

FREE WEBINAR

Building Reusable Packaging Systems: Case Studies and Practical Steps for Municipalities

 September 18, 2024  1:00pm - 2:30pm ET



SPEAKERS:

Jessica Watson – earthday365

Cassandra Hage – Office of Sustainability at Washington University in St. Louis

Mac Sellars – r.World

Joycelyn Chui – Seattle Public Utilities

MODERATED BY:

Will Grassle, Policy Associate, PSI

HOSTED BY:



**PRODUCT
STEWARDSHIP
INSTITUTE**



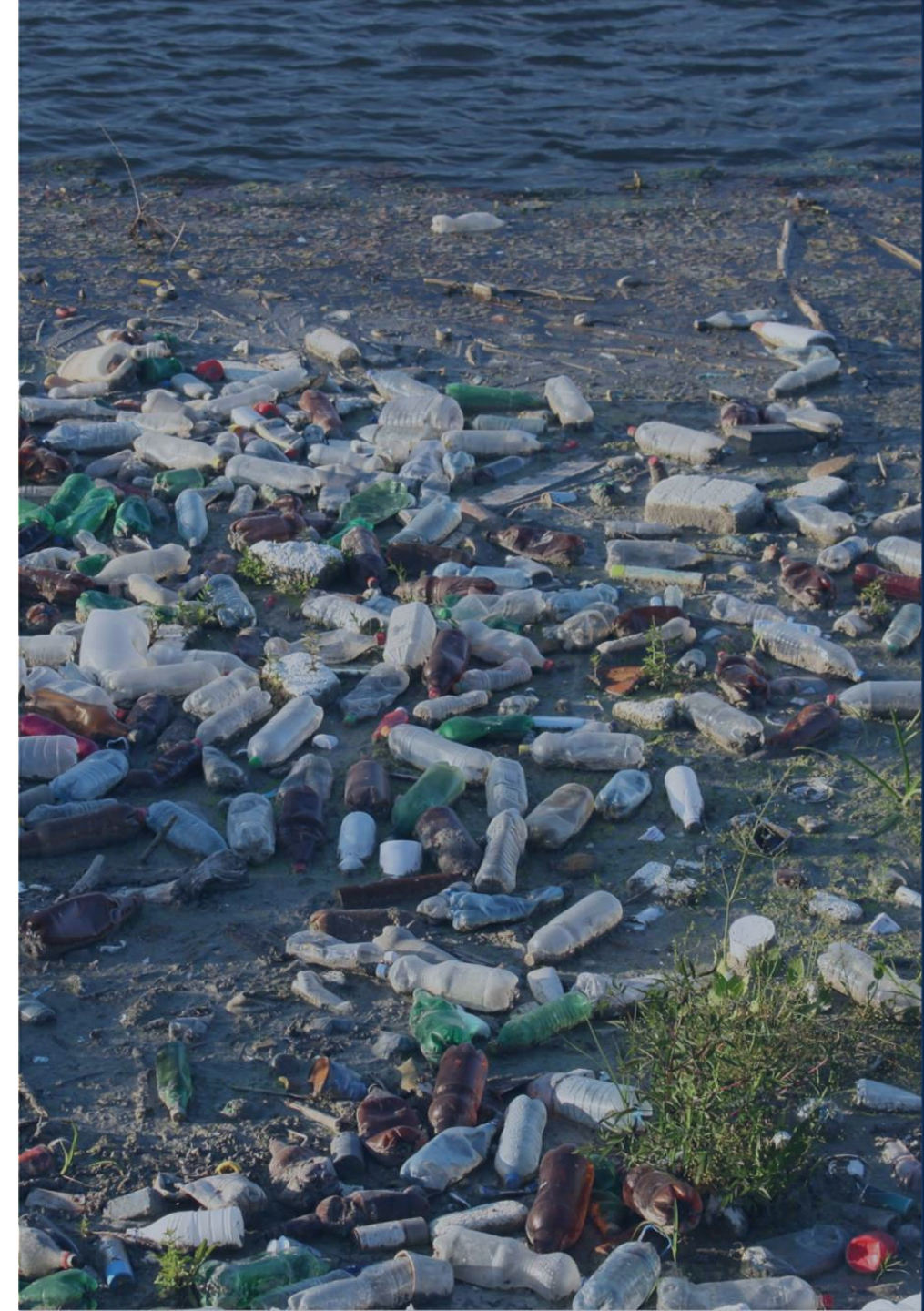
PRODUCT STEWARDSHIP INSTITUTE

The Problem

4.9 Million Tons/Year of Disposable Food
Serviceware Waste

Costs Municipalities & Taxpayers \$1
Billion/Year

User-Friendly Food Delivery Apps + COVID19
= Growth of Food Delivery and Takeout
Services



Project Overview

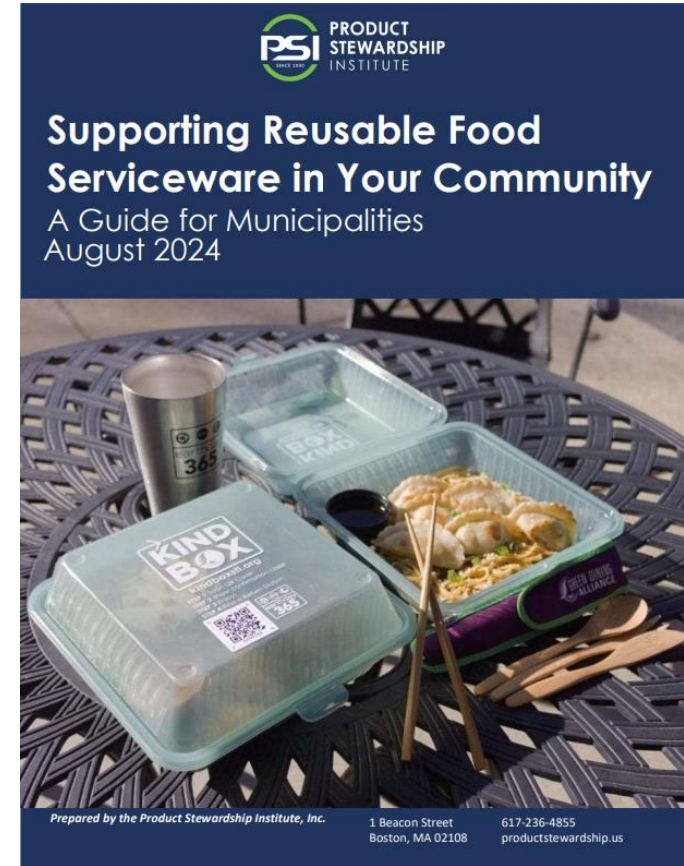
Reopening with Reusables

PSI & ED365 – US EPA Region 7 Grant

Purpose: Reduce the use of single-use food serviceware used by restaurants and other food service establishments in St. Louis.

Municipal Guide

- Problems associated with single-use food serviceware
- Benefits of a reuse economy
- Actionable steps





Jessica Watson, earthday365

Cassandra Hage, Washington University

Mac Sellars, R. World

Joycelyn Chui, Seattle Public Utilities



Kickstarting Reusables in St. Louis: Lessons Learned

**Dr. Jessica Watson
9/18/24**

MISSION

To inspire and mobilize a collaborative movement towards an equitable and environmentally sustainable St. Louis region – every day.





Waste Reduction - Zero Waste Strategies

- St. Louis Earth Day Festival - 94% diversion
- Recycling on the Go - 40+ events in FY2024
- Green Dining Alliance - 6500 tons in 2023
- Environmental Justice Days of Action - 22,758 lbs
- Food Waste Campaigns

**How can we stop waste
before it's created?**

⇒ *Circularity*

Kind Box Program

- Inspired by local and national models, such as Washington University & Green2Go in Durham
- Goal: First public model for reusable To Go Ware (2021)
- Grant support: SWMD/DNR, Trio Foundation, EPA R7 with PSI
- Commercial Kitchen - St. Patrick's
- EARLY WIN: Changed STL City Health Code



The Plan

- Offer restaurants reusable boxes at a lower cost than compostables
- Polypropylene, up to 1000 washes
- Develop free App & Website
- Restaurants order Kind Boxes
- Scan QR Code through app at pickup
- Deposit model - charged after 7 days





- Scan out at restaurant
- Scan in at Return Station
- ED365 staff removes, washes
- Impact tracked:
 - CO2e g
 - Liters crude oil saved\
 - Electricity
 - Waste diverted

Kind Box App Launch

- Soft launch in November 2022
- Crispy Edge & The Royale
- Work with Product Stewardship Institute on Plastic Footprint Calculator and national model
- 20 users
- 50-100 boxes checked out



Lessons Learned

- Continuing problems and delays with app developer
- Reconsidered overall logistics
- Revisited national context - similar programs had ended
- Problems of scalability
- Highly complex logistics
- Not suitable at small nonprofit level ⇒ municipal, corporate



Pivot to Closed Loop



- Logistics reduced within one entity: caterer, school, hospital
- Washing ideally happens onsite
- Propel Kitchens - Youth entrepreneurship - Summer School Lunch - 1000 uses
- Kingston School District
 - Reverting to reusables
 - dishwasher installation, adding bowls, cutlery
- Bayless & U. City School Districts
- Restaurants: Replaced disposables for reusables (6)
- Nonprofits: CircularSTL Reusable Lending Library, Healing Action water bottles
- Washington University Return Stations & Catering for Med School Campus

What if you can't wash it yourself?

- The major barrier encountered
- Solution: either Municipal support or Public-Private partnership
- Feasibility Study with r.World to explore opening a Wash Hub
 - 3 months, 100 touch points
 - 4 public presentations
- Busch Stadium, MOBOT, Zoo
- Drafting report currently





WashU



Reuse at WashU

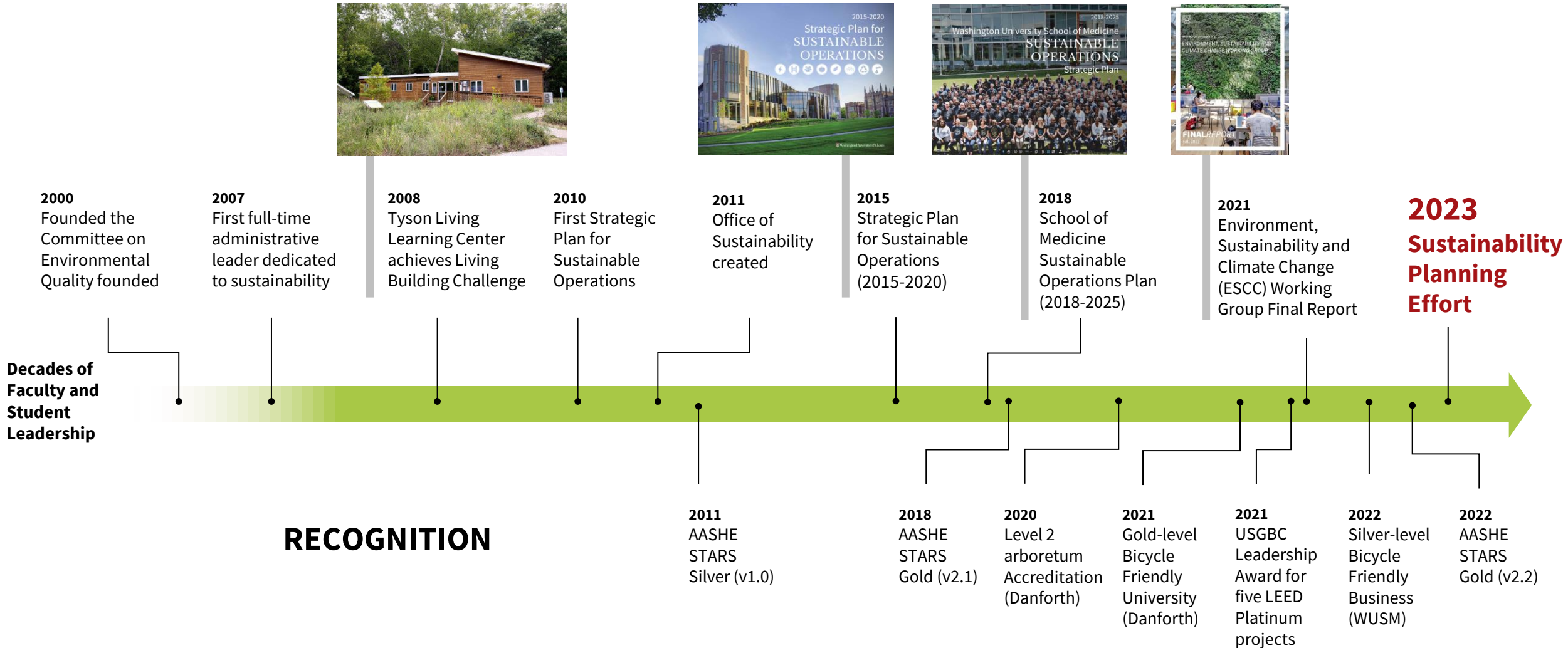
Cassie Hage, Assistant Director
Office of Sustainability

About WashU

- Private university founded in 1853
- 7 Schools
- 2 main campuses
- 16,500 total student enrollment, with ~1/2 undergraduates
- 4,700 undergraduates live on campus
- 21,000 employees



Sustainability Timeline





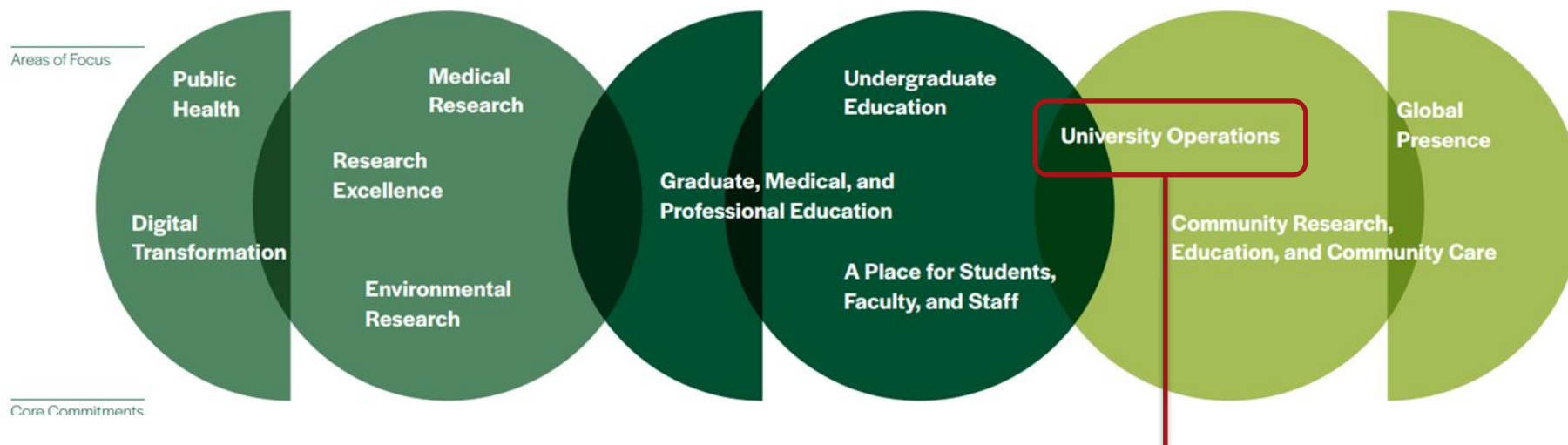
Here and Next

WashU

For Research, Scholarship,
and Creative Practice That
Set the Global Standard

For the Growth of
Every Person in Our
Campus Community

For the Good of
Every Neighbor



Advance sustainability in university operations

Translate sustainable concepts into actionable innovative strategies that live out environmental stewardship so we contribute to the social responsibility of the region, nation and world.

“WashU has a special role and responsibility to confront the challenge of climate change by advancing sustainability in our university operations.”



ENGAGING CAMPUS COMMUNITY

Strategic Initiatives



SPARK



Waste Solutions

Reduce waste wherever possible through avoiding unnecessary consumption, single-use items, and excess packaging.

Reuse whenever possible, as many times as possible. Buy things that are durable and reusable. Donate or repurpose when items are no longer needed.

Recycle materials through waste diversion strategies, like collection of recyclable and compostable materials.



Refuse * Redesign * Rethink * Repurpose * Repair



Reusable To Go Boxes

- 288,000 – 1,300,000 compostable boxes annually
- \$.27/compostable box
- \$2.50/reusable box
- Break even for cost after 9 uses
- Break even for environmental impact at 33 uses
- \$21,000 cost avoided/year with 10% usage



Benefits

- Cost savings (if successfully integrated and implemented)
- Reduction in compost service (expensive)
- Less materials = less contamination in recycling and compost
- More durable boxes improve dining experience
- Reuse culture and mentality



Reusable To-Go Box Timeline



Fall 2013
Eco2Go Program Piloted – Student Led. Free membership, no incentives.



Fall 2015
\$5 buy-in, \$.10 discount. Tracked via ID card. \$5 replacement fee for unreturned boxes.

Spring 2020
PAUSE with COVID operations



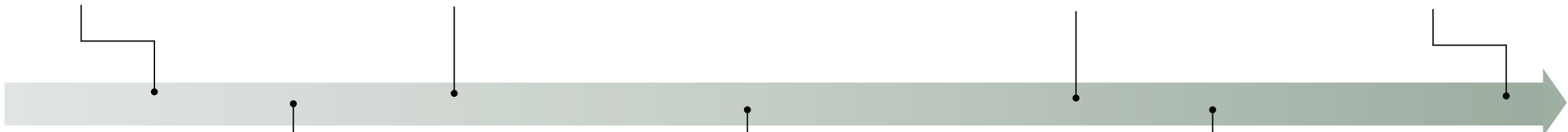
Fall 2023
Relaunch with Topanga's Reuse Pass

Fall 2014
Keychain indicates program membership (\$5). \$.10 discount per reuse.

Fall 2017
Free to use, return on honor system



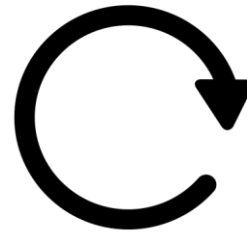
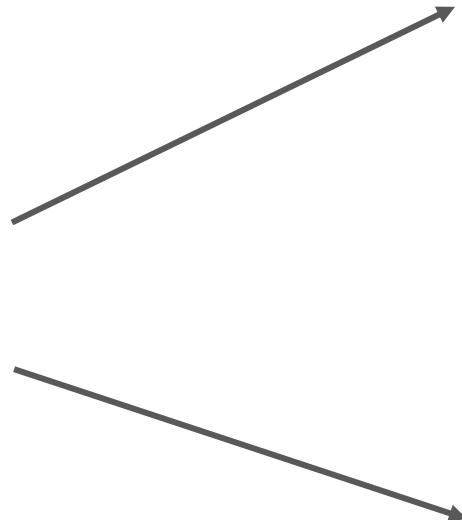
Fall 2020
Relaunch of reusable to-go boxes after return from COVID



Prior to 2023

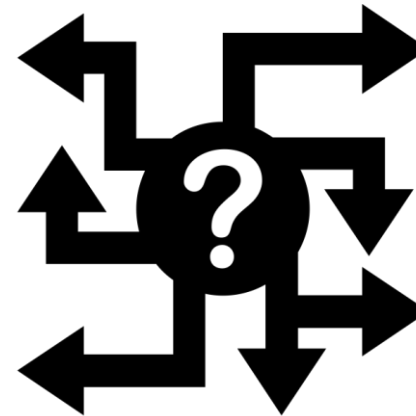


Students receive to-go box



??% return the box

of uses unknown



??% boxes lost

of uses unknown



Stakeholders

- Dining Services
- Food Service Provider
- Office of Sustainability
- Students and Student Groups
- Staff/Faculty
- Third party vendor: Topanga



Topanga: Reuse Pass



Checked-out to customer

Container #AB456
Customer #1235
Location: Hollywood
Date: Nov 2

Returned

Container #AB456
Customer #1235
Location: Venice
Date: Nov 4

Due back date
Nov 5

Washed

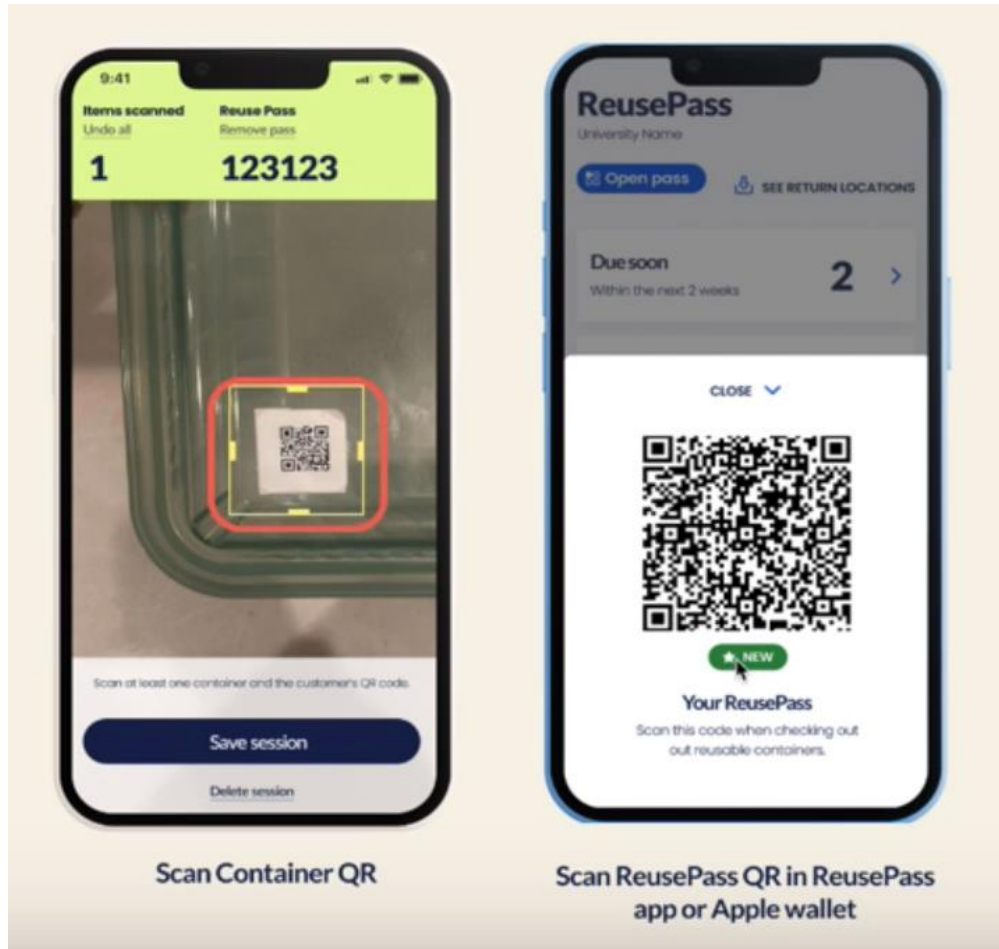
Location: 3rd Party
Warehouse
Date: Nov 6

Restocked

Location: Venice
Date: Nov 7

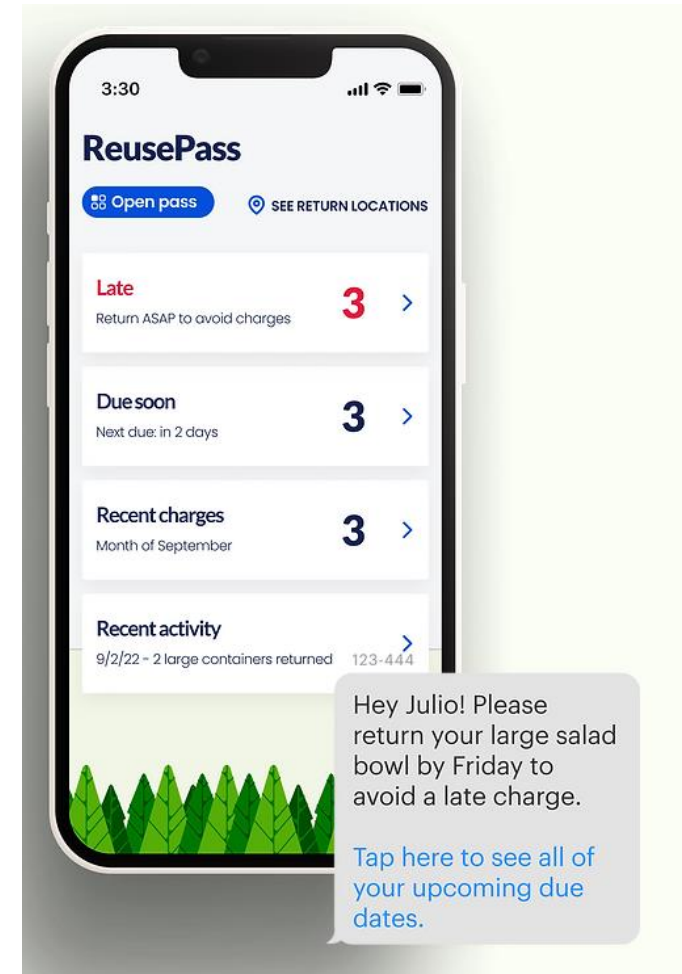


Topanga: Reuse Pass



← Scan out process

Users receive reminders when containers are due. →



Data Dashboard

- Accountability
- Location-specific performance
- Inventory management
- Real-time impact projections

ReusePass Estimated Environmental Impact

With this volume of activity and high return rate, we can calculate an estimated series of impact metrics including avoided pounds of greenhouse gas emissions, water saved, waste saved, and containers saved. This is the impact the ReusePass program has had on the environment up to the report date for the academic year 2023-2024.

438

lbs GHG CO2e Saved

414

Gallons Water Saved

40

lbs Waste Saved

711

Number Single Use Containers Saved from...

Return Rate

Based on a 3-day return window, return rate shows how many assets have been returned that were checked out 3+ days ago. This statistic is based on Loops.



All time return rate (1490/1668)

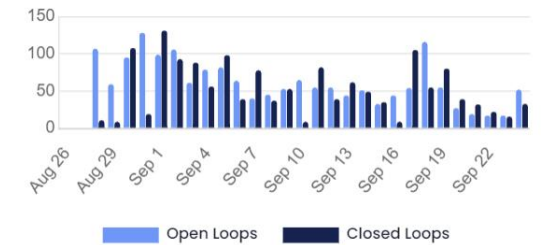
Last 30 days **89%**
(1467/1641)

Last 60 days **89%**
(1490/1668)

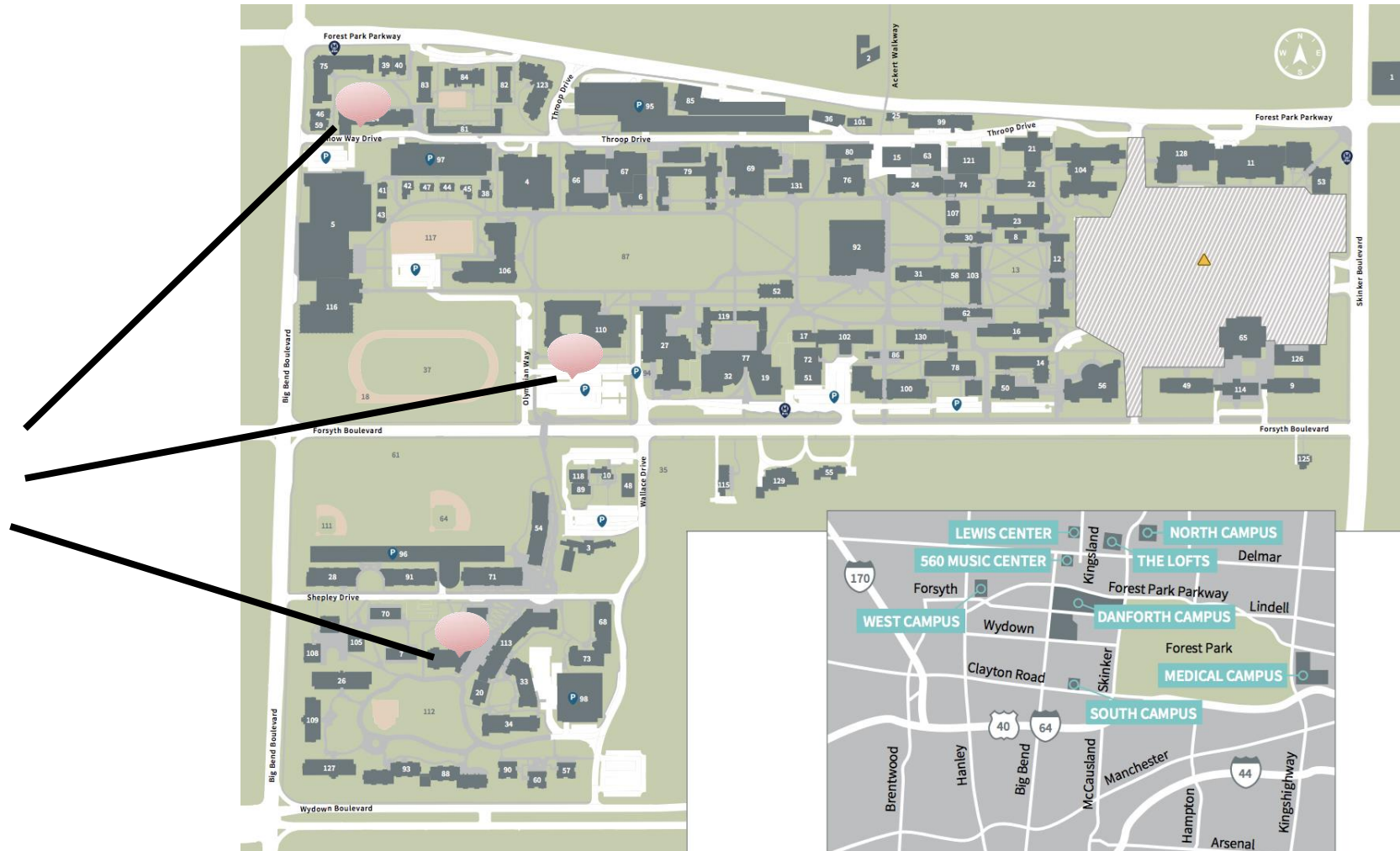
Last 90 days **89%**
(1490/1668)

Loop Activity

Count of Loops opened/closed. This statistic is refreshed nightly.



Return containers



Impact

Together, we've had a big impact!

Since partnering with ReusePass in August 2023, WUSTL has saved:



**SINGLE-USE
CONTAINERS**

2,865



WASTE

179 LBS



WATER

1,692 GAL



**GHG & CO₂E
EMISSIONS**

1,788 LBS

Return rate: 87%

**Students
enrolled: 2,252**



Lessons Learned

- Buy in or slight barrier to entry allows more committed users to opt in.
- Consider ways to reduce financial barriers to participate (social equity).
- Accountability and transparency is essential.
- Data is critical to drive decision making and process improvement.
- Integration with tech systems is ideal.



Next Steps

- Continued outreach to new students and potential program users
- Reuseable boxes for catered meals
- Reusable boxes as only option for residential dining all that serves upperclassmen housing.
- Goal for the 2024/25 Academic year: avoid the 8,000 containers through the ReusePass alternative.





Leading Reuse into St. Louis



Our planet is drowning in single-use waste.

Most single-use serveware ends up in landfills.

Even if it's recyclable or compostable.

Only 9% of plastic is actually recycled.

Reuse is the answer.
And r.World is the leader.



It's zero waste with zero hassle.



And we're
making a real
difference.

LEADING THE WAY
IN REUSE SINCE
2017

30+
YEARS
OF SUSTAINABILITY
LEADERSHIP

5,000+
EVENTS
SERVICED

50+
TONS
OF
PLASTIC PRODUCTION
PREVENTED

10 MILLION+
SINGLE-USE ITEMS
DIVERTED FROM LANDFILLS



98%
CUSTOMER
RETENTION RATE

DOZENS
OF CELEBRITY
ENDORERS

35 STATES
150 CITIES
12 COUNTRIES

280+
TONS
OF CO2
ELIMINATED

94%
AVERAGE
RETURN RATE

r. World Wash Hubs:
We're equipping the country with a network of reuse sanitization hubs, city by city.



We're building the national reuse infrastructure—and the culture of reuse.



earthday365 / r.World Feasibility Study



Feasibility Study - Goals

- Assess the level of interest in a centralized wash facility run by r.World.
 - Can we identify up to 300,000 units of potential volume per month?
- Research funding and policy opportunities that may support wash hub
- Provide findings to the EPA



Feasibility Study - Methods

- Market Research
- Outreach Campaign
- Funding / Grant Research
- Policy Research



Feasibility Study - Results

- Identified potential neighborhoods for wash hub build
- Cold outreach not effective; warm leads and speaking engagements most effective
- Successful inroads with some major facilities
- Gained support from city officials and other local stakeholders
- Popularized idea amongst dozens of new potential adopters



Ongoing Challenges

- “Chicken or the egg” / trial paralysis
- No central anchor client
- No national partnerships to provide entry
- No on the ground sales representative



Next Steps

- Focus energy on converting large-scale anchor clients
- Explore national partnerships that may provide entry to region
- Maintain grant / funding research in the region





A better future is in your hands.



Mac Sellars
Strategy & Innovation Lead
262-902-3020
mac@rworldreuse.com



A City-led partnership to support reuse in food service



ReuseSeattle

Founding Partners



Seattle
Public
Utilities



CASCADIA
CONSULTING GROUP



WASHINGTON
ENVIRONMENTAL
COUNCIL



The
Showbox



STG

BOLD
REUSE

r.Cup



OKAPI
REUSABLES

Seattle's Solid Waste and Food Packaging Requirements Landscape



~750,000 people live in Seattle proper. (U.S. Census Bureau)



~20,000 businesses in Seattle



~4,000 food service business permits in Seattle



~8,000 Commercial garbage accounts citywide

Food Service Requirements

RECYCLING: Seattle businesses are not allowed to put recyclable items in the garbage.

COMPOSTING: Seattle businesses are not allowed to put food and compostable paper in the garbage.

PACKAGING: Seattle food service businesses are not allowed to use disposable food service items. Single-use food and beverage packaging must be recyclable or compostable (see below).

Recyclables Not Allowed in Garbage:
Seattle Municipal Code (21.36.083)
Requires all businesses to recycle paper, cardboard, glass bottles and jars, plastic and paper cups, plastic bottles and jars, aluminum and tin cans. It is against the law to put these items in the garbage. (Effective July 1, 2014)

Food Not Allowed in Garbage:
Seattle Municipal Code (21.36.082)
Requires all businesses to compost all food and food-soiled uncoated paper, such as paper napkins, paper towels and pizza boxes. It is against the law to put these items in the garbage. (Effective January 1, 2015)

Food Packaging Ordinance: *Seattle Municipal Code (21.36.086)*

Dine-in: Restaurants and food service businesses must use **compostable items or durable serveware** for dine-in service. (Effective July 1, 2010)

Take-out: Packaging must be either **recyclable or compostable** for take-out service. Plastic coated brown paper packaging is prohibited. (Update effective July 1, 2023)

Compostable Serveware: Single-use straws, utensils, and portion cups must be compostable. Disposable plastic items are prohibited. (Update effective July 1, 2023*)

Foam Banned: Businesses are prohibited from using **plastic foam** (EPS, Styrofoam™) packaging. (Effective January 1, 2009)

*Flexible plastic straws are allowed when required by customer for physical or medical condition.

Washington State Laws:

Single Use Law: *RCW 70A.245.080*
Businesses may not automatically include **single-use items** in customer orders, including plastic utensils, straws, condiment packages, and cup lids for cold beverages. (Effective January 1, 2022)

Bag Ban: *Chapter 70A.530 RCW*
Single-use plastic carryout bags are prohibited in food service businesses, grocery, and retail. The selling and using of green **plastic** bags is prohibited. (Effective October 1, 2021)

Compostables Labeling: *RCW 70A.455*
Compostable packaging products must be properly labeled as 'Compostable' and include markings to identify them such as green/brown stripes and/or approval marking. (Enforcement begins July 1, 2024)

Reduce waste and save money by keeping recyclable and compostable material out of the landfill and switching from single-use to reusable service items for on-premise service.

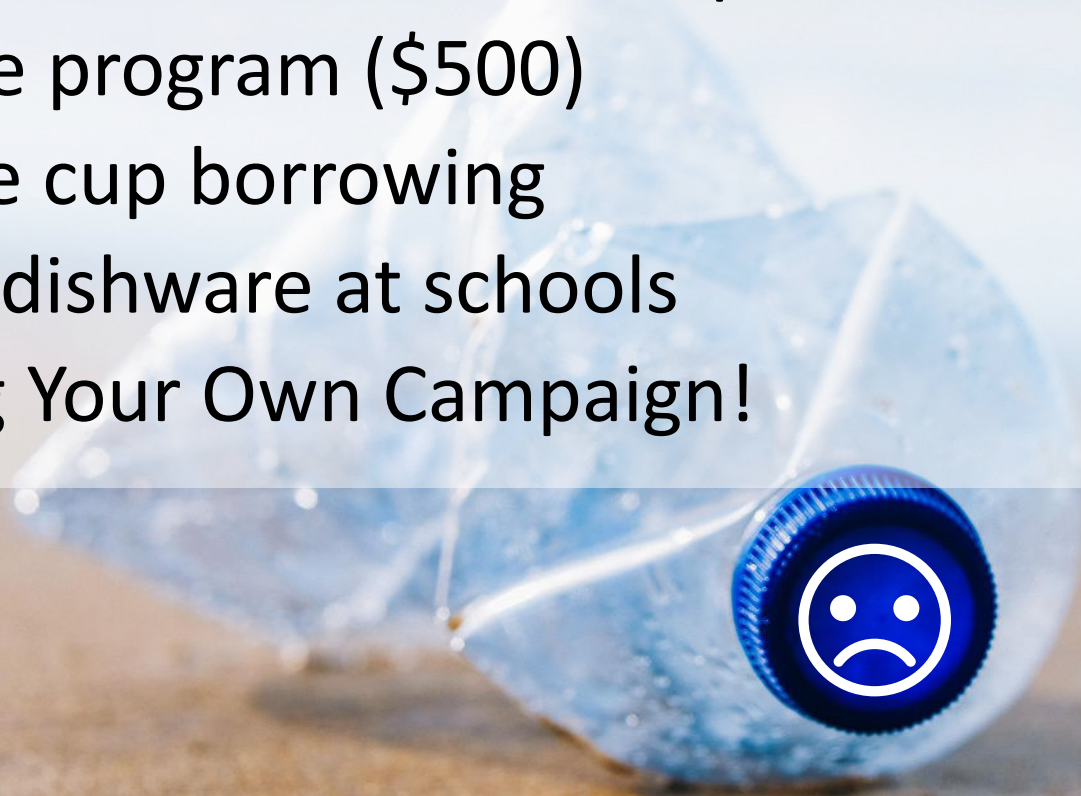
Contact GreenBusiness@Seattle.Gov for free assistance and resources for complying with these ordinances.

Source separation into 3 streams: Recycle, Compost, Garbage

Food Packaging regulations (City- & State-level)

Reuse Seattle's Initiatives 2024

- *Reusable dishware at Events pilot
- *Incentive program (\$500)
- *Reusable cup borrowing
- Reusable dishware at schools
- BYO Bring Your Own Campaign!





Reusable Dishware @ Events Pilot

Reusable dishware & utensils @ events pilot Impact

30 distinct events with **72** event occurrences piloted reusable service ware **80K+** units of reusables used

(since May 2024)



Key Steps we took to Launch Reuseable Dishware @ Events Pilot

1. Decide our service offerings - dishware, utensils. NO cups. *If folks only want to do cups, we have another program that supports that.*
2. Contract with Reuse service providers
3. Procure an inventory of dishware & utensils
4. Work with local Public Health Department, understand food code
5. Marketing: reach out to event organizers
6. Coordinate with event organizers, Reuse service providers, food vendors, volunteers (if needed)
7. Pilot, learn, repeat!

*Stakeholders: event goers, reuse service provider, event organizer, food vendors, volunteers (optional)

Procure an inventory of dishware & utensils



Reuse at Community Events in Seattle (i)



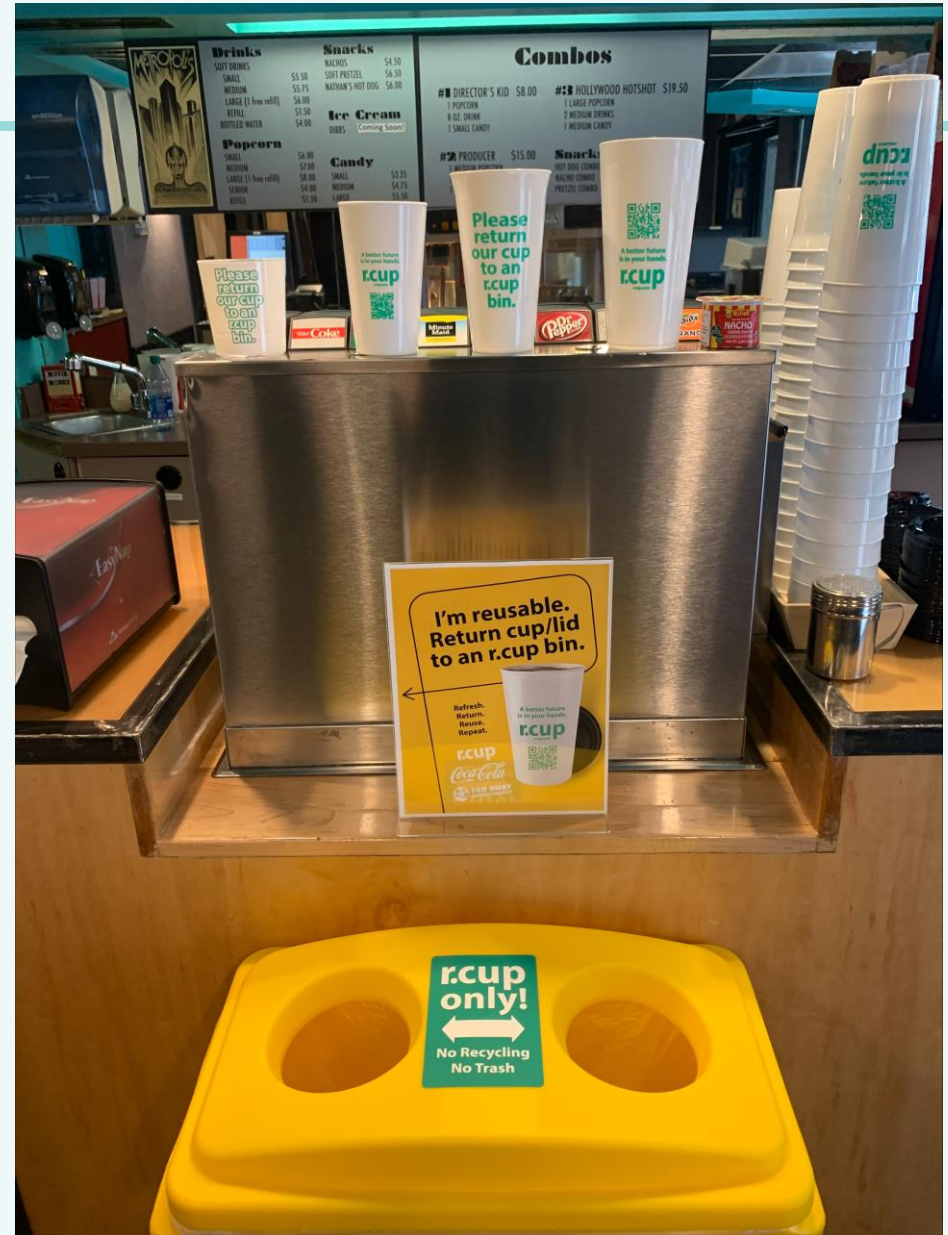
Reuse at Community Events in Seattle (ii)



Co-locate your bins! Here, the dish return bin is next to the compost bin.



Reuse at Community Events in Seattle (iii)



Reuse at Community Events in Seattle (iv)



Reuse at Community Events in Seattle (v)



\$500 Incentive Program

\$500 Incentive to purchase durables
or Reuse As A Service



Pictures of Caffe Appassionato's point-of-sale area, before and after receiving the Reuse Seattle incentive for durable mugs and water cups.

31 businesses, **28**
entertainment
venues, transitioned
to durable or
reusable service ware
(since 2022)

Cup Borrowing Network

Cup Borrowing Network (shared inventory among cafes in proximity)



borrow



return



repeat

6 cafes (another **16** pending) joined to form a cup borrowing network

(since July 2024)

A blue-tinted photograph of the Seattle skyline, featuring the Space Needle on the left and various skyscrapers. A large, semi-transparent circular icon with three arrows forming a clockwise loop is overlaid on the right side of the image. The background shows a clear blue sky and a mountain range in the distance.

Thank you!

Connect with us at:
ReuseSeattle@seattle.gov
reuseseseattle.org/

Q&A Period



Thank you to our featured speakers!



Jessica Watson, [earthday365](#)



Cassandra Hage, Washington University



Mac Sellars, R.World



Joycelyn Chui, Seattle Public Utilities

NOW AVAILABLE!

The guide is now available on PSI's Website under Public Resources. The link to the guide will also be shared with all webinar registrants in follow up email.

Supporting Reusable Food Serviceware in Your Community

A Guide for Municipalities
August 2024



**Your
Feedback
Matters**





2025 U.S. PRODUCT STEWARDSHIP FORUM

JUNE 3 – 5, 2025

WESTIN CHICAGO NORTH SHORE