

Away from Home Recycling

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Orange County NC

4/20/21 Busch Seminar

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Orange County AFH Overview

Type	Number	Comments
Park & Ride Lots	5	Includes one UNC “Big Belly” with remote communication. Reduced from daily to once a week collection trip
Convenience Stores (etc.)	23	Using mostly 35 gal carts surplus from govt. bldg. program. Custom bins at NCDOT. One car wash. (Others said ‘no’)
Parks	24	Throughout County not including UNC, Duke or TLC natural areas. Carrboro collects its own & consolidates at Public Works for \$ savings from County SWP Fee
Pedestrian Bins	53	In downtown areas of all 3 Towns. County full cost fee= \$10/month/bin. Towns got DEACS grants for all bins. Varying styles in each Town.
Total	105	Opportunities abound for recycling

Orange County NC

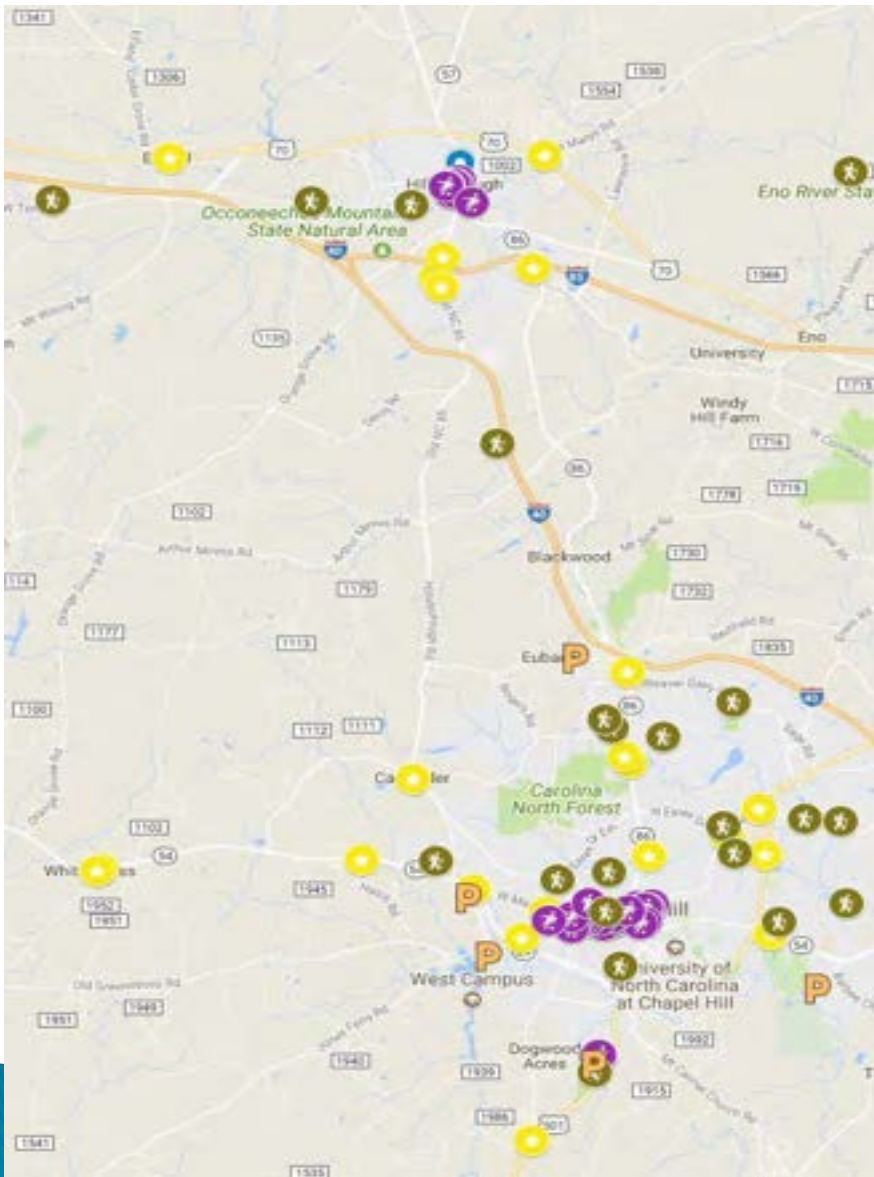
148,000 total pop.

400 sq. miles

3 incorporated towns

- Carrboro 21,000 (former mill town, now very hip)
- Chapel Hill 64,000 (home of UNC – Tar Heels)
- Hillsborough 7,000 (County seat, dates to 1758)
- 62% 'urban'

Map of AFH World- Orange County



Conv. Store

23

Ped Bins

53

Parks

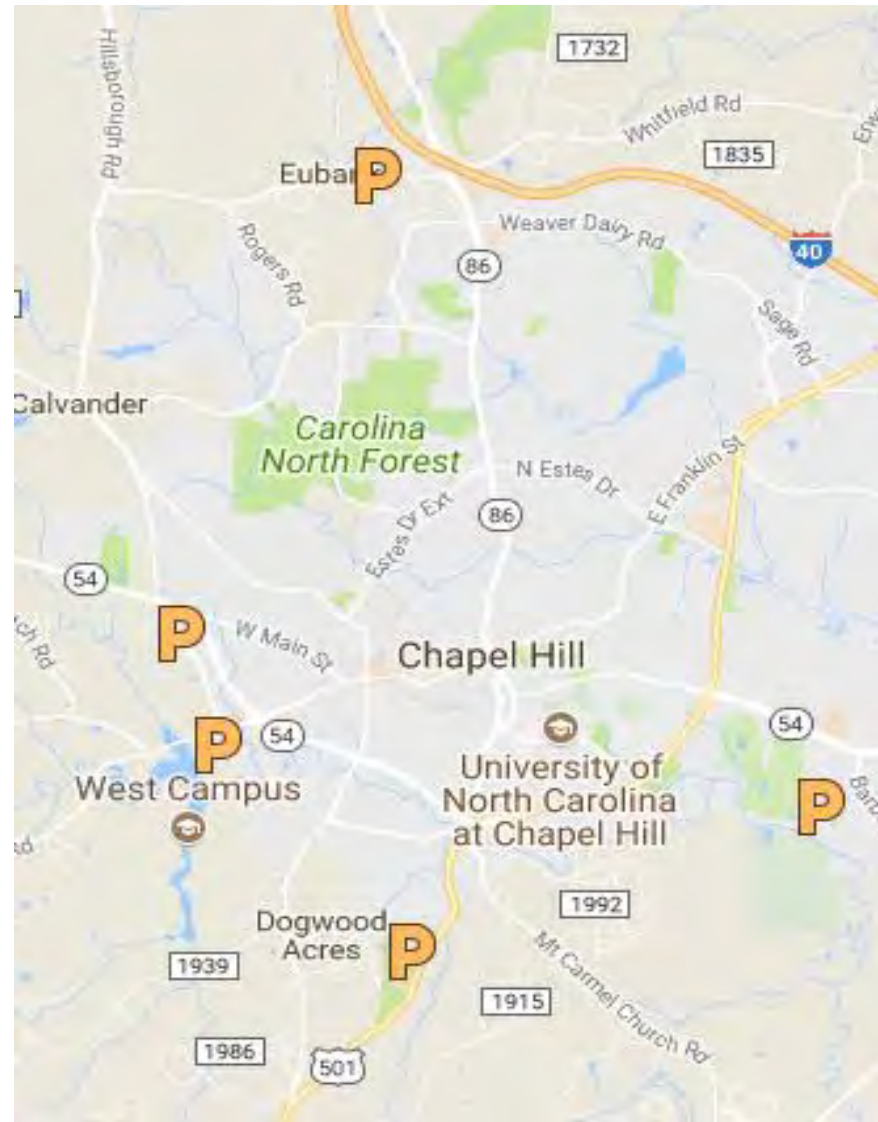
24

Park & Ride

P

5

Park & ride lots (5)



Park & Ride Lots

- ▶ Established to reduce traffic into UNC main campus, Recycling at all lots. Only 1 has (smart) compactor.



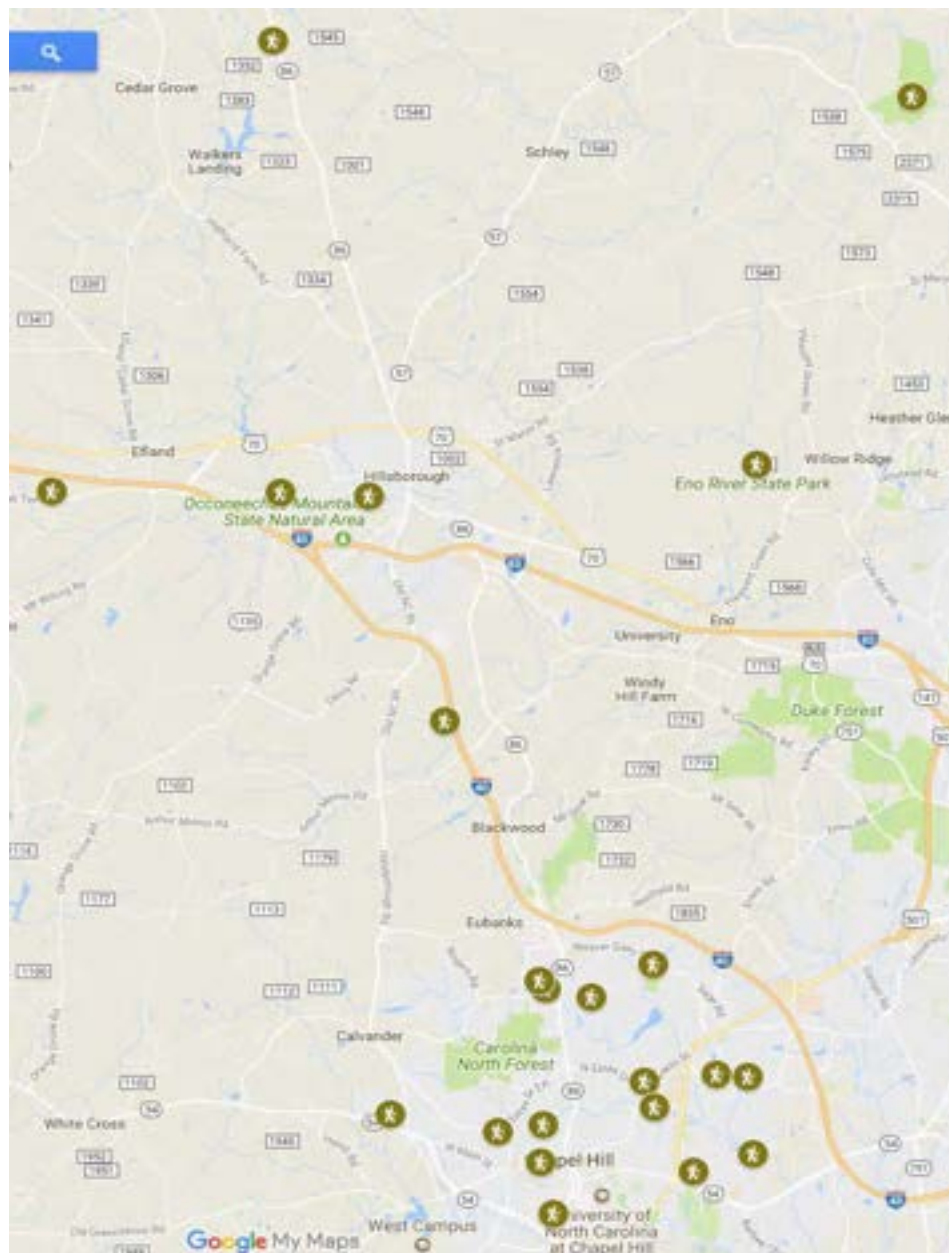
info graphic at UNC lot (on side)



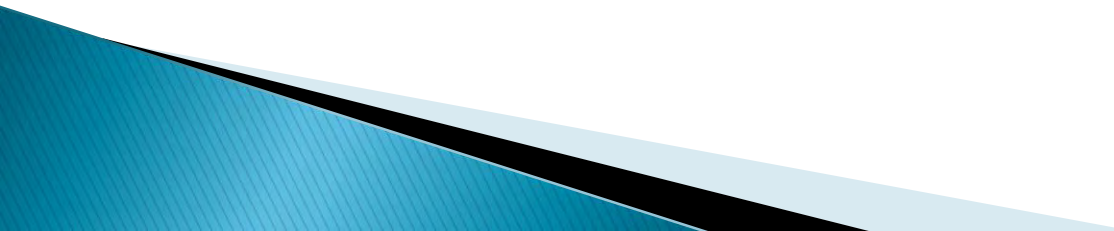
~15 year old “Waste Warrior at Park & Ride in Chapel Hill



Town or
County
Parks
with
Recycling
(24) – not
including
UNC, Duke or
other private,
NGO-held
reserves



Parks

- ▶ A wide variety of parks served – Town, County, Regional, State
 - ▶ Integrated with other routes: rural curbside, ‘handicapped’, government buildings
 - ▶ Cooperative relations with Towns to site & service containers
 - ▶ Some locations not served e.g. ‘natural areas owned by others Duke Forest Triangle Land Conservancy, UNC
- 

Bin mix at one park (within 20 yards)



Pedestrian Bins

- ▶ Each of 3 towns made its own bins choices.
- ▶ Each received NC DEQ 80% grants for all bins.
- ▶ All contract with Orange County for service at \$10/bin/month = full cost recovery (c. 2015).
- ▶ Total bins in service:

Town	Bins
Carrboro	10
Chapel Hill	30
Hillsborough	13
Total	53

Bin Costs (no installation labor)

- ▶ Carrboro est. \$1,400/ea. Victor Stanley (steel)
DEQ grant (est.) ~ \$11,200
- ▶ Chapel Hill \$917/ea. Nex-Terra (HDPE)
DEQ 2 grants) ~Total \$23,400
- ▶ Hillsborough Victor Stanley \$1,318/ea.
DEQ grant ~\$13,750 (recycling cans only,
not the paired trash cans)

Carrboro Bins (~ \$1,400/ea.)



**Servicing
this
vertical
opening
style
bin (hard
when full)**



Chapel Hill Bins

(\$917/each. 1,200 milk jugs/bin)

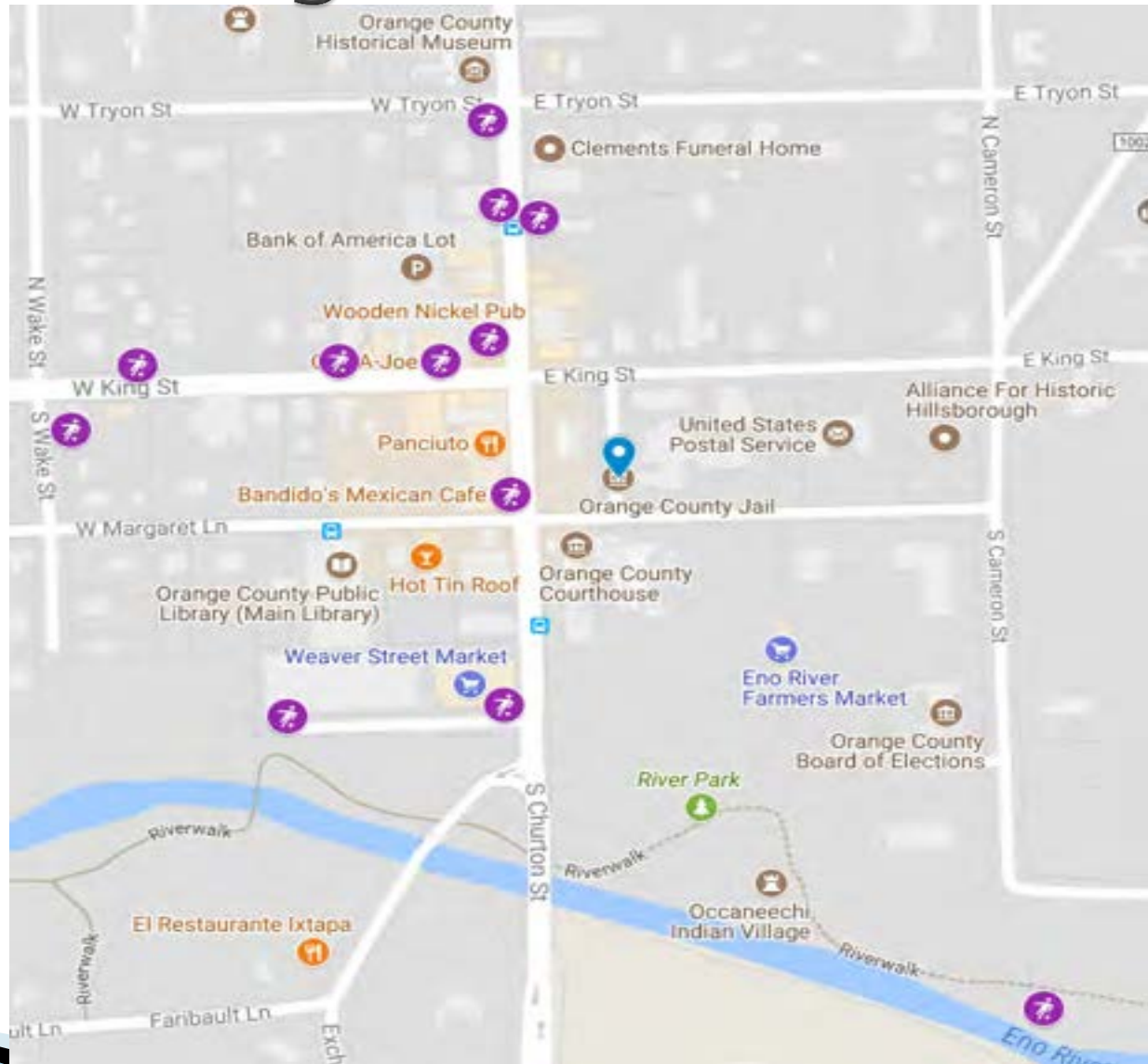


Chapel Hill bins in action



Wait, where did you come from?

Hillsborough



Hillsborough Downtown Combo \$2,200/each (not installed cost)



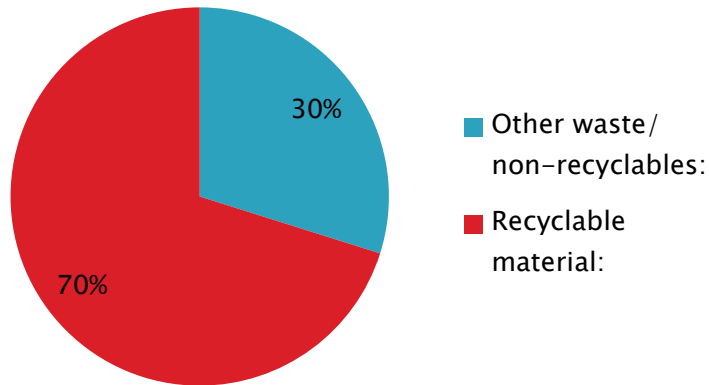
What's in the bins downtown?

Composition Study of Pedestrian Recycling Bin Contents

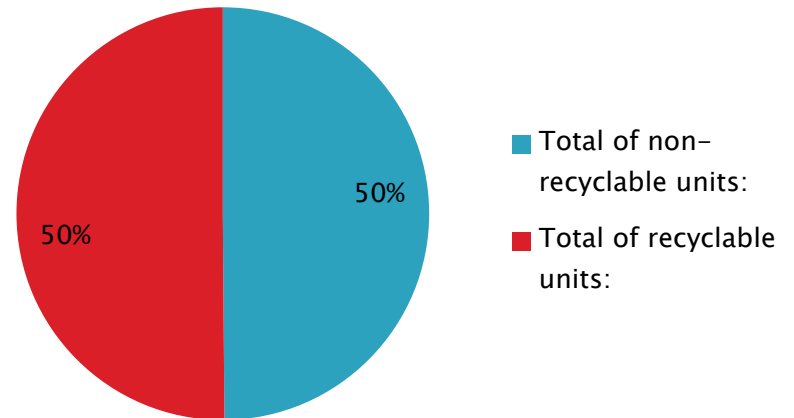
	Town of Carrboro	Sample Size	Town of Chapel Hill	Sample Size	Town of Hillsborough	Sample Size	Total		
collection date and # bins	3/8/2018	10 bins	3/8/2018	26 bins	3/2/2018	12 bins	48	bins	
% recyclables by weight w/ paper	70%	41.1 lbs	88%	71.9 lbs	76%	33 lbs	79%	146	lbs
% NON recyclables by weight	30%	17.5 lbs	12%	9.5 lbs	24%	11.4 lbs	21%	38.4	lbs
% recyclables by unit NO PAPER	50%	203 bottles & cans	61%	396 bottles & cans	39%	205 bottles & cans	52%	804	units
% NON recyclables by unit	50%	202 = (109 cups + 93 other)	39%	250 = (152 cups + 98 other)	61%	285 = (140 cups + 145 other)	48%	737	units

Carrboro by the Pound 70%:30% & by the Unit (bottles & cans) 50%:50%

Composition of
Downtown Carrboro
Recycling Pedestrian Bins
in Pounds

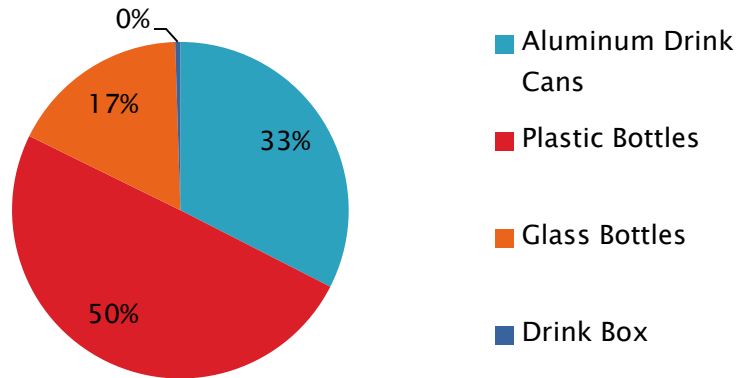


Composition of Downtown
Carrboro Pedestrian
Recycling Bins in Units

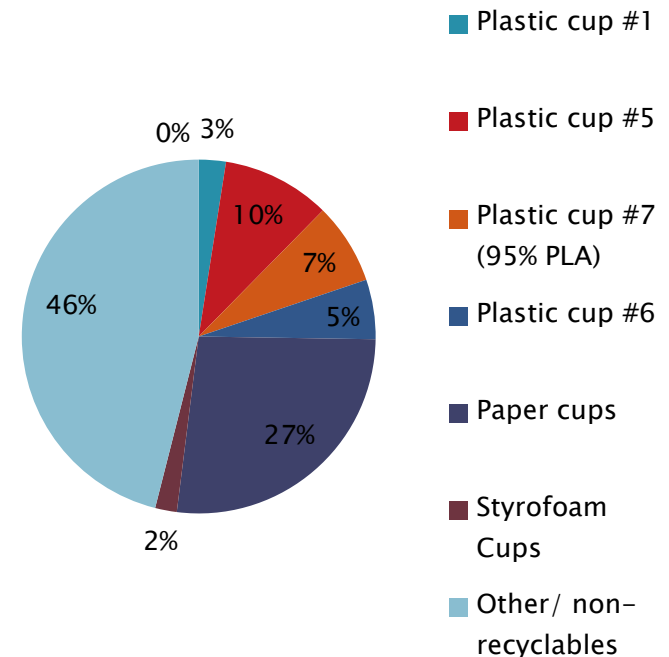


Composition by Type of Unit

Recyclables from Downtown Carrboro Pedestrian Recycling Bins (3/9/18)

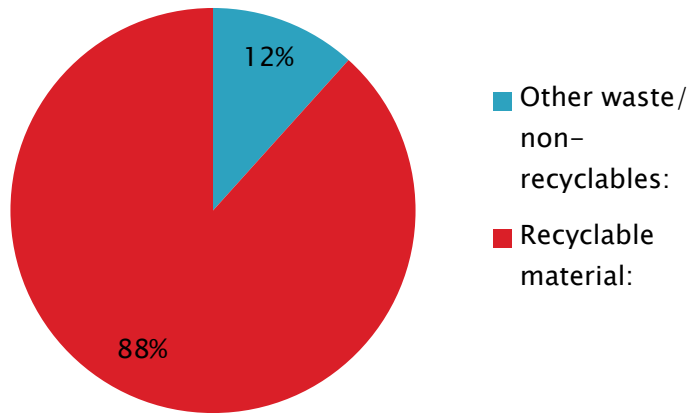


Non-Recyclables from Downtown Carrboro Pedestrian Bins (3/9/18)



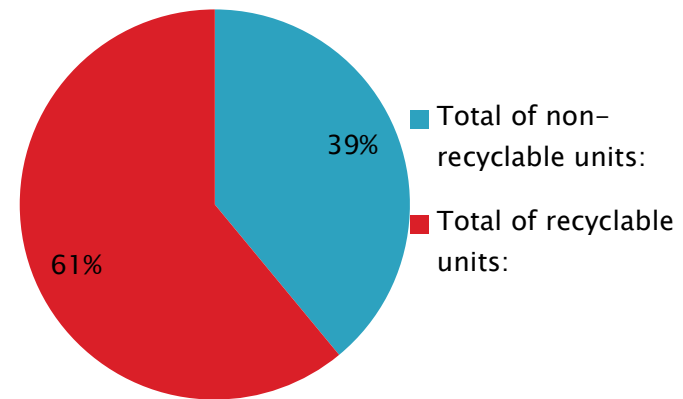
Chapel Hill by the Pound 88%:12%

Composition of Downtown Chapel Hill Pedestrian Recycling Bins in Pounds



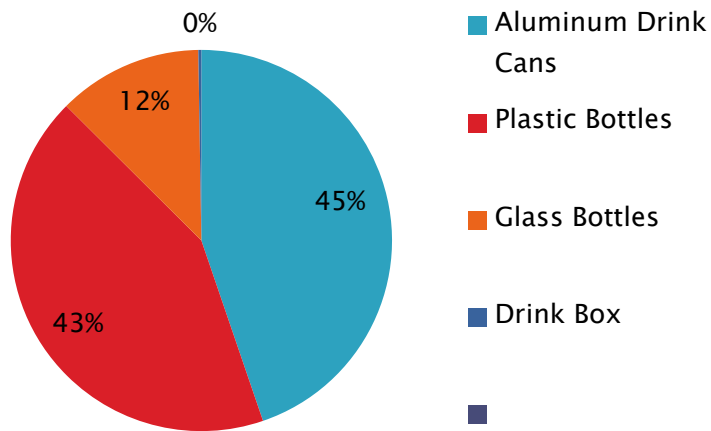
by Unit 61%:39%

Composition of Downtown Chapel Hill Pedestrian Recycling Bins in Units (3/9/18)

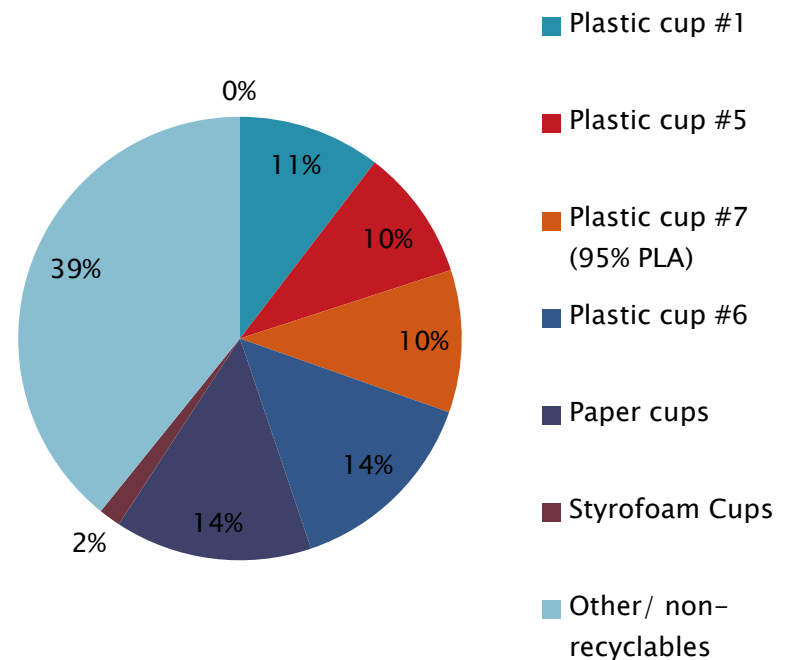


Chapel Hill Composition by Unit

**Recyclables from
Downtown Chapel Hill
Pedestrian Recycling Bins
(3/9/18)**

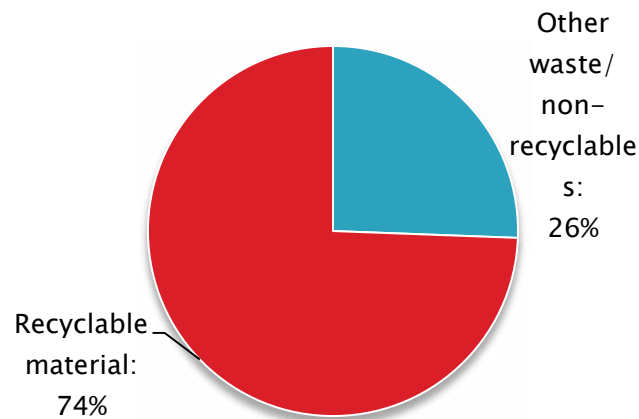


**Non-Recyclables from
Downtown Chapel Hill
Pedestrian Recycling Bins
(3/9/18)**

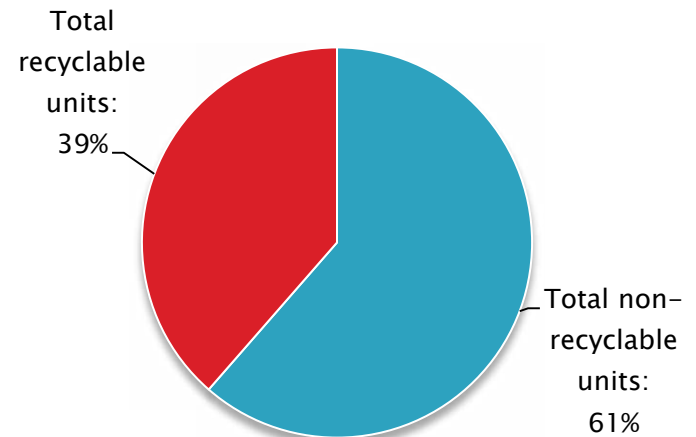


Hillsborough by the Pound 76%:24% & Unit 39%:61%

Composition of
Downtown Hillsborough
Pedestrian Recycling Bins
in Pounds

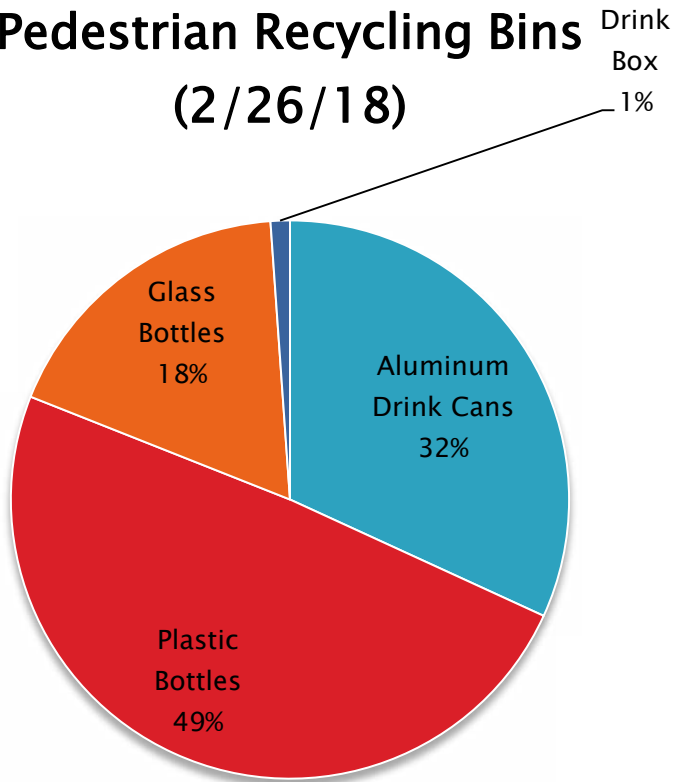


Composition of
Downtown Hillsborough
Pedestrian Recycling Bins
(2/26/18) by Units

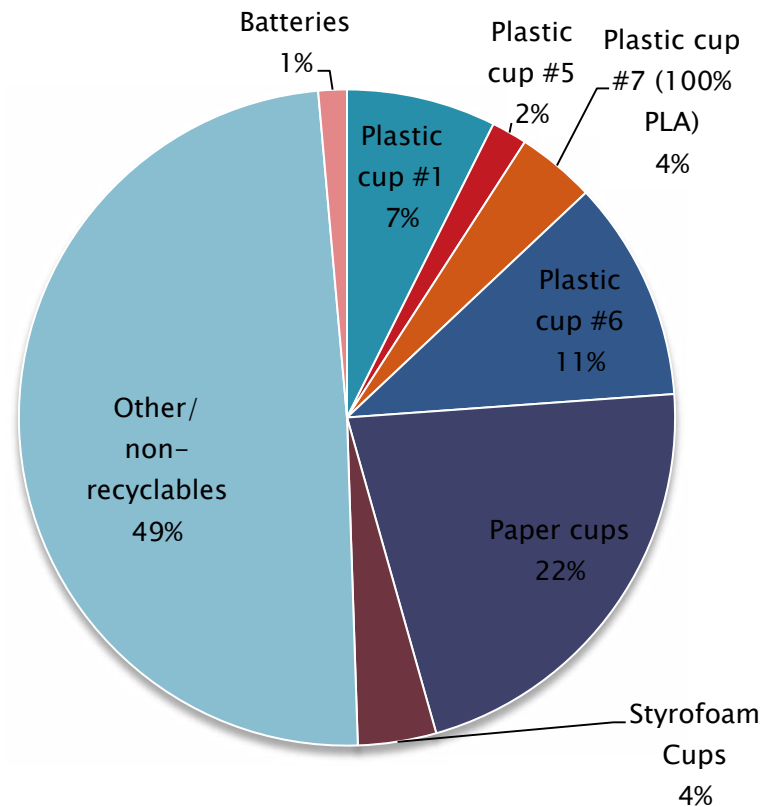


Hillsborough Composition by units

Recyclables from
Downtown Hillsborough
Pedestrian Recycling Bins
(2/26/18)

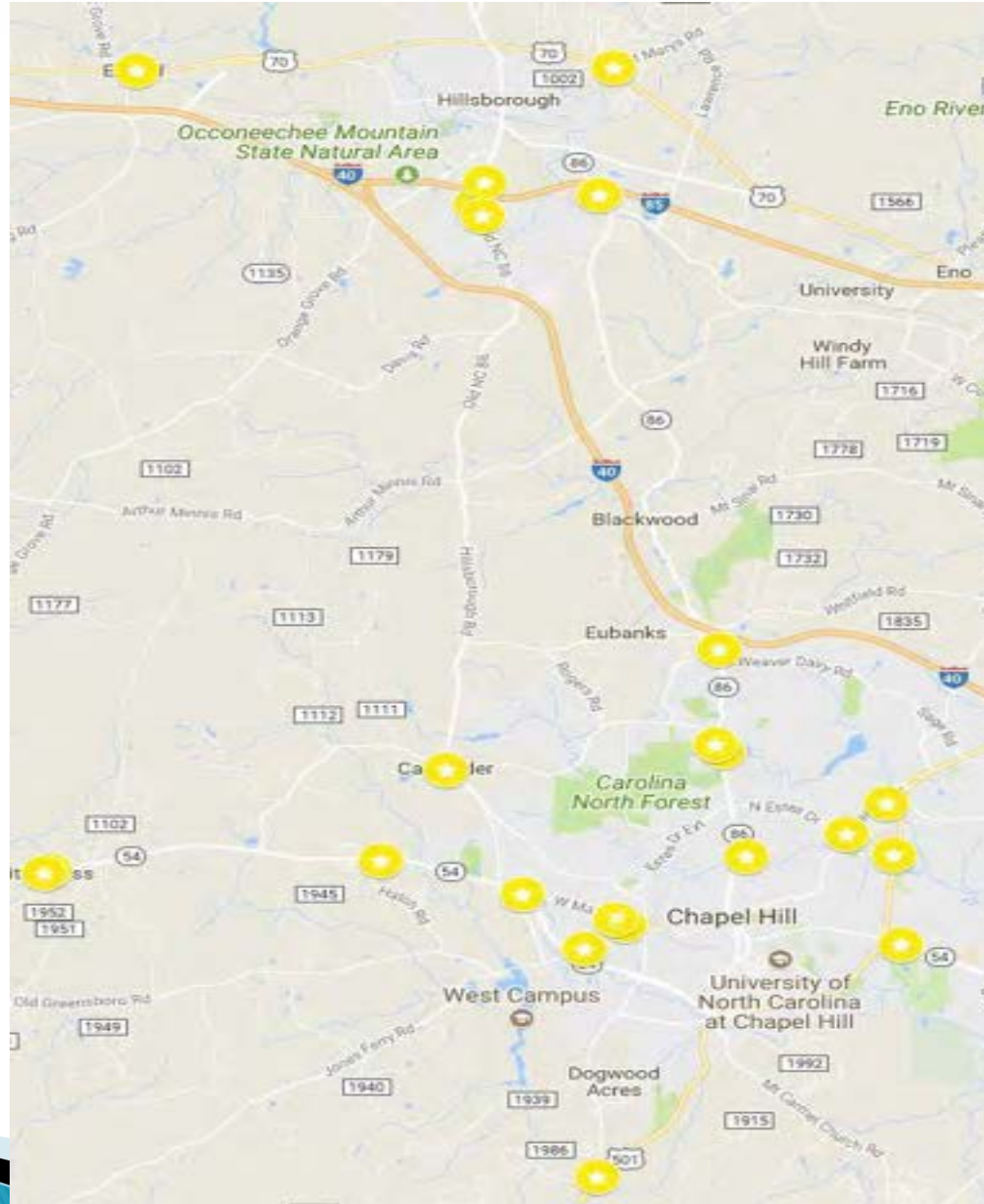


Non-Recyclables from
Downtown Hillsborough
Pedestrian Recycling Bins
(2/26/18)



Convenience Stores (23): 21 Stores, 1 car wash, 1 NC DOT

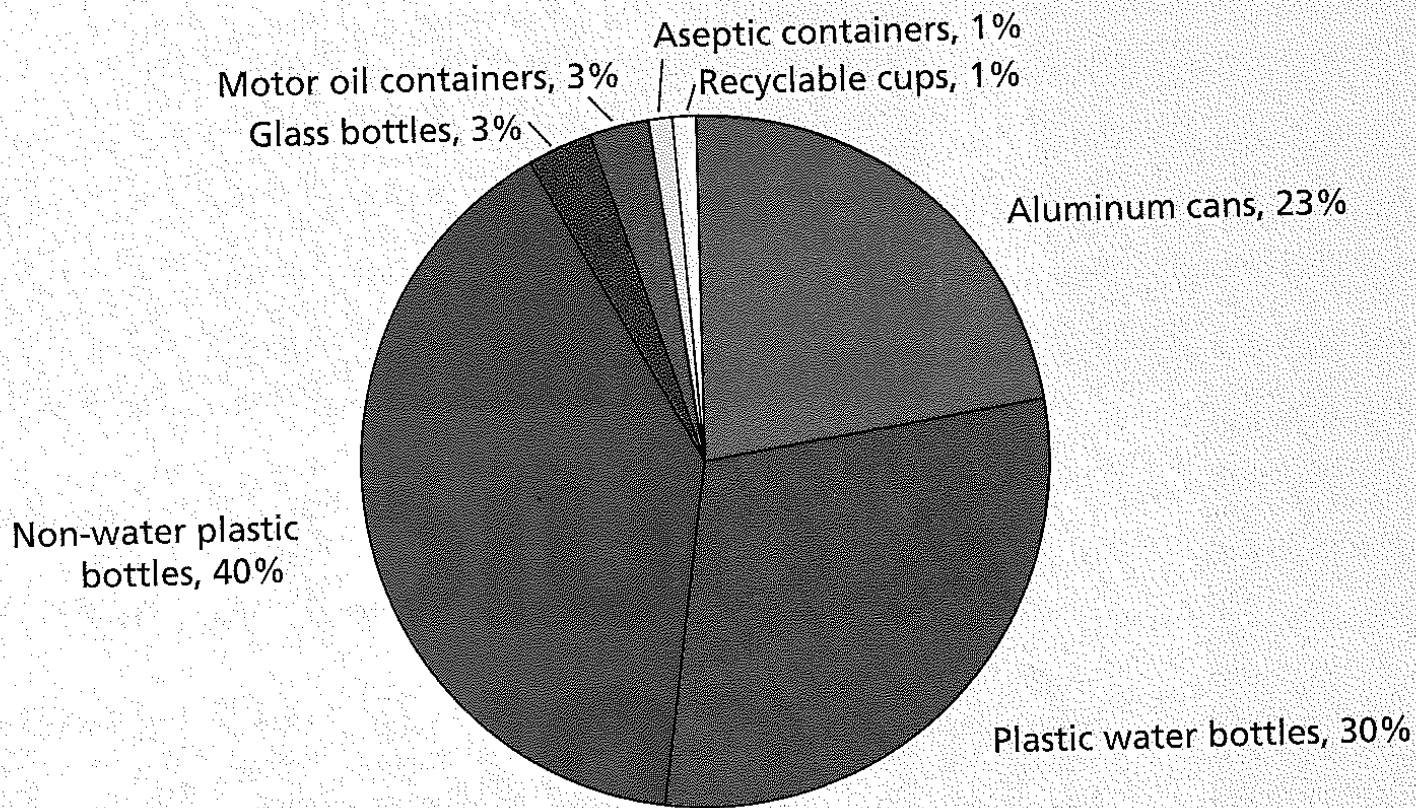
- ▶ Urban
- ▶ & rural
- ▶ 23/~40



Stops are integrated into other routes. Reasonably high quality



CONTENTS OF CONVENIENCE STORE RECEPTACLES IN ORANGE COUNTY, N.C.



Note: Chart does not include the 23 percent of items that were trash.

Most use 35 gal. County carts,



Got labels?



A bit of “magick math” – est. # cans & bottles recovered/year from convenience store program

	76 total cart equivalents		
365,165	bottles & cans/year if 150 bottles & cans/cart/time		
486,886	bottles & cans per year if 200 bottles & cans/cart/time.		
	calculated at 80% full /stop x 52 weeks x 150 or 200 cans & bottles per full 35 gallon bin including voids.		
	20% contaminants , 80% bottles & cans		

What's left to recover?

- ▶ From 2016–17 Orange Co. Waste Comp. study
 - ▶
 - ▶ 3.2% plastic bottles = 11 million bottles in commercial waste
 - ▶ 0.7% Al cans = 5.1 million cans in commercial waste
- 