



Session #3

Tracking Progress

Session #3 – Tracking Progress

School Name: University of North Carolina
at Chapel Hill



Setting: Public University in town of Chapel Hill

Population (FTE): 38,738

Recycling Reports to: Business Operations ->
Facilities Services

Programs/Tools Used : Excel

Session #3 – Tracking Progress

Metrics Reported: Total Waste, Recycling Rate, Compost Rate, Recovery Rate (Recycling + Compost)

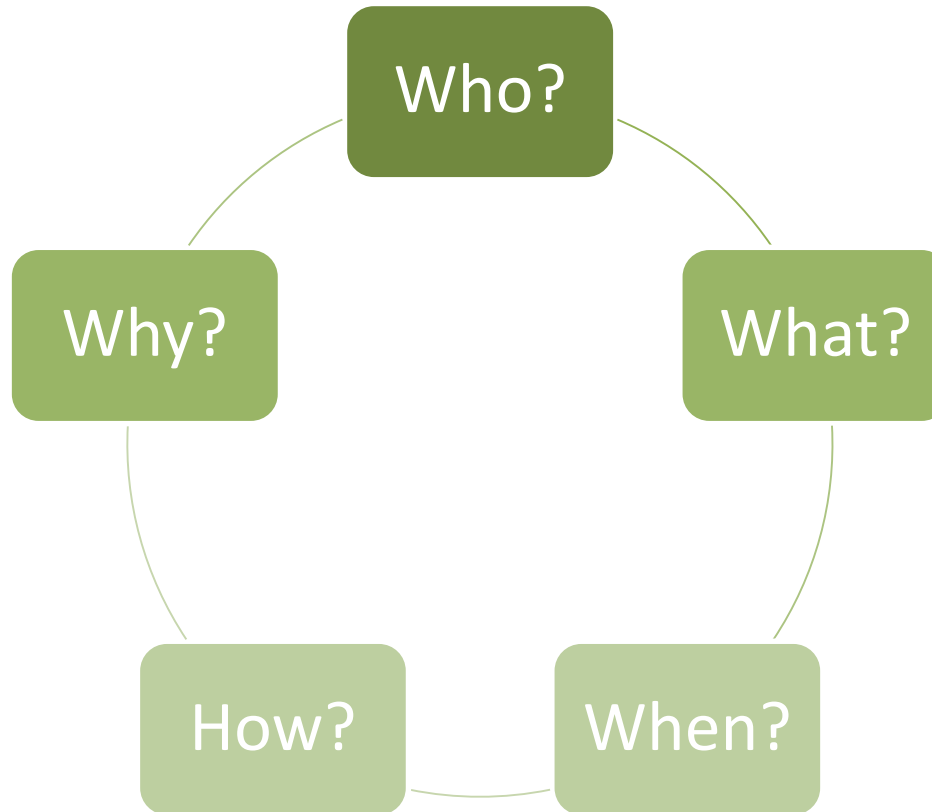
Agencies/Orgs Report to: Sustainability Office, NC DENR, AASHE Stars

Most Recent Annual Recycling Rate: 41% (organics, fiber, commingled)

Comprehensive Diversion Rate: 47% (all diverted materials)

Per Capita: .28 tons (*560 pounds*) of waste/FTE

The Big Questions



...And what happens when you can't get the information you need?

Why?

To evaluate progress over time

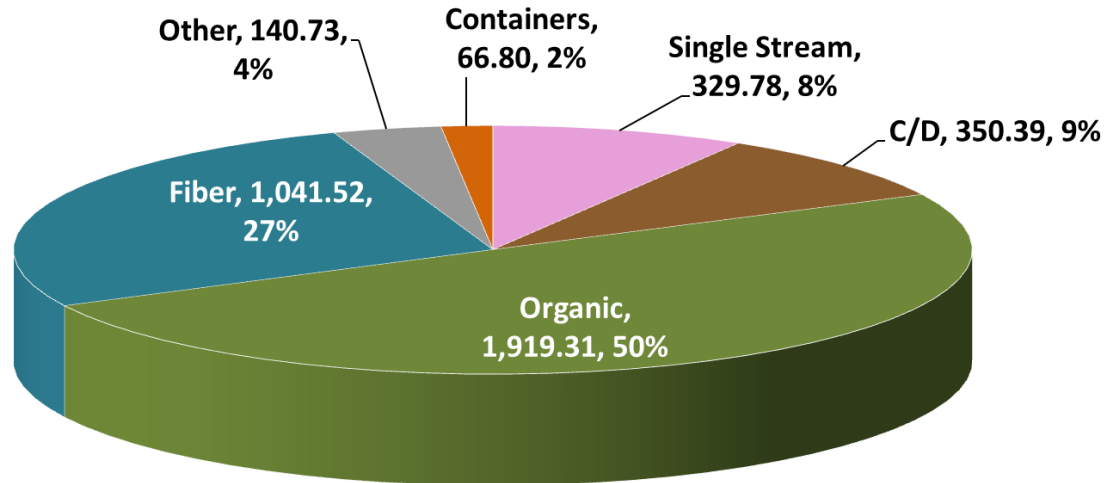
Easy access to information for decision making

Communicate information internally and externally

What?

April	Year To Date (in tons)		
	14-15	13-14	% increase or decrease
Trash	4,718	4,807	-2%
Recycling*	3,241	4,277	-24%
Compost	607	588	3%
Total Waste	8,567	9,087	-6%
% Recovered	44.9%	47.1%	-2.2%

Recovered Material Categories
2014-2015



C/D = Construction & Demolition: scrap metal, pallets and clean wood waste, concrete and block, carpet, and ceiling tiles

Containers = commingled bottles and cans (aluminum cans, glass bottles [green/blue, clear, brown, plastic bottles, steel cans])

Fiber = corrugated cardboard, office paper (white, office fiber), confidential paper, magazines and newspaper, hardback books and mixed paper

Organic = food waste, used cooking oil, yard waste, trees, firewood, and sawdust (NOTE: some of these materials are recycled and some are composted)

Other = auto batteries, auto oil, brake cleaning fluid, transformer oil, freon, printer cartridges, fluorescent lights, tires and white goods

Single Stream = combines Containers and Fiber into a single sort.

What?

Other:

Printer Cartridges, 14.6, 0%
Tires, 4.1, 0%
Batteries, 4.1, 0%
Mattresses, 0.4, 0%

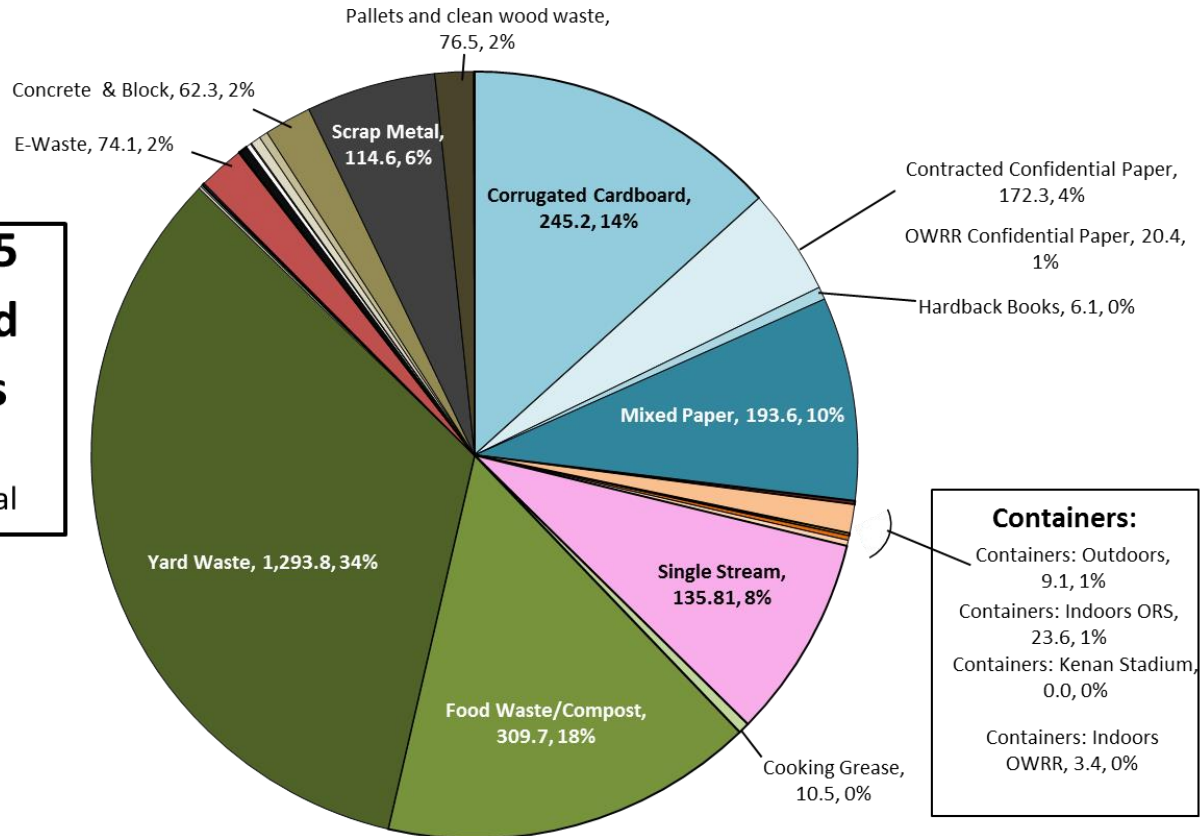
Bulk Solvent, 16.1, 0%
Trees, 0.0, 0%
Sawdust, 0.0, 0%
Polystyrene (loose), 0.3, 0%

Auto Batteries, 0.0, 0%
White Goods, 3.1, 0%
MRF: Recycled C&D, 1.6, 0%
Ceiling Tiles, 0.0, 0%
Fluorescent Bulbs, 14.1, 0%

Plastic Film, 0.4, 0%
Auto Oil, 7.6, 0%
Auto Coolant, 0.1, 0%
Auto Oil Filters, 1.8, 0%
Carpet, 0.0, 0%

2014-2015 Recovered Materials

by Ton and
Percent of Total



Who?

Departments: Grounds, EHS, Surplus, Central Receiving

Contractors: Waste Industries, Sonoco, Shimar Recycling Services

When?

Ongoing collection process

For UNC = Monthly

Forms (Grounds, Surplus)

Book Log
Use this Book Log to keep track of the books and pages you read.

Book Title	author	Pages	Page Read
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

Emails (EHS, Dining Services)



Invoices (contract requirements)

How?

Excel spreadsheets and workbooks

Re-Trac (learning curve)

When the Data Doesn't Come Easy...

Relationships with individuals and departments

Following up with results and proving the reporting effort is worth it

Fostering communication and opportunities for collaboration

Session #3 – Tracking Progress

School Name: University of Virginia

Setting: Public, Suburban Campus

Population (FTE): 38,334

Recycling Reports to: Office for Sustainability >
Facilities Management – Operations > VPMB

Programs/Tools Used : Excel



Session #3 – Tracking Progress

Metrics Reported: Diversion Rate, Recycling Rate

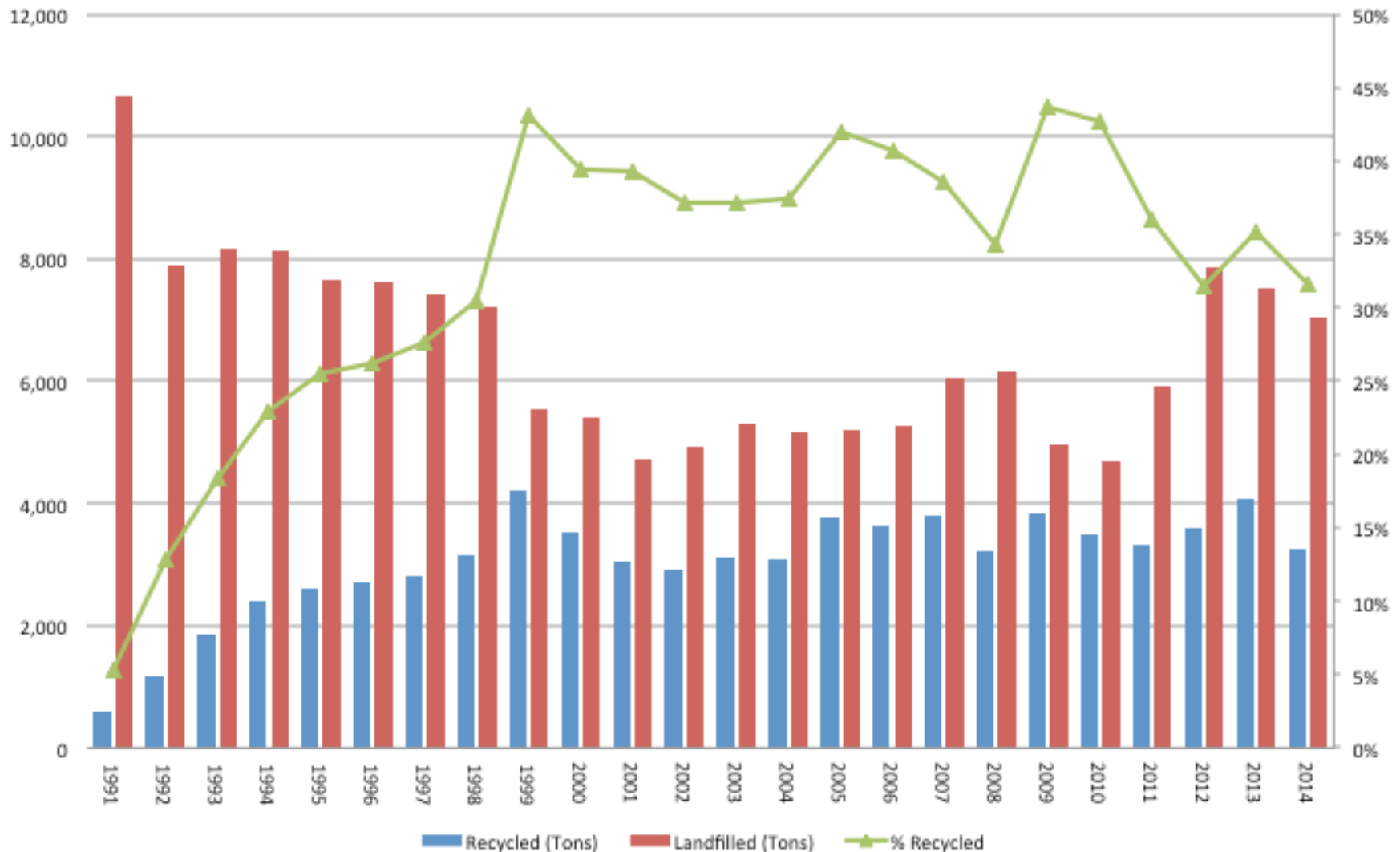
Agencies/Orgs Report to: AASHE STARS, VPMB, Recyclemania, Local Planning District

Most Recent Annual Recycling Rate: 32%

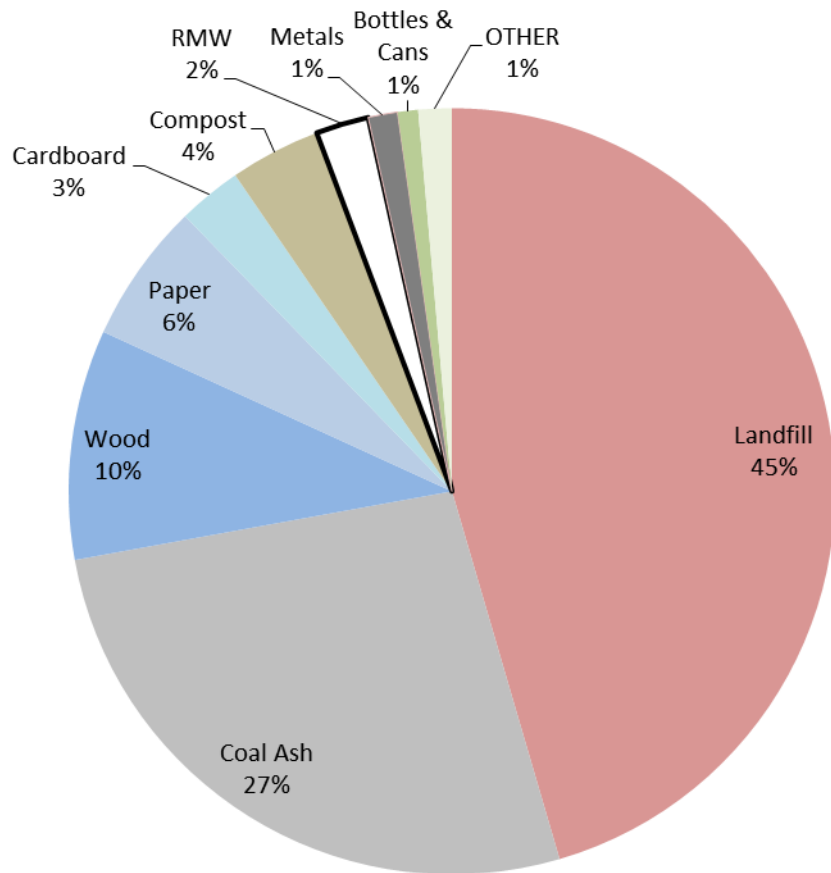
Comprehensive Diversion Rate: 53%

Per Capita: 8.44 lbs/capita

The University recycled 32% MSW in 2014, with a total diversion rate of 53%



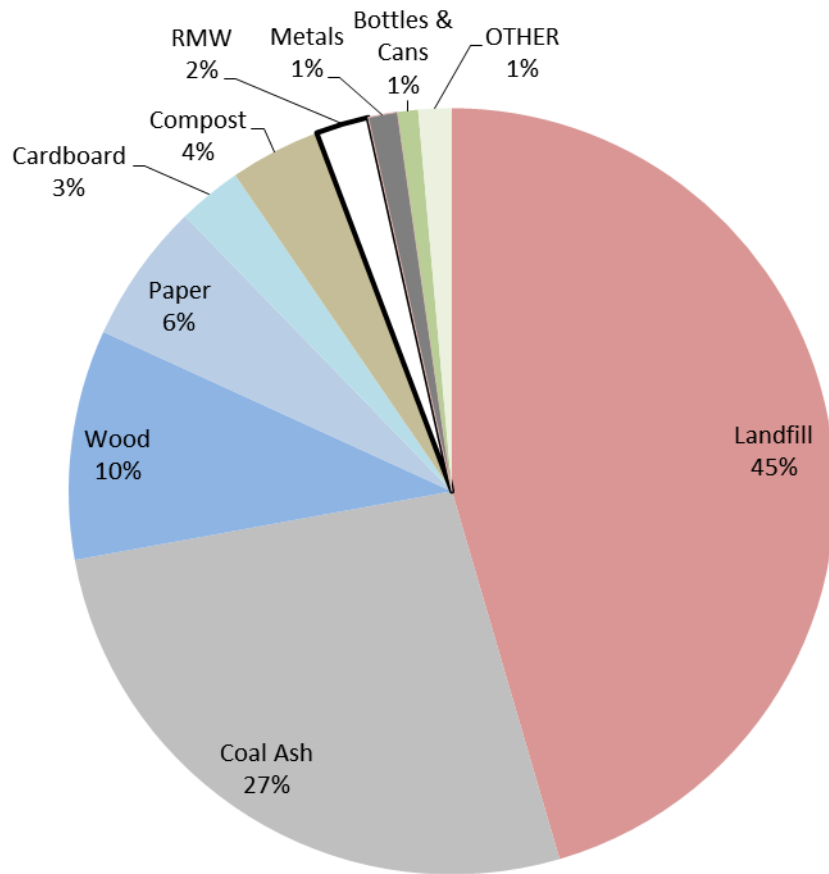
2013 Waste Profile



	MATERIAL TYPE	Includes:	Quantity (Tons)
Scope 1	MSW	Typical Solid Waste to Landfill	3462
	CRMSW	Clinical/Research MSW to Landfill	4071
	Paper	Office and Residential Paper Diverted	980
	OCC	Corrugated Cardboard Diverted	446
	Compost	Organic Food Waste Diverted	633
	Beverage Containers	Aluminum, Plastic, Glass Diverted	158
	TOTAL TONS (2013)		9750

	MATERIAL TYPE	Includes:	Quantity (Tons)
Scope 2	MERCI	Unused Medical Supplies Diverted	39
	Chemical Waste	Unused Lab Chemicals/Pesticide/etc. Diverted	35
	Lamps & Ballasts	Used Light Bulbs & Ballasts Diverted	21
	Tires	Used Tires Diverted	9
	Oil	Used Cooking/Lubrication Oil Diverted	14
	Batteries	Used Batteries Diverted	15
	Surplus Office Supplies	R.O.S.E. Program Diverted	7
	E-Cycling	Used Electronics Diverted	92
	Metals	Scrap Metal, Film, Silver Chips Diverted	205
	Coal Ash	Fly Ash & Bottom Ash Diverted	4418
	Pallets	Used Pallets Diverted	121
	RMW	Regulated Medical Waste to Landfill	370
	CDD	Construction & Demolition Debris (apx. 10% to Landfill)	1486
	TOTAL TONS (2013)		6832

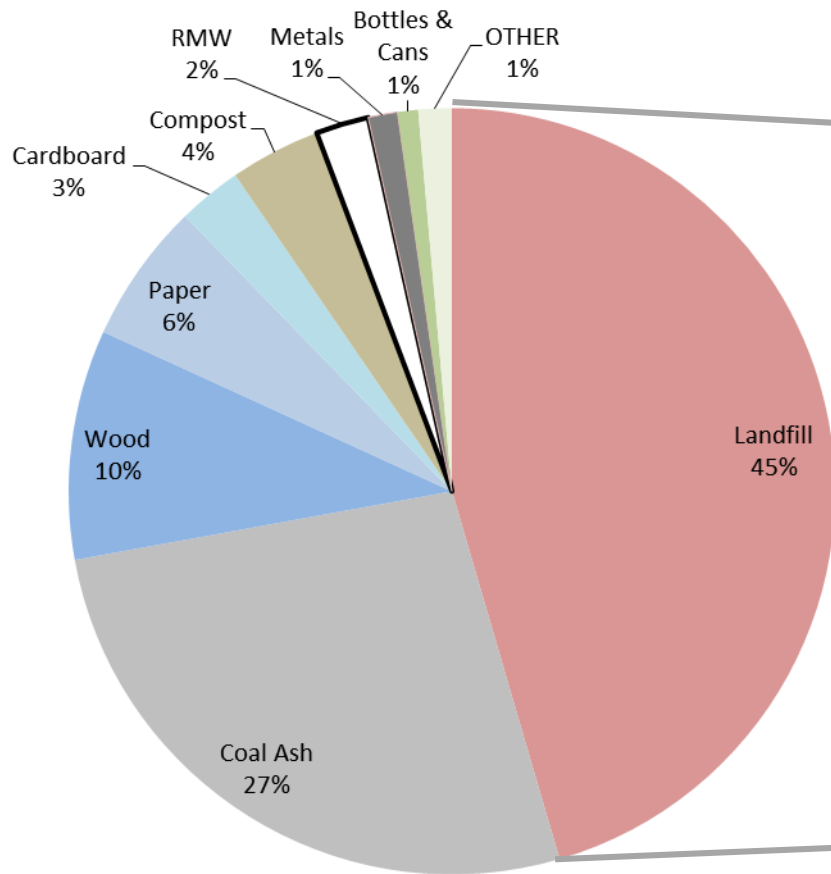
2013 Waste Profile



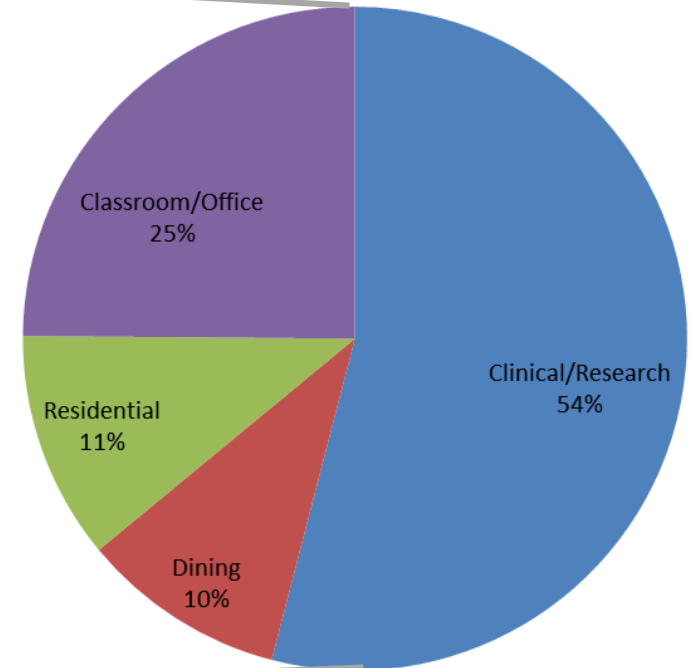
	Includes:	Quantity (Tons)
Landfill	Municipal Solid Waste	3462
	Clinical & Research Solid Waste	4071
Coal Ash		4418
Wood	Pallets, Construction Waste	1607
Paper		980
Cardboard		446
Compost		633
RMW	Regulated Medical Waste	370
Metals	Scrap Metal, Film, Silver Chips	205
Bottles & Cans	Aluminum, Plastic, Glass	158
OTHER	MERCI, Chemical Waste, Lamp/Ballasts/Tires/Oil/Batteries, Surplus Office Supplies, e-cycling	233

Waste Audit

2013 Waste Profile

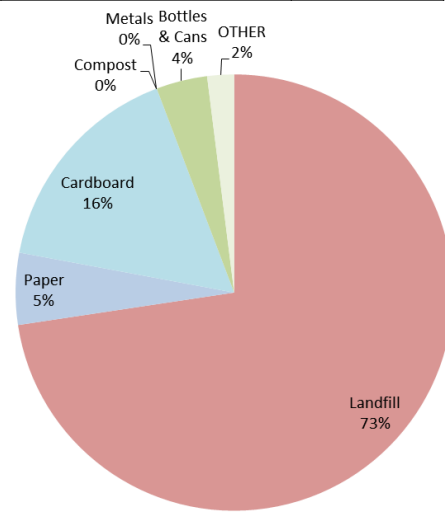


2013 Landfill by Customer

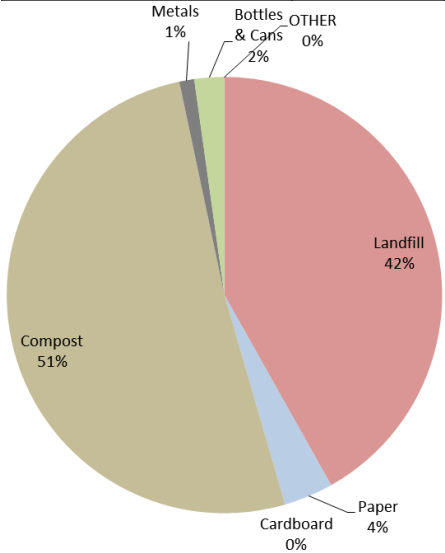


Waste Audit

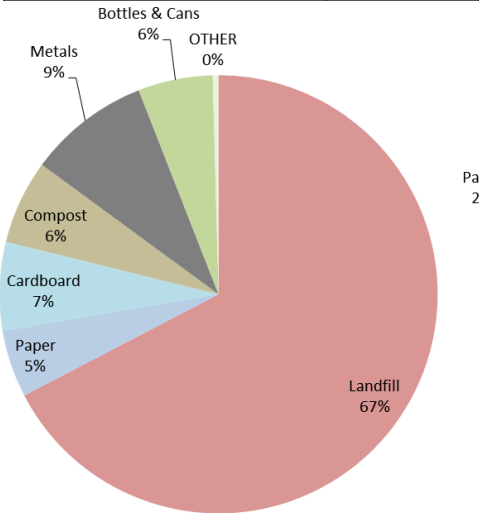
Clinical/Research	
	Pounds
Landfill	3565
Paper	261
Cardboard	800
Compost	0
Metals	0
Bottles & Cans	186
Other	97



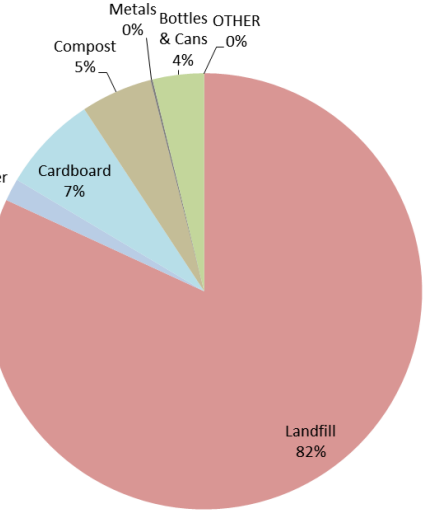
Dining	
	Pounds
Landfill	75
Paper	7
Cardboard	0
Compost	92
Metals	2
Bottles & Cans	4
Other	0



Classroom/Office	
	Pounds
Landfill	2060
Paper	152
Cardboard	200
Compost	190
Metals	275
Bottles & Cans	169
Other	13

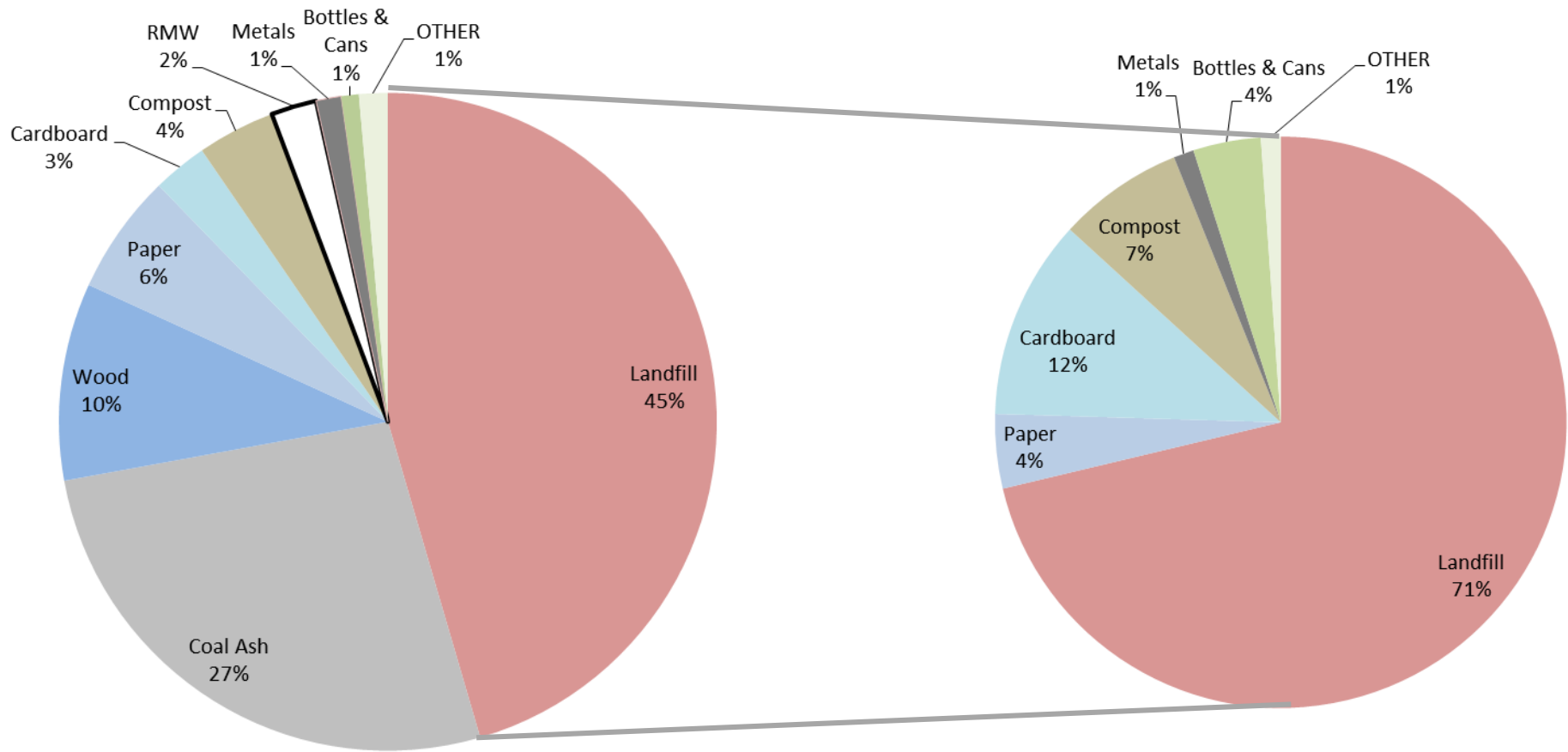


Residence Halls	
	Pounds
Landfill	2280
Paper	46
Cardboard	200
Compost	148
Metals	4
Bottles & Cans	106
Other	0



Waste Audit

2013 Waste Profile

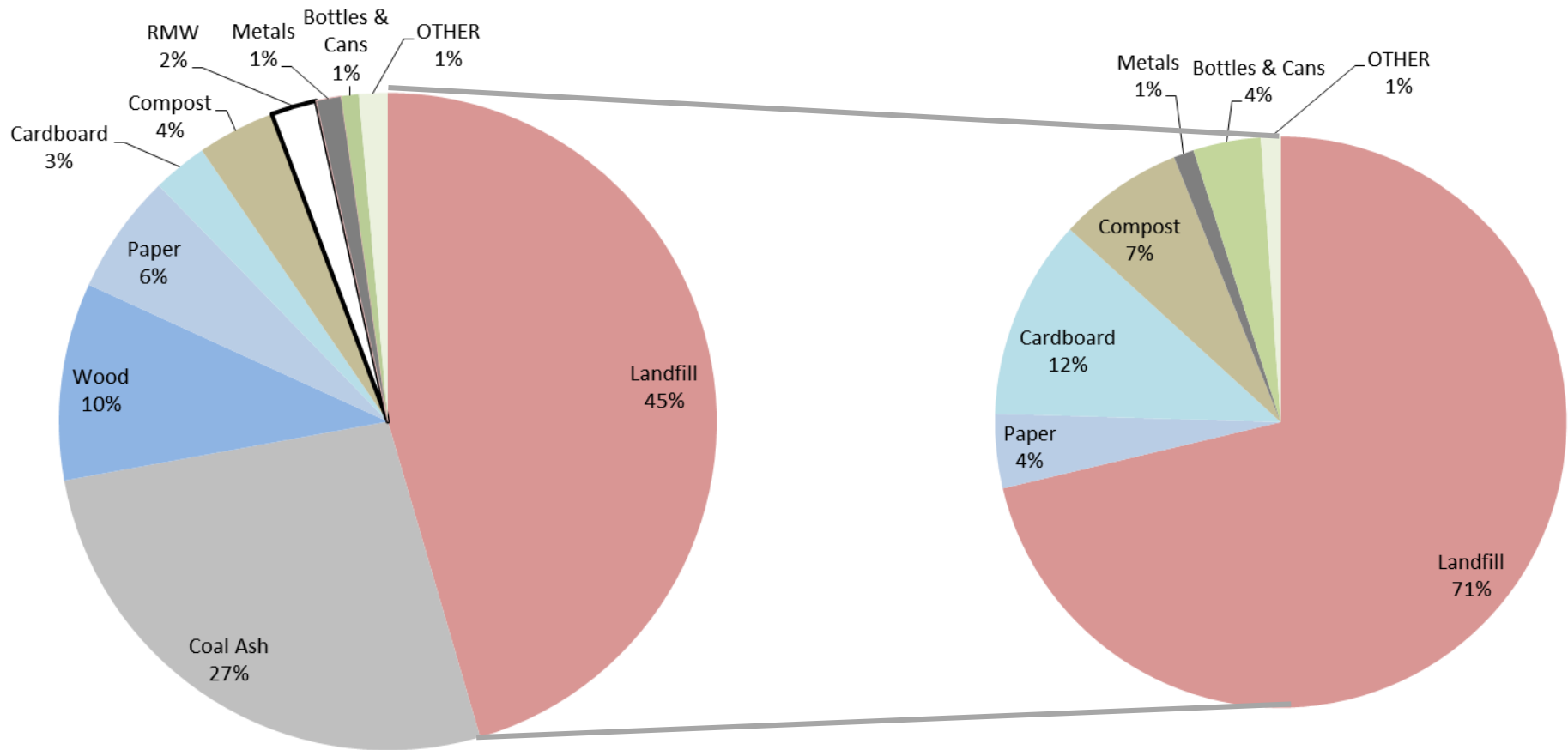


Recycling Saves Money

	Price Per Ton	
	2013	2015
Landfill Trash	-\$156.85	-\$170.15
White Paper	\$161.25	\$180.00
Office Paper	\$83.75	\$100.50
Residential Paper Mix	\$18.15	\$20.00
Cardboard	\$68.25	\$36.00
Aluminum	\$1,020.00	\$1,380.00
Plastic	\$20.00	\$20.00
Glass	-\$28.43	-\$38.43
Steel Cans	\$239.00	\$0.00
Scrap Metal	\$113.33	\$3.33

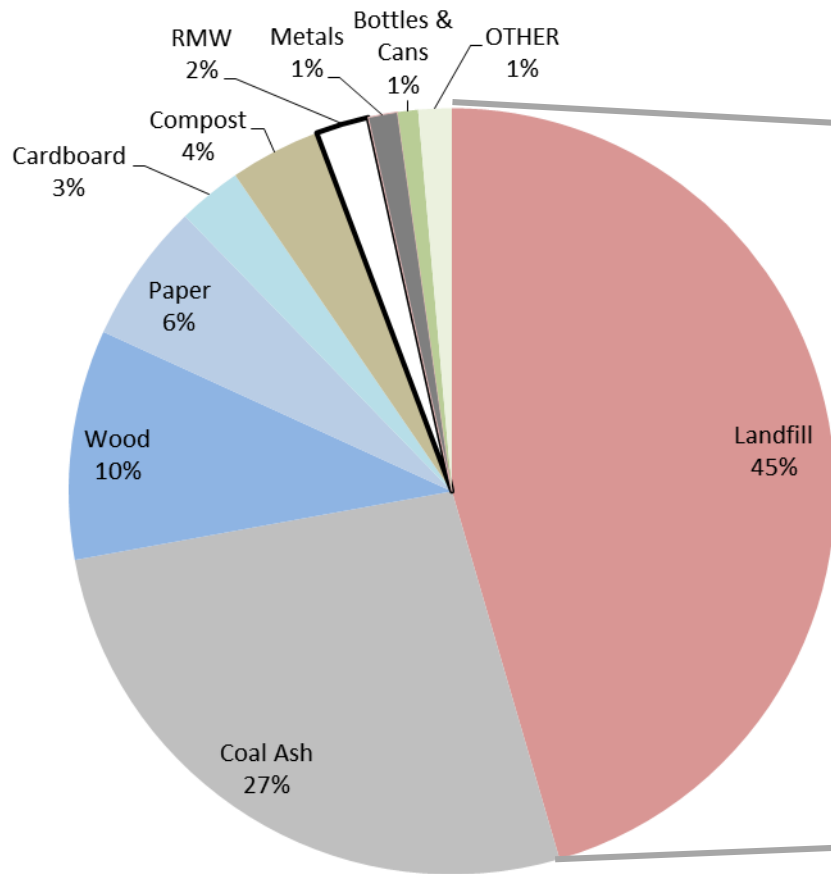
Recycling Saves Money

2013 Waste Profile

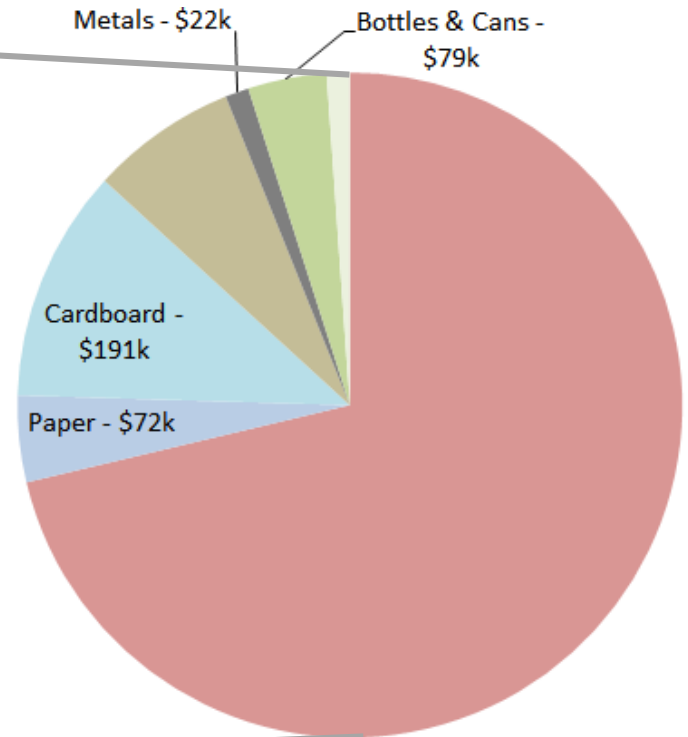


Recycling Saves Money

2013 Waste Profile



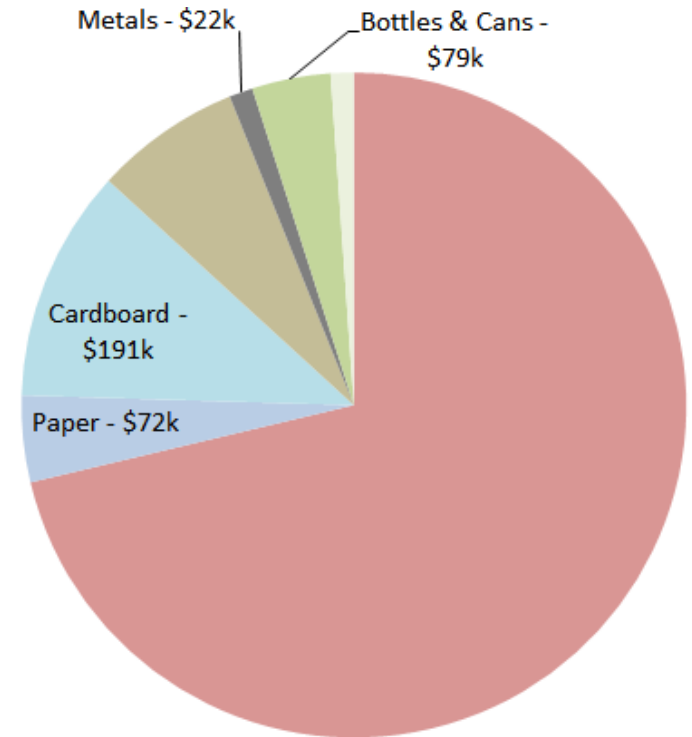
Potential Savings From Diversion



Recycling Saves Money

Potential Savings From Diversion

	CY2013		
	Actual	All Landfill	Max Diversion
Landfill Cost	-\$1,239,579	-\$1,519,327	-\$997,374
Recycling Income	\$237,153	\$112,693	\$359,916
Cost to UVA	-\$1,002,426	-\$1,406,634	-\$637,458
Cost Difference	\$0	-\$404,208	\$364,968



Data Challenges:

- Large reduction in RMW has greatly increased our MSW.
- How do we incorporate the downstream MRF?
 - If we include “second-tier” diversion, do we include “second-tier” losses?
- Much of “net” revenue is lost to shredding costs?
- Can we include all CDD?
- Track all revenues by commodity?

Session #3 – Tracking Progress

School Name: American University

Setting: Private, Urban Campus

Population (FTE): 14,684

Zero Waste Reports to: Facilities Management

Programs/Tools Used : Excel



Session #3 – Tracking Progress

Metrics Reported: Diversion Rate, Recycling Rate

Agencies/Orgs Report to: AASHE STARS, ACUPCC, LEED

Comprehensive Diversion Rate: 56% ?

Diversion Per Capita: 140lbs/person/yr ?

Total Waste Per Capita: 250lbs/person/yr ?

Waste Audits



AU Waste Stream

Organics

- Chopsticks
- Paper Towels
- Coffee Grounds
- Soiled Cardboard
- Food Waste
- Tea Bags
- Napkins
- Wet paper

45% = Compostable

Recyclables

- Metals
- Mixed Paper
- Plastics
- Dry Cardboard
- Glass
- Paperboard

45% Recyclable

Trash

- Chip Bags
- Candy wrappers
- Styrofoam

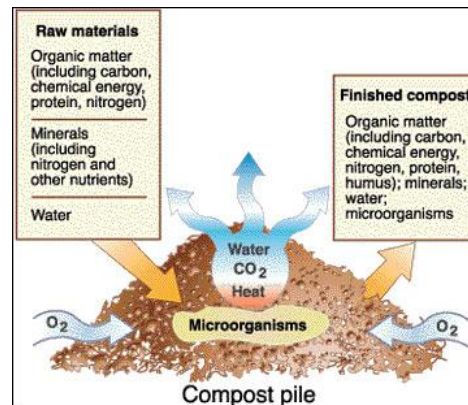
10% Landfill

This is changing

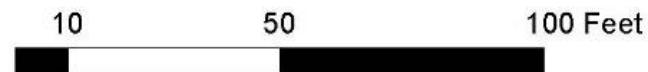
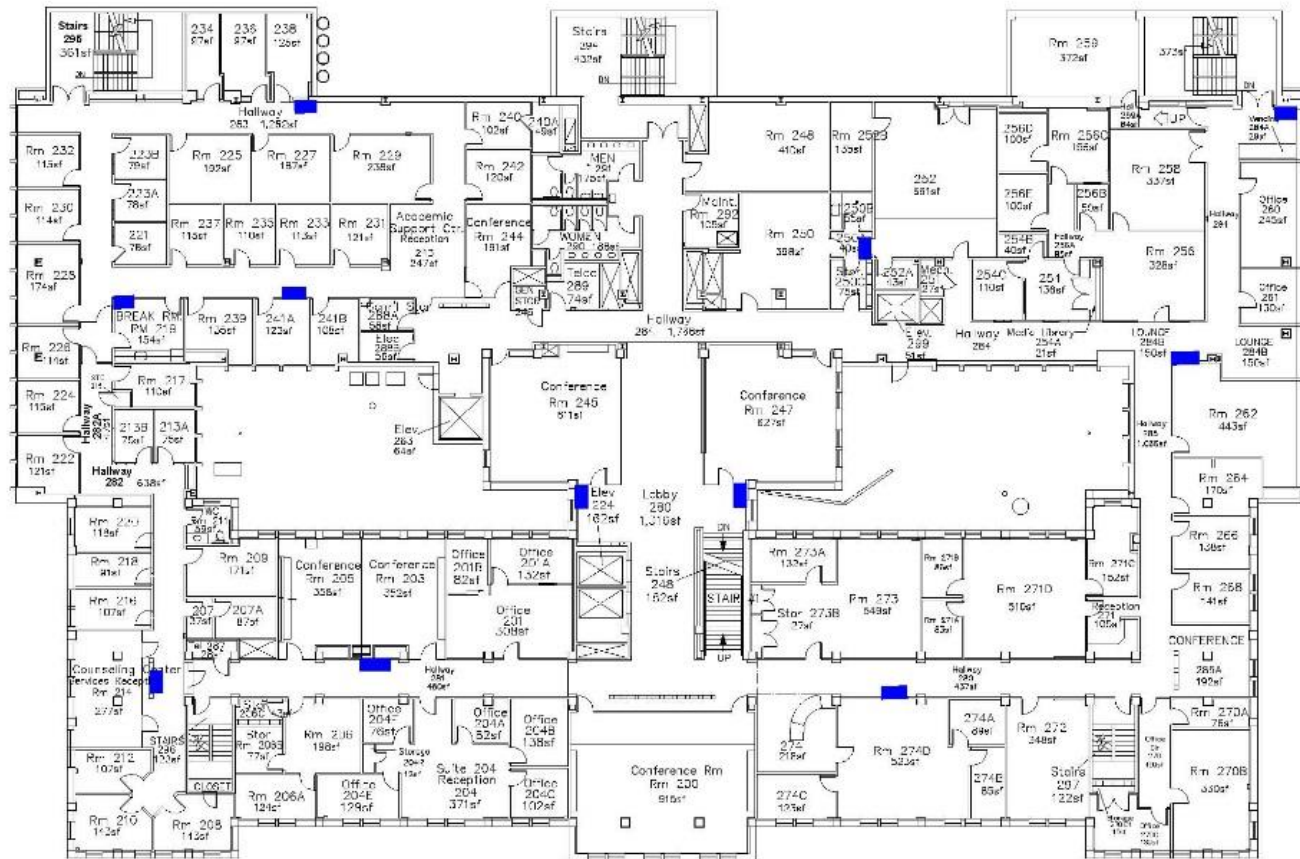
45% of our waste

Organic Waste

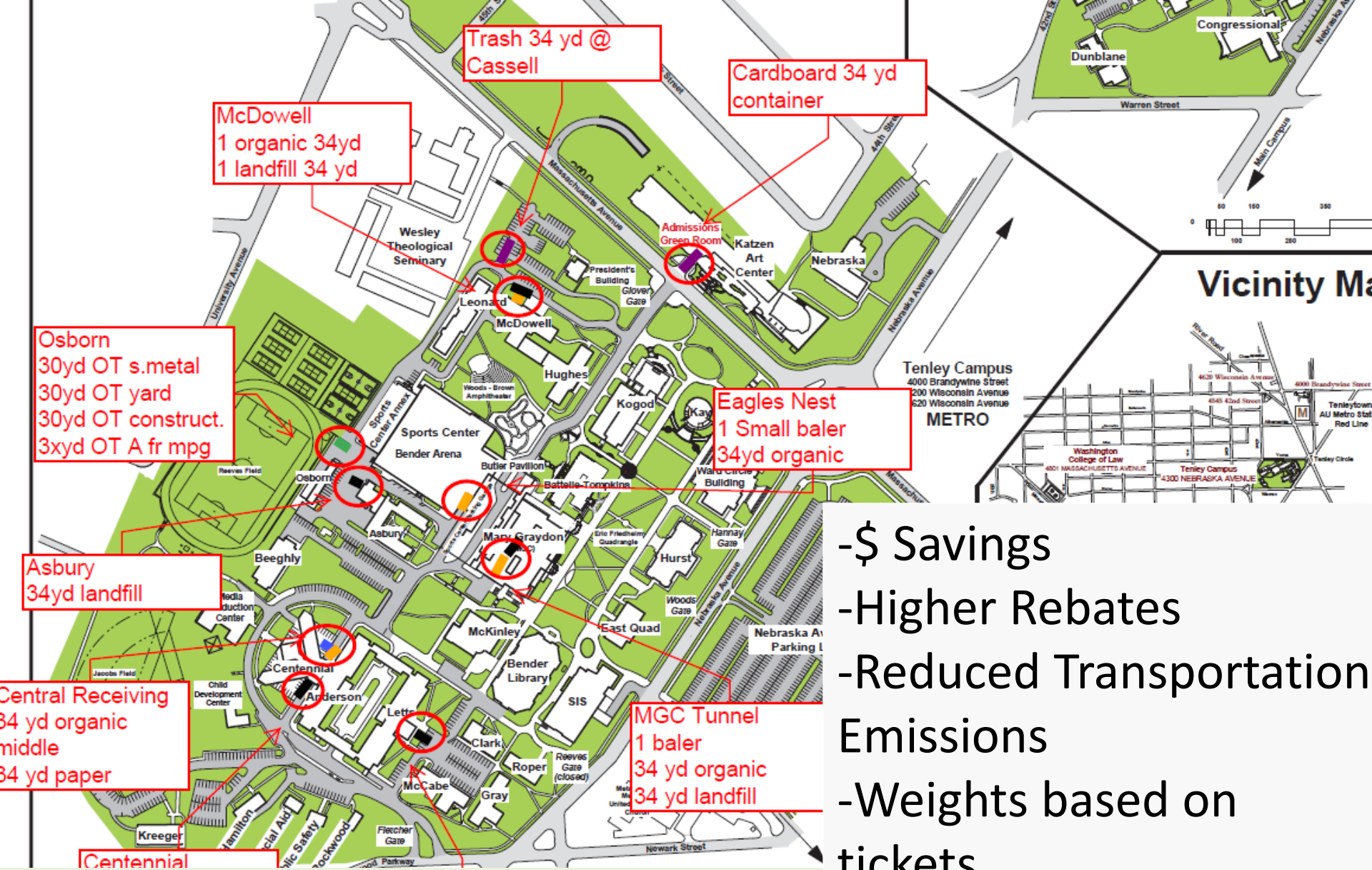
- Carbon Containing
- Anything **once living!**











- \$ Savings
- Higher Rebates
- Reduced Transportation Emissions
- Weights based on tickets
- Inspect sorted materials on a daily basis

How does waste travel?

How are our weights derived?



Purchasing

Consumer

Housekeeping
Dining

Hauler

Pest Control



End Point:
AD/Compost Facilities



Recycling Facilities



Landfill
CURC
COLLEGE & UNIVERSITY
RECYCLING COALITION

AU ZERO
WASTE

Count
everything
you can
count

Track your
extra efforts
(e.g. move-
in, move-
out)

Food	Composted	Ongoing Consumables	Exact
Yard	Composted	Ongoing Consumables	Estimated
Construction Debris	Landfilled	Facility Alterations	Exact
Construction Debris	Recycled	Facility Alterations	Exact
Construction Debris	Recycled	Ongoing Consumables	Exact
Trash	Landfilled	Ongoing Consumables	Exact
Batteries	Recycled	Ongoing Consumables	Exact
Commingled	Recycled	Ongoing Consumables	Exact
Cardboard	Recycled	Ongoing Consumables	Exact
Carpet	Recycled	Facility Alterations	Exact
Cooking Oil	Recycled	Ongoing Consumables	Estimated
Electronic	Recycled	Durable Goods	Exact
Flourescent Lamps	Recycled	Durable Goods	Exact
Mattresses	Recycled	Facility Alterations	Exact
Paper	Recycled	Ongoing Consumables	Exact
Scrap Metal	Recycled	Ongoing Consumables	Exact
Tires	Recycled	Durable Goods	Estimated
Used Fluids	Recycled	Durable Goods	Estimated
Vehicle Batteries	Recycled	Durable Goods	Estimated
Clothes	Reused	Durable Goods	Exact
Furniture	Reused	Durable Goods	Estimated

1 2		A	B	C	D	E	F	G	H
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									

Metal, Plastic, Glass (MPG)						LEED Category	Ongoing Consumables
Metal, Plastic, Glass are collected in toters throughout the campus. During RecycleMania 2011, cardboard, mixed paper, commingled was internally picked up and hauled to World Recycling as a pilot for moving recycling duties in-house.							
Approach to Tracking 2013-2014 Approach to Tracking 2012-2011		Plastic (#1-7), Metal, Glass are collected from green metal recycling bins located in academic, administrative, and residential buildings. These bins are also lined with clear plastic bags and ARAMARK housekeeping collects the bins every day. The bags are transferred to toters in the loading docks nearest to the buildings and are picked up by ARAMARK Housekeeping for academic/residence staging areas and in-house FM Recycling Staff for Residential Areas. Materials are then moved to dedicated MPG open top at Osborn. MPG open top is picked up on call by Progressive Waste and sent to recycling. Progressive provides monthly weights to Zero Waste Coordinator for tracking.					
		2012-2011: Plastic (#1-7), Metal, Glass are collected from green metal recycling bins located in academic, administrative, and residential buildings. These bins are also lined with clear plastic bags and ARAMARK housekeeping collects the bins every day. The bags are transferred to toters in the loading docks nearest to the buildings and are picked up by CWI every Monday, Wednesday, and Friday. Weights of how much are collected are provided by CWI on a monthly basis and sent to the Zero Waste Coordinator for tracking. Glass is reported into three different weights, flint (white glass), amber, and green. These weights, along with plastic and metal are sent to the Zero Waste Coordinator.					
19	Invoice Location	I:\Sustainability\Operations\Waste\Zero Waste Data\CWI					
20		I:\Sustainability\Operations\Waste\Zero Waste Data\World Recycling					
21	Assumptions						
22	Notes	Name	Date			Comment	
23							
24							
25							
26							
27	Description of Materials	Diversion Method	Hauler or Destination	Pick-up Date	Fiscal Year	Amount Generated (Tons)	Amount Generated (Pounds)
40				CWI Cans	10	0.41	820.00
41				CWI Plastic	10	0.36	720.00
42				CWI Glass	10	0.37	740.00
43				FY10 Total	10	1.14	2280.00
SummaryMonthly SummaryFY STARS Cardboard Paper Commingled Scrap Metal Trash Food Yard ...							
READY	Assumptions						

American University

Monthly Tonage: Categorized Waste Streams

Year: 2014

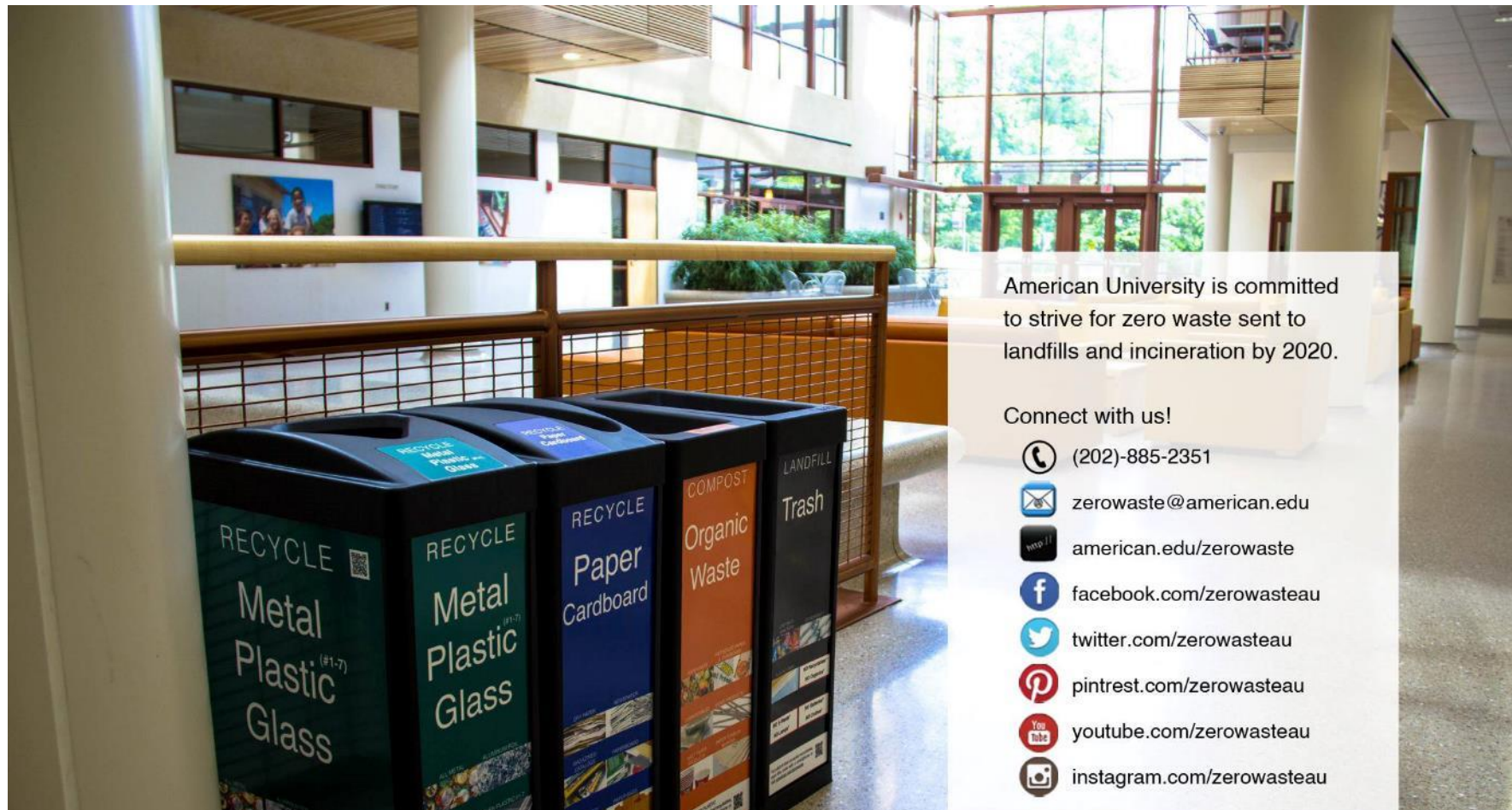
Buliding:	Account Number:	Waste Stream:	May	June	July	Aug	Sept	Oct	Nov
Central Receiving:	150012965-0019	Compost							
Central Receiving:	150012965-0019	Compost Landfill							
Mary Gradon	150012965-0030	Compost							
Mary Gradon	150012965-0030	Compost Landfill							
Sports Centr Trash	150012965-0019	Compost							
Sports Centr Trash	150012965-0019	Compost Landfill							
Letts	150012965-0002	Landfill							
Centennial	150012965-0006	Landfill							
Asbury:	150012965-0004	Landfill							
McDowell Trash	150012965-0005	Landfill							
Cassell	150012965-0033	Landfill							
Katzen Trash	150012965-0024	Landfill							
Mary Gradon Trash	150012965-0030	Landfill							
Osborn Trash	150012965-0001	Landfill							
Central Receiving:	150012965-0019	Cardboard Recycling							
Osborn	150012965-0001	MPG Recycling							
McDowell Recycle	150012965-0005	Paper Recycling							
Monthly Total			0	0	0	0	0	0	0

Make it easy for haulers, try to track contamination/rejection

Next steps

- What % of our contaminated waste is discarded/rejected from facilities?
- Plastics not always recycled, compostables not always composted
- How can we derive “true” diversion %
- It’s not all about the numbers, it’s also the story

Connect With Us!





Tracking at MUSC

Christine von Kolnitz Cooley, ACEM, CRP
Medical University of South Carolina

vonkolnc@musc.edu

843-792-4066

Tracking

Recycling Bins & Customers

- Mobile ASI Software on Intermec Unit
- Data fed to Veri-shred software
 - Receive & view service orders
 - Scan & track bins
 - Enter notes & volume
 - Create invoices



Daily Run Sheet for Wednesday, 11/05/2014 -- Route T2 - TRUCK 2 (BOX)

11/04/2014 12:52 PM

Sequence: Route, Assigned Primary Address Order, Service Order, Assigned Bin Location Stop, Bin Type, Action

Page 1

Route Summary:	5 Customers	7 Addresses	143 Stops	213 Bins	Action to Take
Notes:					22 (96) Replace 1 (1C) Tip 88 (23) Tip 66 (30) Tip 36 (CN) Tip

Customer Primary Address	Bin Location	# Bins	Bin Description	Action to Take
--------------------------	--------------	--------	-----------------	----------------

1) Customer: 98240 S/O No. AAAACSEE Contact: Fred Miles
 Medical University Hospital Authority-MUHA
 Children's Hospital...PGS
 Charleston, SC 29425

EH 204 code [redacted] not correct code	2	(CN) 23 GAL CAN BIN	Tip
EH 212 LAB	1	(CN) 23 GAL CAN BIN	Tip
EH 218 F cytonogenetics	2	(CN) 23 GAL CAN BIN	Tip
EH 218 molecular	2	(CN) 23 GAL CAN BIN	Tip
EH 219	1	(CN) 23 GAL CAN BIN	Tip
EH 224 LAB	1	(CN) 23 GAL CAN BIN	Tip
EH 314	2	(CN) 23 GAL CAN BIN	Tip
EH 319	2	(CN) 23 GAL CAN BIN 90	Tip
EH 324 [redacted]	3	(CN) 23 GAL CAN BIN	Tip
EH 329	1	(CN) 23 GAL CAN BIN	Tip
EH 433 "Trash room"	1	(CN) 23 GAL CAN BIN	Tip
EH 508 STAFF LOUNGE	2	(CN) 23 GAL CAN BIN	Tip
EH 512 KITCHEN 512A take out of	1	(1C) 1 cubic yard	Tip
512H EH 512 KITCHEN 15499 can + F	1	(CN) 23 GAL CAN BIN	Tip
EH 526E code [redacted]	1	(CN) 23 GAL CAN BIN	Tip
EH 620 (knock) Pharmacy 16730	1	(CN) 23 GAL CAN BIN	Tip
EH 6MRM (EH629)	3	(CN) 23 GAL CAN BIN	Tip
EH 7TH FL ELEV F	1	(CN) 23 GAL CAN BIN	Tip
EH 847 NICU code [redacted]	2	(CN) 23 GAL CAN BIN	Tip
EH 850 NICU in patient area at windows	2	(CN) 23 GAL CAN BIN	Tip
EH 853 NICU	2	(CN) 23 GAL CAN BIN	Tip
EH 902 Hospital Maintenance Shop	1	(CN) 23 GAL CAN BIN	Tip

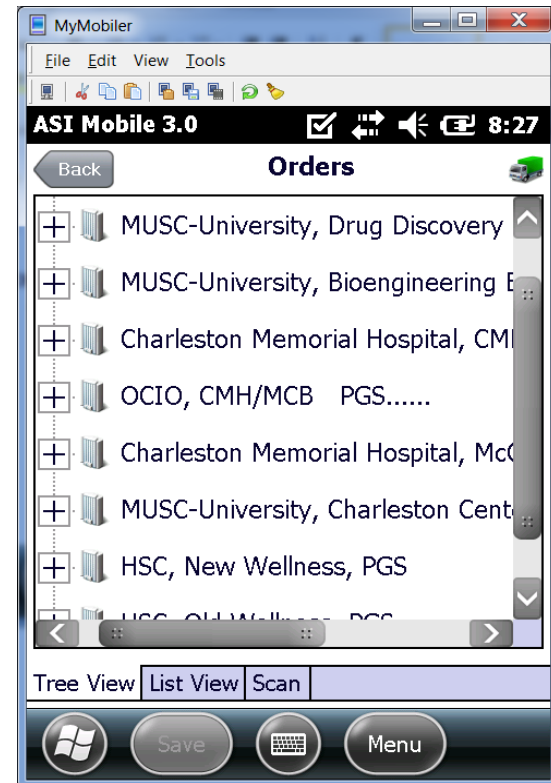
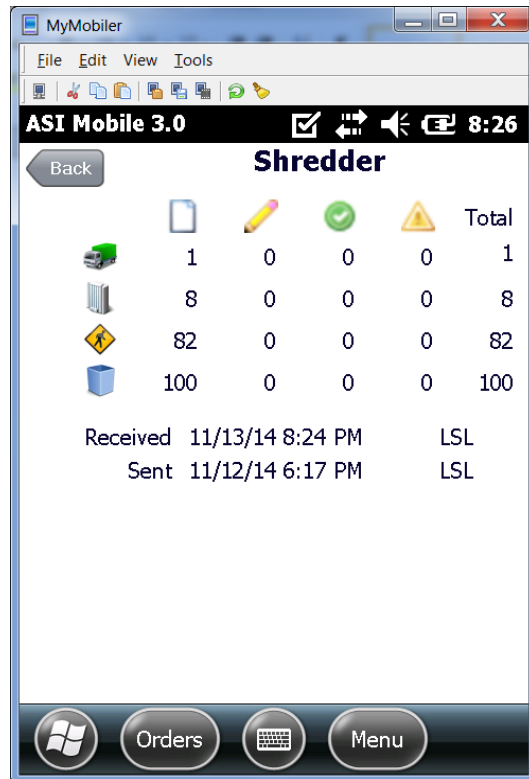
new 17333

511FL asked 14083

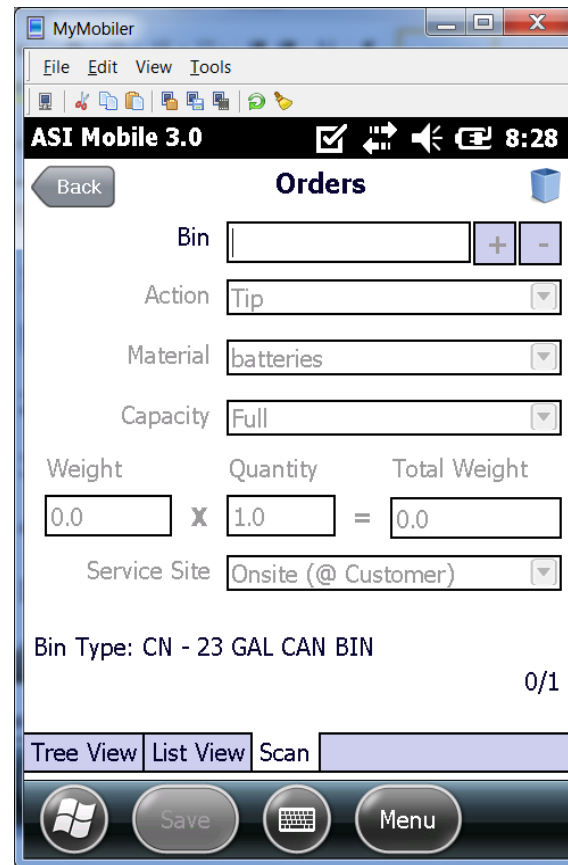
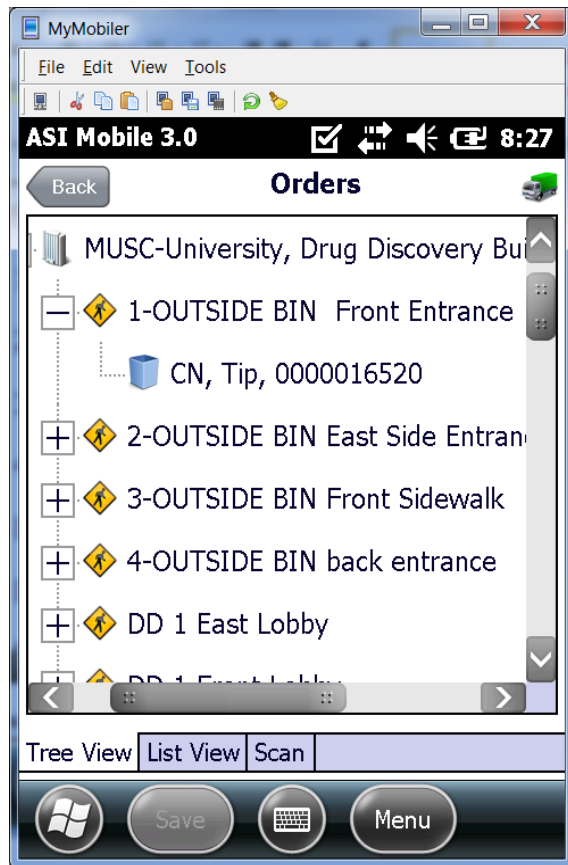
remove 16264 out place in 619
 16277/620 code [redacted]

? 14066 PCU EH 879 -

Mobile ASI



Mobile ASI



Veri-Shred Invoicing

Medical University of South Carolina
97 Jonathan Lucas Street
Charleston, SC 29425

AC-Rutledge Tower Rutledge Tower.....TONER Charleston SC 29425	94010-ACRUTLEDGETOWER Invoice No.: 0003405 Invoice Date: 11/01/2014 Order No.: Terms: UPON RECEIPT Print Date: 11/07/2014 # 405
--	--

	Amount	Tax	Subtotal
10/01/2014 - 10/31/2014 Services:	2,875.95	0.00	2,875.95
Total Services:			2,875.95
PLEASE PAY THIS AMOUNT			2,875.95

Date: 10/03/2014	W/O: N040209	S/O: AAAACQRC	Rate	Qty Units	Amount	Tax	Total Amount
AC-Rutledge Tower	23-23 GAL BIN		3.8500	6.000	23.10	0.00	23.10
AC-Rutledge Tower	30-30 GAL CONSOLE		3.8500	6.000	23.10	0.00	23.10
AC-Rutledge Tower	96-96 GAL BIN		3.8500	1.000	3.85	0.00	3.85
AC-Rutledge Tower	TT-TRUCK TRIP		0.0000	1.000	0.00	0.00	0.00
Work Order Total:					50.05	0.00	50.05

Date: 10/02/2014	W/O: N040263	S/O: AAAACQGO	Rate	Qty Units	Amount	Tax	Total Amount
AC-Rutledge Tower	1C-1CUBIC YARD		3.8500	1.000	3.85	0.00	3.85
AC-Rutledge Tower	CN-23 GAL CAN BIN		3.8500	45.000	173.25	0.00	173.25
AC-Rutledge Tower	O1-OUTDOOR PGS BIN		3.8500	1.000	3.85	0.00	3.85
AC-Rutledge Tower	TT-TRUCK TRIP		0.0000	1.000	0.00	0.00	0.00
Work Order Total:					180.95	0.00	180.95

Date: 10/01/2014	W/O: N040288	S/O: AAAACQMS	Rate	Qty Units	Amount	Tax	Total Amount
AC-Rutledge Tower	02-2 GAL BIN		3.8500	2.000	7.70	0.00	7.70
AC-Rutledge Tower	23-23 GAL BIN		3.8500	25.000	96.25	0.00	96.25
AC-Rutledge Tower	30-30 GAL CONSOLE		3.8500	53.000	204.05	0.00	204.05
AC-Rutledge Tower	96-96 GAL BIN		3.8500	7.000	26.95	0.00	26.95
AC-Rutledge Tower	TT-TRUCK TRIP		0.0000	1.000	0.00	0.00	0.00
Work Order Total:					334.95	0.00	334.95

Date: 10/08/2014	W/O: N040629	S/O: AAAACQVG	Rate	Qty Units	Amount	Tax	Total Amount
AC-Rutledge Tower	23-23 GAL BIN		3.8500	27.000	103.95	0.00	103.95
AC-Rutledge Tower	30-30 GAL CONSOLE		3.8500	54.000	207.90	0.00	207.90
AC-Rutledge Tower	96-96 GAL BIN		3.8500	8.000	30.80	0.00	30.80
AC-Rutledge Tower	TT-TRUCK TRIP		0.0000	1.000	0.00	0.00	0.00
Work Order Total:					342.65	0.00	342.65

Date: 10/10/2014	W/O: N040707	S/O: AAAACQZS	Rate	Qty Units	Amount	Tax	Total Amount
AC-Rutledge Tower	23-23 GAL BIN		3.8500	6.000	23.10	0.00	23.10
AC-Rutledge Tower	30-30 GAL CONSOLE		3.8500	6.000	23.10	0.00	23.10
AC-Rutledge Tower	96-96 GAL BIN		3.8500	1.000	3.85	0.00	3.85
AC-Rutledge Tower	TT-TRUCK TRIP		0.0000	1.000	0.00	0.00	0.00
Work Order Total:					50.05	0.00	50.05

- Monthly
- Could use Quick Books for accounts receivable

Stats

Recycling Stats

- Started tracking with excel in 1995
- Started using Re-Trac in 2006
- Use mostly scale weight numbers

Who We Report To

- RM
- DHEC
- E & F Admin & VP's Office

What We Report

- Annual recycled rate
- monthly basic recycled rate (Paper & PGS)
- % scheduled service completed weekly

Re-Trac

← → https://my.re-trac.com/EditTransaction_MUSC_Invoice.pm?s Edit Invoice - Re-TRAC™

Re-TRAC™ - A Recycling and Solid Waste Data Management Tool

Home | My Account | Help | Logout

Christine von Kolnitz MUSC > Campus-wide

Edit Invoice - 2014/15

Search Transactions

Dumpster: 1001 Michigan Ave - Front End - SW [Edit](#)
4 yd, Front End, Solid Waste
This dumpster does not have any department billing allocation.
Financial data won't be saved.

Invoice #:

PO #: 6226588

Pickup Date: July 1 2014

Number of Lifts: 1

Net Weight: Tons

Per Lift Cost: 14.74

Total Lift Cost:

Monthly Rental Fee:

Misc Expense/Charge:

Copyright © 2003 - 2015 Emerge Knowledge Design Inc. All rights reserved.

← → https://my.re-trac.com/EditTransaction_MUSC_Others.pm?s Edit Tr

Re-TRAC™ - A Recycling and Solid Waste Data Management Tool

Home | My Account | Help | Logout

Christine von Kolnitz MUSC > Campus-wide

Other Record Input Form - 2014/15

Search Transactions

Date: July 1 2014

Material: Office Fiber

Weight: Pounds

Revenue:

Recycling Costs:

Last Visited

Campus-wide

Copyright © 2003 - 2015 Emerge Knowledge Design Inc. All rights reserved.

Work Orders

- AIM System with I-phones
- Send WO to phone
- Employee closes WO on phone real time
- Track where employee is by WO
- KPI – Hrs per WO

Work Orders

- KPI - % Billable
- Take action to reduce call backs
 - Stay on schedule
 - Track list of multiple calls
 - Add another bin
 - Increase schedule
 - Keep staff informed
 - Reward staff

Your Story Through Data

– EPA warm model for emissions

<http://epa.gov/epawaste/conserve/tools/warm/index.html>

Steps 1 and 2. Baseline and Alternative Scenarios

Material	Baseline Scenario					Tons Generated	Alternative Scenario				
	Tons Recycled	Tons Landfilled	Tons Combusted	Tons Composted	Tons Source Reduced		Tons Recycled	Tons Landfilled	Tons Combusted	Tons Compost	
Aluminum Cans				N/A	0					N/A	
Aluminum Ingot				N/A	0					N/A	
Steel Cans				N/A	0					N/A	
Copper Wire				N/A	0					N/A	
Glass				N/A	0					N/A	
HDPE				N/A	0					N/A	
LDPE	N/A			N/A	0		N/A			N/A	
PET				N/A	0					N/A	
LLDPE	N/A			N/A	0		N/A			N/A	
PP	N/A			N/A	0		N/A			N/A	
PS	N/A			N/A	0		N/A			N/A	
PVC	N/A			N/A	0		N/A			N/A	
PLA	N/A				0		N/A				
Corrugated Containers				N/A	0					N/A	
Magazines / Third-class mail				N/A	0					N/A	
Newspaper				N/A	0					N/A	
Office Paper				N/A	0					N/A	
Phonebooks				N/A	0					N/A	
Textbooks				N/A	0					N/A	
Dimensional Lumber				N/A	0					N/A	
Medium-density Fiberboard				N/A	0					N/A	
Food Waste					0						