



Tuesday October 7th | 4:20 PM

Implementing Programs Using the Community Engagement Continuum



Nikhil Balachandran
CEO, Zabble Inc.



JURISDICTIONS/HAULERS



GENERATORS



How it works

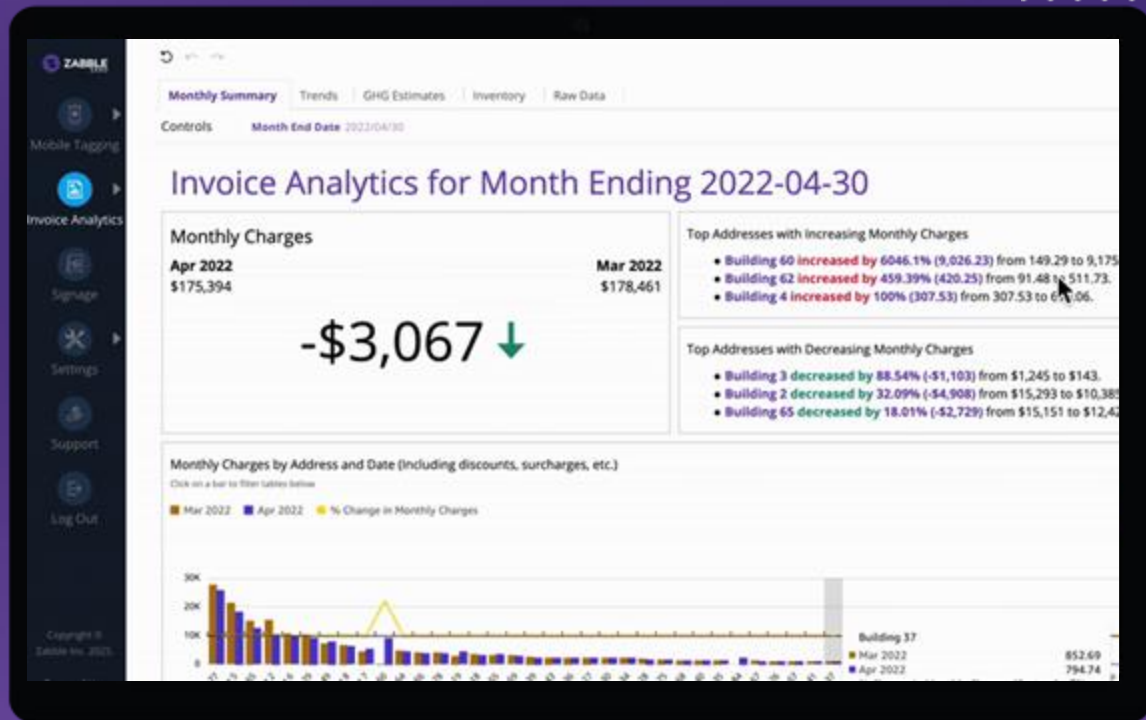
Invoice Analytics™

IN THE
OFFICE

Transcribe
Invoices/Reports
with AI

Access
Insights &
Anomalies

Share Data &
Transform Your
Program



How it works

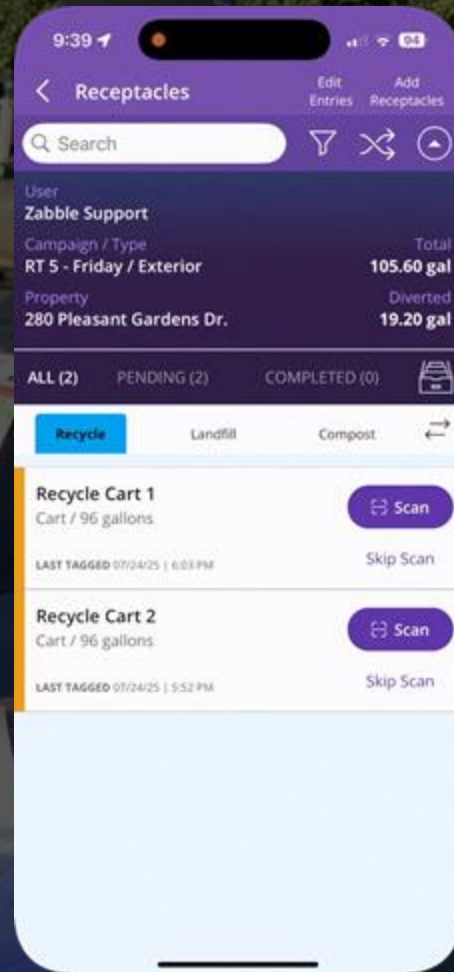
Mobile Tagging™

IN THE FIELD

Easily Import
Your Property and
Bin Data

Use Computer
Vision AI to Tag
Bin Contents

Automatically
Notify the Team in
Real Time



How it works

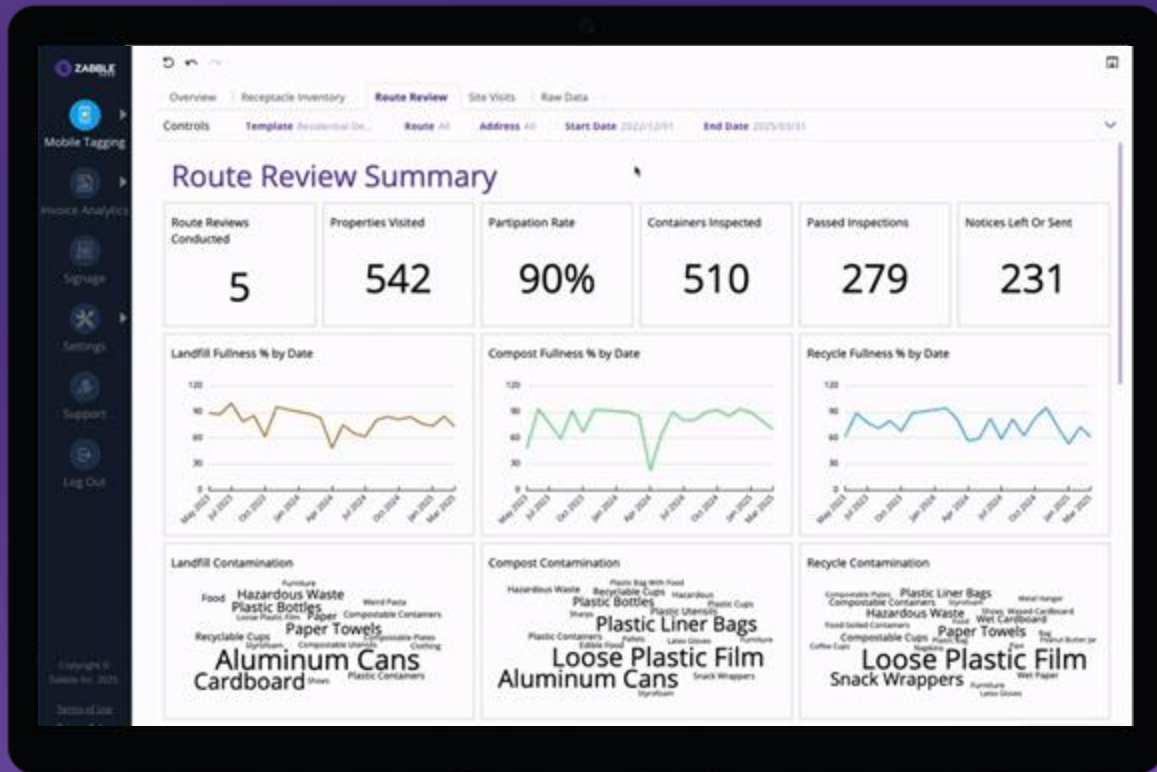
Mobile
Tagging™

IN THE
OFFICE

Aggregated
Data

Smart
Visualization

Custom
Alerts



CASE STUDY

Borough of Franklin Lakes, NJ

Uses Mobile Tagging to conduct their annual cart tagging program to increase recycling participation and reduce contamination.

2

Inspectors in
the Field

850+

Properties
visited

1,200+

Containers
inspected

<1
min.

Inspection times
(incl. travel time)

“

We continued to gather data for another year using Zabble's Mobile Tagging Platform to **monitor recycling progress, improving efficiency** towards our **sustainability goals**. The dashboard's data breakdown significantly **streamlined the interpretation of the information** in terms of **participation** and **contamination**, enabling us to effectively **engage our community** on **proper disposal practices** and **maximize our recycling program**.



Nancy Durkin
Recycling
Coordinator
**Borough of
Franklin Lakes**

CONTAMINATED RECYCLING BIN



CLEAN RECYCLING BIN



INSTANT FEEDBACK



Please recycle these materials **ONLY**:

Paper/
Cardboard



Flattened Cardboard
Boxes, Newspapers,
Magazines and Office Paper

Plastic



Plastic Bottles and
Containers

Cans



Aluminum and
Steel Cans

Glass



Bottles and Jars

When in doubt, Throw it out!

Visit the Recycling Depot!

500 DeKorte Drive
Franklin Lakes, NJ 07417

Monday to Friday - 7:30 AM to 3:30 PM
Saturday - 9:00 AM to 2:00 PM



www.franklinlakes.org/recycleright
Questions about curbside recycling?
garbage@franklinlakes.org
201-891-4000 x3700



PLEASE LEAVE THESE ITEMS OUT!



No Bag Bag No problem



No Plastic Bags
or Plastic Bags



No Tinklers,
Cans, Hoses
or Chains



No Flammable,
Fuel, Toxic or
Explosive



No Bulky
Items



No Food or Liquid

Correct this issue and email
garbage@franklinlakes.org
for next-day pickup.



www.franklinlakes.org/recycleright
Questions about curbside recycling?
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201-891-4000 x3700

DATA-DRIVEN PATH TO OUTREACH

56%

Participation
Rate

58%

Average
Fullness

Hoses Cardboard Paper
Tangles (Cords) Bulk Items
Food Or Liquid
Ropes Chains
Plastic Bags Or Film
Bagged Recyclables

214

Contamination
Items

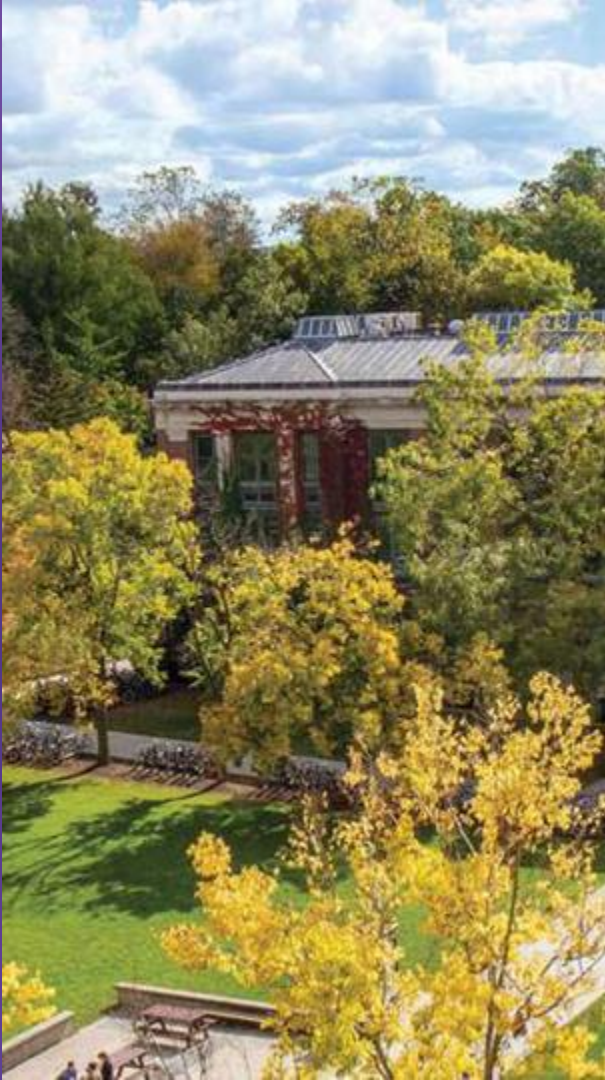
111

OOPS Tags/
Rejection
Notices

Weekly Statistics (Right-click to drill up or down)

■ Not Set Out Rate ■ Fail Rate ■ Not Inspected Rate





CASE STUDY

Environmental Science and Forestry

SUNY ESF uses Invoice Analytics™ to

- aggregate waste data
- extract insights
- inform stakeholders

25K

Acres

15+

Material
Streams

10+

Vendors

5

Campuses

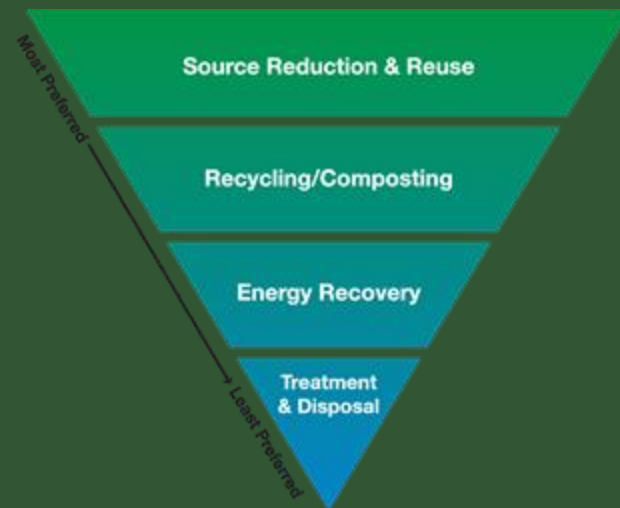
2.2K

Students

Center for Sustainable Materials Management

Mission: To inspire, lead, and connect a diverse group of people and organizations that will collectively challenge the concept of “waste,” through redefining and reimagining how we procure, produce, consume, manage, and market materials.

- NYS Department of Environmental Conservation (DEC) investment into Center is over \$11M
- 35 individuals supported
- PI Mark Lichtenstein
- Executive Director Kathryn Walker



CHALLENGES



- INCONSISTENT BIN CONFIGURATIONS
- MULTIPLE STREAMS & VENDORS ACROSS SEVERAL CAMPUSES
- COMPLEX SPREADSHEETS TO TRACK DATA

	Trash (lbs)	Recycling (lbs)	Compost (lbs)	Diversion	Change in Trash (compared 2018)
Syracuse	92,260.00	142,827.40	39,123.40	66.33%	-60.70%
Tully	28,870.00	11,600.00	0	28.66%	
Ranger School	45,120.00	11,720.00	0	20.62%	15.87%
Can Tea	49,050.00	35,080.00	1320	42.60%	-46.22%
TOTAL (No C&D)	215,300.00	201,227.40	40,443.40	52.89%	-41.00%
Timber sports compost			37,340		
C&D	721,000.00	337,414.00		31.81%	
GRAND TOTAL	936,300.00	538,641.40	77,583.40	39.69%	

2023					
	Trash (lbs)	Recycling (lbs)	Compost (lbs)	Diversion	Change in Trash (compared 2018)
Syracuse	105,660.00	156,150.00	34,515.50	64.34%	-55.00%
Tully	29,040.00	12,050.00	0.00	29.33%	
Ranger School	50,520.00	11,280.00	0.00	18.25%	29.74%
Can Tea	53,330.00	34,068.00	2,520.00	40.69%	-41.52%
TOTAL (No C&D)	238,550.00	213,548.00	37,035.50	51.23%	-34.63%
C&D	313,065.00	33,040.00		9.55%	
GRAND TOTAL	551,615.00	246,588.00	37,035.50	33.96%	

Year	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024					
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec					
Materials or Items	Weights													Total	Actual or estimated weight?	How was the weight obtained or estimated?	
Recycle																	
Mixed (Glass, plastic, paper, aluminum)	4200.0	7120.0	5030.0	8840.0	9840.0	4070.0	5240.0	8620.0	9380.0	10350.0	6880.0	7750.0	83200.0	Actual		Syracuse Haulers monthly weights	
																Syracuse Haulers monthly weights	
																No weight from 12/25-12/30/24. Not an estimate.	
Paper	11250.0	13980.0	20450.0	38250.0	11490.0	4920.0	4740.0		4240.0		5280.0		57580.0	Actual		Monthly weigh tickets	
Unrecycled paper						250.0							500.0	Actual		Monthly weigh tickets	
Electronics						30000.0							20000.0	Actual		Monthly weigh tickets	
Steel						400.0							400.0	Actual		Monthly weigh tickets	
Car Batteries	420.0	420.0	420.0	420.0	420.0	420.0	420.0	420.0	420.0	420.0	420.0	420.0	5122.0	Estimated		20% volume to weight conversion. 36 Recyclers estimate used	
																Advanced Auto Parts picks up car	
																new batteries. 142 cars were p	
																6/15/2024. Monthly data was no	
																was divided evenly between m	
Motor oil						400.0							400.0	Actual		Safety Klean	
AutoPart grease													0.0	Actual			
Coating oil	600.0					400.0			100.0					Actual		Weight from Baker Commodities	
Paints	1400.0				3000.0						5700.0		7200.0	Actual		Weight ticket from SCORRA	
Appliance Recycle													0.0	Actual		Monthly weigh tickets	
Refr													0.0	Actual		Monthly weigh tickets	
ink/toner													0.0	Actual		Monthly weigh tickets	
Batteries													0.0	Actual		Monthly weigh tickets	

EFFORTS



- STANDARDIZED SIGNAGE
- INTRODUCED COMPOST & LINERLESS BINS
- DEPLOYED RHEAPLY & ZABBLE TO QUANTIFY REUSE & GENERATION DATA



Working with Zabble has **transformed** how we are able to **share circularity data** on campus. **Static** and **confusing spreadsheets** have been replaced with a **dynamic dashboard that tells a story** and **allows anyone on campus to interact with information** that is typically behind the scenes and opaque.



Sue Fassler
Director of Sustainability
SUNY ESF

OUTCOMES



56%

Diversion Rate
(2024)

27%

Increase in
Diversion Rate
(since 2018)

Zero Waste and Circularity Data

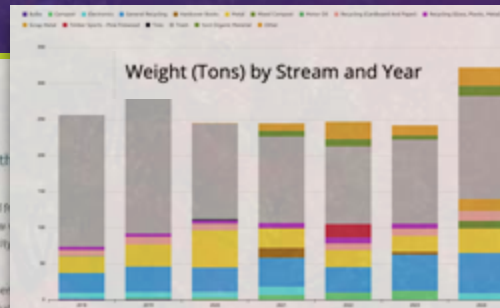
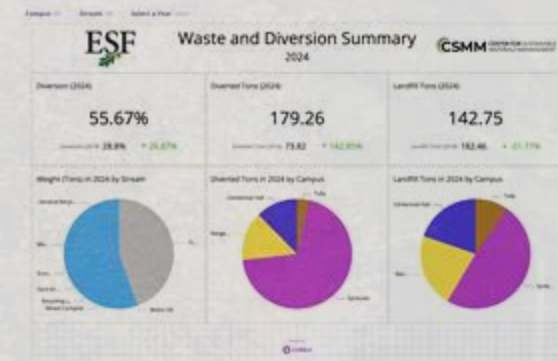
We traditionally think about materials that are thrown in the trash as waste and, th

The term materials management recognizes that all items have inherent value and are oftentimes created fr
extractive practices. Sustainable Materials Management (SMM) challenges us to systematically rethink how
productively throughout their entire lifecycle. According to the Ellen MacArthur Foundation, term circularity
consumption of finite resources.”

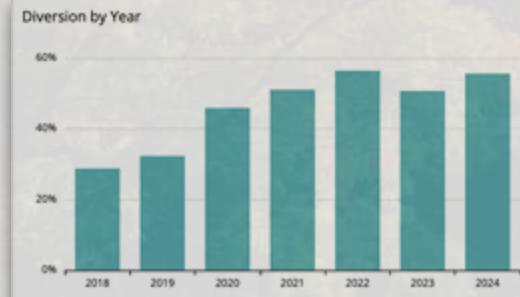
Instead of placing equal importance on reduction, reuse, and recycling, SMM and circularity most heavily em
something in the first place). All campus community members are encouraged to help in this effort by reduci
single-use products – even if they are recyclable or compostable – to the greatest extent possible.

ESF began to dramatically transform the ways that materials are viewed, managed, and tracked in 2019. Compared to our 2018 baseline, the college-wide diversion rate
(material diverted from landfill/incineration by recycling, composting, or reuse) has increased from 28.8% to 56.77% and the total weight of materials thrown in the
trash has decreased by 34.75%*.

*as of January 1, 2024



Public Dashboard



**Leveraging
the power of AI
to engage with
our communities**



Empowered People



Benchmarking



Compliance



Targeted Outreach





Let's talk!



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