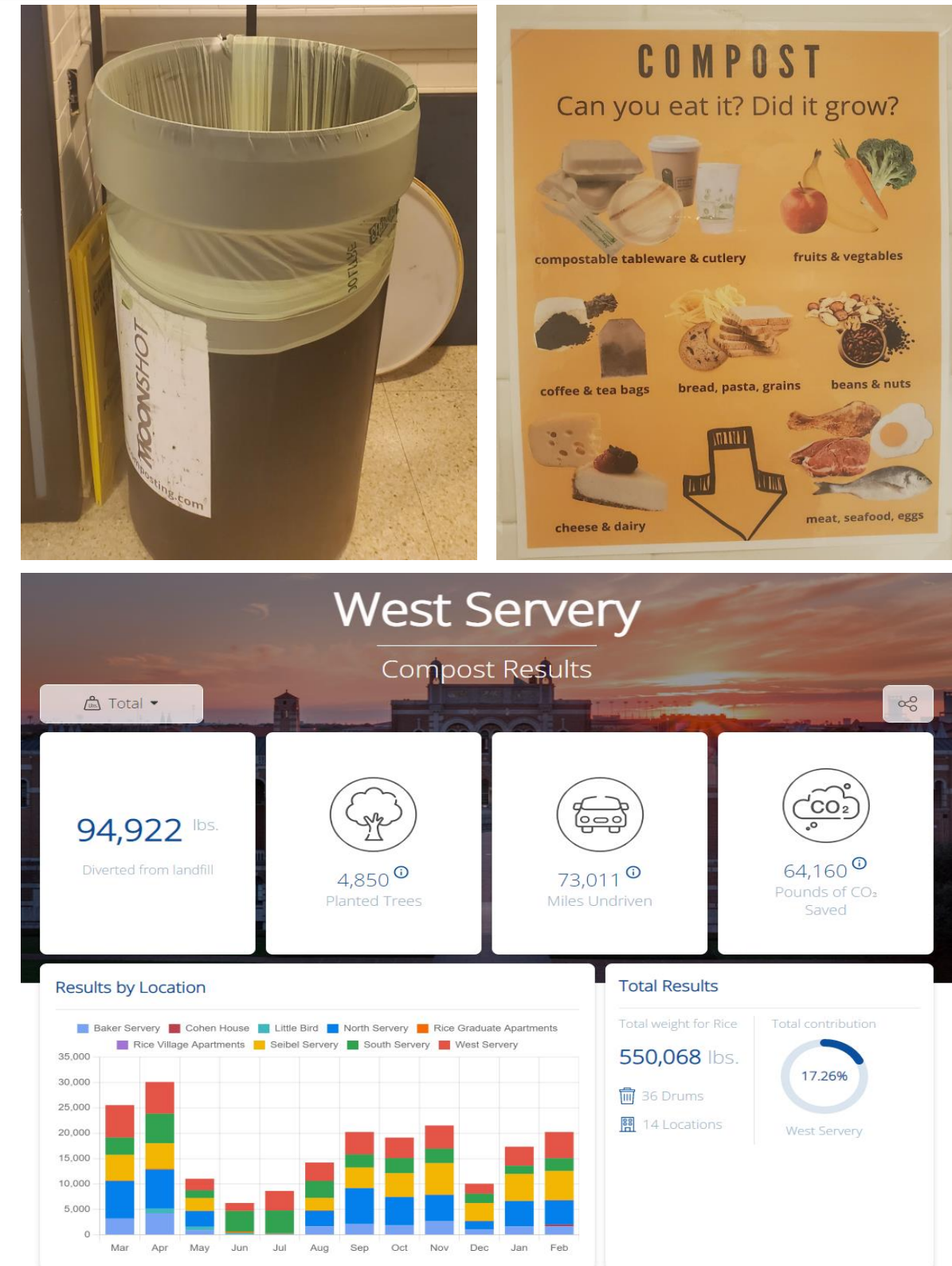
725,580<sup>i</sup>  
Pounds of CO<sub>2</sub>  
Saved





# Reducing Food Waste

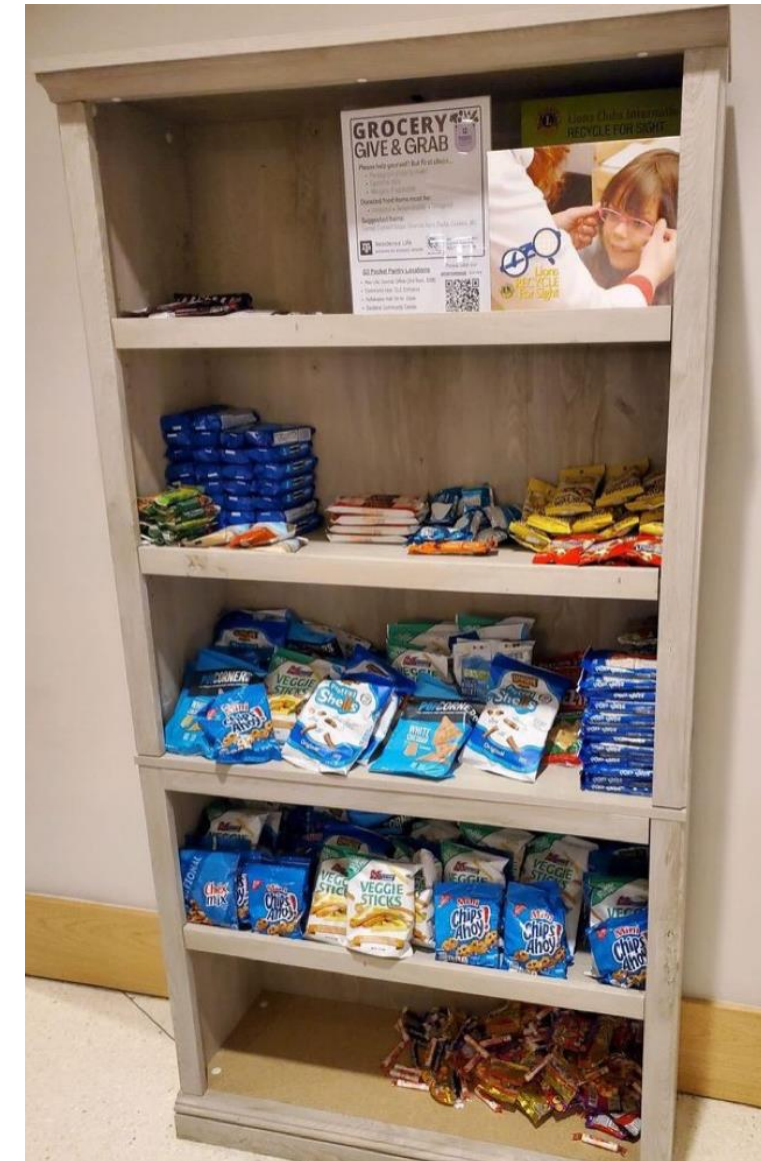
- Composting on campus
  - Student compost caddies distributed with the assistance of the EcoReps and Office of Sustainability Compost Intern
  - Extending Moonshot Compost operations on campus at the majority of dining facilities and graduate student apartments
- Adding composting requirement into dining contracts
- Moonshot Compost developed its compost data reporting dashboard because of its partnership with Rice
- Dining's "finishing" stations where ingredients can be flash frozen and repurposed rather than being put out on the line





## Reducing Food Waste Cont'd

- Project in Progress
  - Collecting unopened, unexpired, and nonperishable food during move-out
    - Based on a program Kristianna started at Texas A&M University called Grocery Give & Grab (G3)
  - Captured food will be funneled into the Rice Student Success Initiative's (SSI) food pantry
  - The eventual goal is to have res college pantries to expand awareness about SSI's program in partnership with the new Rice Chapter of the Food Recovery Network





# Student-Initiated Project: Reducing Move-Out Waste

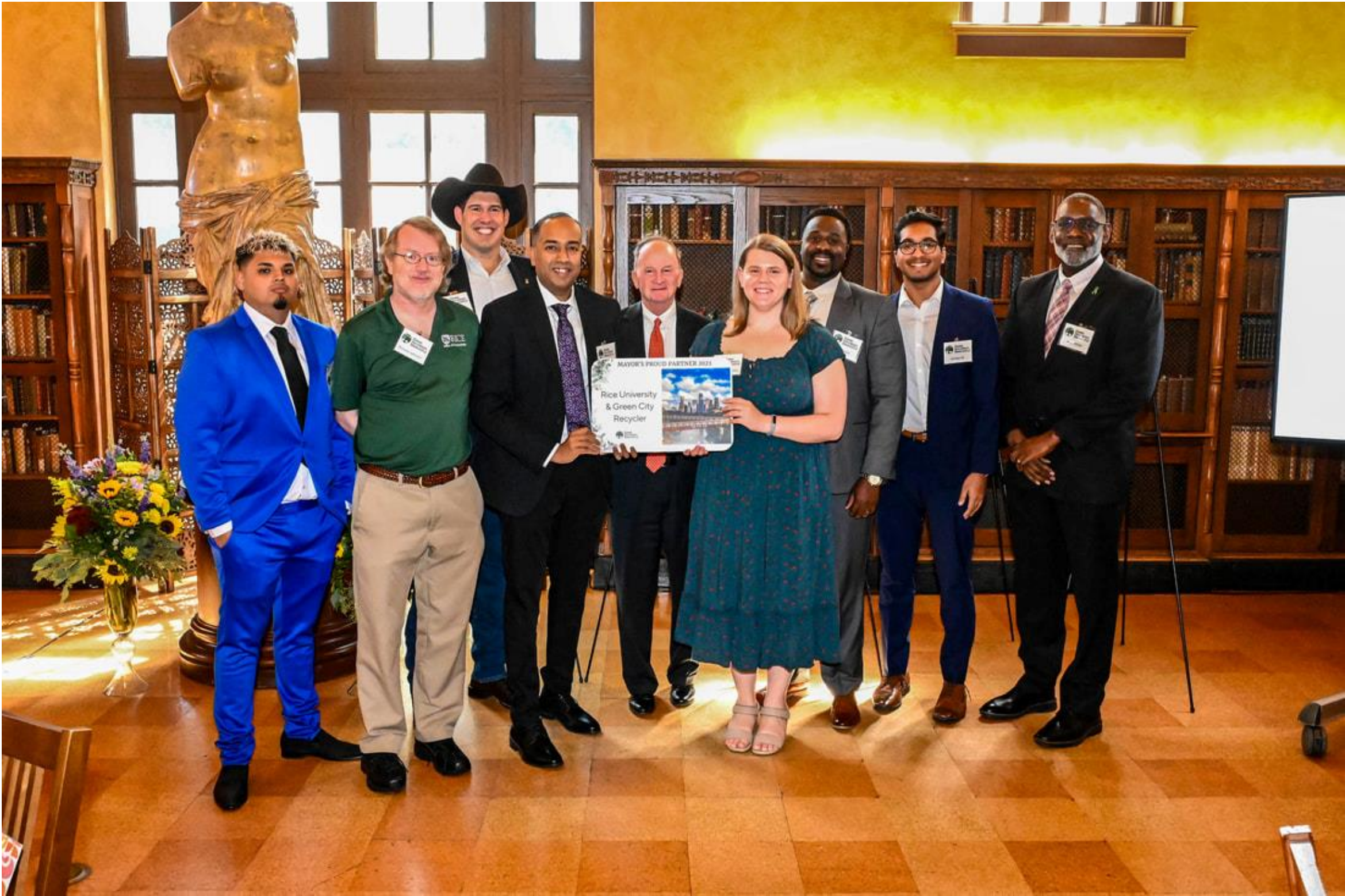
- Give a Hoot! Donate Your Loot! Move-out Campaign
  - Campaign in partnership with Green City Recycler
  - Came from a group project in Richard's class
  - Collection containers placed at each res college and campus apartments at the end of each semester
  - Weight of materials diverted
    - Spring 2023 – 4,943 lbs.
    - Fall 2023 – 670 lbs.
    - Spring 2024 – 8,922 lbs.
    - Summer 2024 – 1,680 lbs.
    - **Total to Date – 16,215 lbs.**
- Long-term goal to have a permanent “Swap Shop” on campus





# 2023 Mayor's Proud Partner Award Winner

## Rice U & Green City Recycler - Move Out Collection Campaign





## Reducing Other Wastes

- Environmental Health & Safety (EHS) mandates that laboratories buy a max of 5 gallons of chemicals at a time to reduce chemical waste
- Ink and toner cartridge and general e-waste recycling done in partnership with IT and Raki
- Rice University Delivery Services (our post office) will reuse packaging materials provided by members of the Rice community
- Reused a 1997 van to convert into an electric vehicle







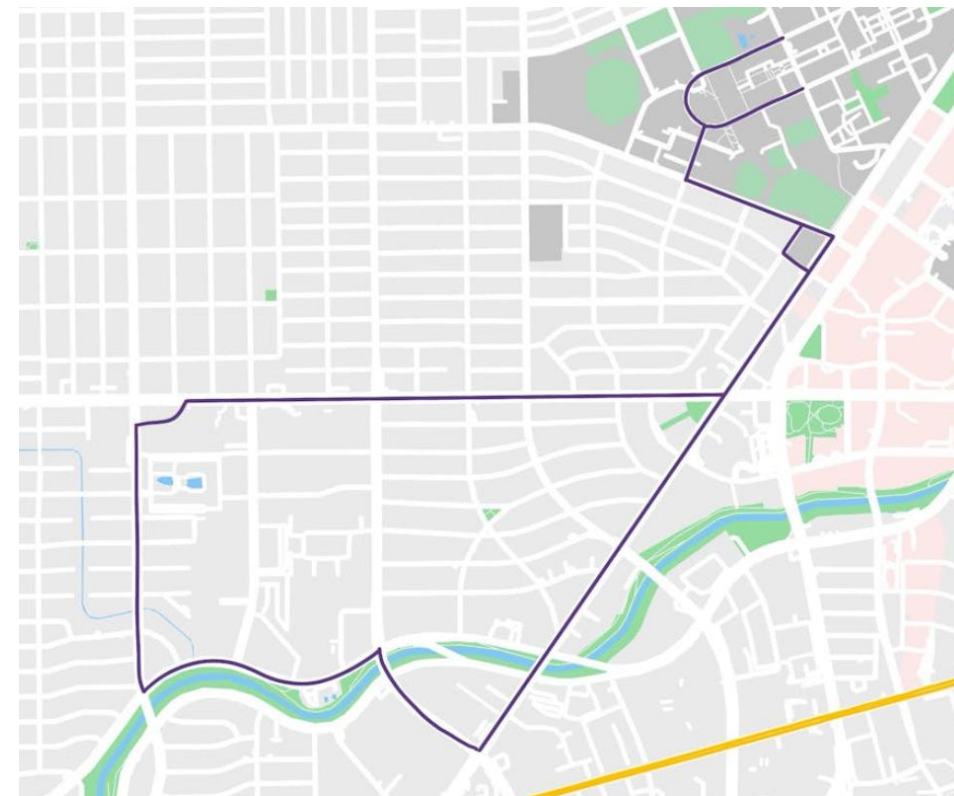
RICE

# Transportation Programs



# Expanded Transportation Options

- Expanded campus shuttle to provide greater campus access to off-campus graduate students
- Expanded number of Zipcar ridesharing vehicles available to the campus community
- ConnectSmart partnership for carpooling and alt. transportation
- Working on fleet electrification of campus vehicles
- ~24 electric vehicle charging stations



connect smart RICE UNIVERSITY

### Smart Mobility Enhancing Campus Life and Commutes

ConnectSmart is the only transportation app designed for the greater Houston region, by the region. It is powered by live data from local transportation authorities to give you the most accurate traffic information available.

Helping you find a better way, every day, ConnectSmart learns your travel habits and offers personalized recommendations to improve your travel experience.

#### Every Transportation Option, One App

ConnectSmart aims to reduce congestion, improve air quality, and ease the stress associated with daily travel.

With ConnectSmart you can:

- Get live real-time traffic data directly from local authorities
- Receive tailored travel recommendations
- Combine transportation modes for a complete door to door experience
- Discover real time parking and bikeshare availability
- Form carpool groups with people you know and trust
- Receive incentives for congestion- green choices
- Access free emergency roadside service on select corridors

Download and use today!

www.houstonconnectsmart.com bit.ly/49Zewzl bit.ly/3V5Xf3f





RICE

# Education & Engagement Programs



# Education & Engagement Programs

- EcoReps
  - Peer-to-peer educators in each residential college
  - Host monthly programs and events, including Hermann Park volunteering, vegan bake-offs, and speaker panels
- Office of Sustainability Interns
  - Specialized interns for different sustainability areas, including zero-waste, STARS reporting, and communications
- Campus Events
  - Earth Month and Sustainability Month Kick-Off Festivals
  - Highlights campus and community groups that advance sustainability at Rice and across Houston





# Education & Engagement Programs Cont'd

- Rice Green Fund
  - Fund used to support campus greening projects and initiatives, environmental events programming, student environmental organizations, sustainability office interns, and the general needs of the Office.
- Sustainable Room Certification
- Upcoming Sustainable Event Certification
- Guest speaking events for campus departments and student groups on a variety of sustainability topics, including sustainable event management





# Contact Information

---

- Kristianna Bowles | she/her
- Sustainability Program Coordinator
- Office of Sustainability | Rice University
- Email: [kb102@rice.edu](mailto:kb102@rice.edu)
- Office Phone: 713-348-3141
- Website: [sustainability.rice.edu](http://sustainability.rice.edu)





# RICE UNIVERSITY

Office of Sustainability  
Division of Operations, Finance and Support

Thank you!

**Follow our sustainability journey!**

**Twitter & Instagram:** @SustainableRice

**Facebook & LinkedIn:** Sustainability at Rice University

**Website:** [sustainability.rice.edu](https://sustainability.rice.edu)

**Email:** [sustainability@rice.edu](mailto:sustainability@rice.edu)