

ATTACHMENT

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May 8, 2015

Final Report to the City of Fayetteville, NC
for a Comprehensive Solid Waste Study

Table 4.1 - Comparable Residential Trash Collection Systems

	Fayetteville	Winston-Salem	Greenville	High Point	Greensboro(1)	Durham	Wilmington
If handled by City which department is involved?	Environmental Services Department	Environmental Health - Sanitation Department	Public Works - Sanitation Division	Public Services Dept. - Environmental Services Department	Field Operations	Solid Waste Management Department	Public Services- Solid Waste Division
What services are included in the Residential Trash Collection category?	Collection of Trash in 96 Gallon Carts from Single Family Homes, Duplexes and Triplexes built on public streets	Collection of Trash in 96 gallon carts from Single family; multi-family and small businesses that generate the same amount of trash as a residential unit.	Curbside service uses a City-approved 64-gallon rollout cart at Single family and small businesses; City collects weekly from rear load containers at multi-family units	Household collection in 96 gallon carts completed by City, contract for container collection at multifamily residences. Deceased animals are collected in one of two ways: Residents may place the animal in a heavy plastic bag and place in the garbage cart for collection on the regularly scheduled collection day; or Residents may place the animal at the curb in a heavy, plastic bag for collection.	Residential trash collection using 90-gallon roll-out trash carts by City crews.	Services the majority of its customers with automated trucks. Weekly pickup of 96 gallon carts for residents and limited businesses.	Curbside trash pick up for residential and commercial customers; carrion (dead animal) service to veterinary offices, commercial seafood establishments and City streets. A choice of two trash cart sizes is available, a 95-gallon and a 35-gallon cart. Household trash must be bagged and in the city rollout cart/container.
Is your Curbside Collection Public or Private (Contracted)?	Public	Public	Public	Public	Public	Public	Public
Number of Collection Points	60,527	77,533	38,357	35,544	80,640	69,800	31,253
Annual Tons of Trash collected- 2014	45,732	52,035	23,771	27,854	55,000	47,500	22,475
What is your frequency of collection (e.g. 1/week)?	1 time per week, no Wednesday or Weekends	1 time per week, no Wednesday or Weekends	1 time per week Monday- Friday	1 time per week; Monday - Thursday	1 time per week, no Wednesday or Weekends	1 time per week, Monday- Thursday	1 time per week Monday - Friday
Number of weekly garbage routes	60	100	24	52	72	72	36
What are the number of FTE's Positions assigned to this work (e.g., Drivers, Helpers, etc.)	32	94	19	20	27	50	33
What type and number of equipment is dedicated to this work?	35 total vehicles, rear loaders and automated side loaders	16 rear load packers trucks, 9 automated trucks	3 rear load packers trucks, 3 automated trucks	9 automated side loaders	3 rear load packer trucks, 23 automated side loaders	8 automated trucks with lift arm, 9 rear packer trucks and 2 semi-automated side loaders	12 rear load packers; no automated; 1 pick-up truck
How does this work overlap with other collection services?	Personnel assist with excess debris collection	Does not overlap	Does not overlap	Does not overlap	Does not overlap	Does not overlap	Does not overlap
How are customers billed?	Solid Waste Fee of \$40 per household per year included in county taxes	No fee, tax based	Combined monthly utilities billing - gas, water, sewer, electric and trash via paper or email.	No fee, tax based	No fee, tax based	No fee, tax based	As of July 1, 2014, the fee for the regular sized (maxi) cart is \$26.29 per month and the mini cart fee is \$21.36 per month. A minimum of 12 stickers at \$1.25 each must be purchased at one time.
FY 2015 budget for Residential Trash- Expense	\$4,051,159	\$6,970,610	\$5,000,427	\$6,243,734	\$5,224,567	\$3,446,583	\$3,851,835
Landfill Disposal Charge per ton	\$0	\$36	\$33	\$35	\$44	\$31	\$59
Trash Disposal Cost	\$0	\$1,873,260	\$784,443	\$974,890	\$2,420,000	\$1,472,500	\$1,326,025
Gross Trash Disposal Cost(2)	\$4,051,159	\$8,843,870	\$5,784,870	\$7,218,624	\$7,644,567	\$4,919,083	\$5,177,860
Total Trash Cost as \$ per Ton	\$88.58	\$169.96	\$243.36	\$259.16	\$138.99	\$103.56	\$230.38
Trash Total Cost per Household per Year	\$66.93	\$114.07	\$150.82	\$203.09	\$94.80	\$70.47	\$165.68
Other comments on this activity	County tax bill includes \$48 per year per household for landfill disposal costs of Trash and Bulky Items	All garbage must be bagged, no loose garbage in carts; the city provides dead animal collection Monday through Saturdays; Animals are collected from the streets only; animals must be in a bag and curbside. Collections are also made at Animal Hospitals and Fish Markets for a fee.	Curbside Service- \$14.50 / month; Multi-Family Service- \$14.50 / month; Premium Backyard Service-\$43.55 / month; Premium Backyard service is no longer available to new connections; \$5.00 monthly fee for each additional rollout cart; Ordinance requires resident to buy cart from City includes delivery.	Customers must use a City-approved roll-out garbage cart. Rollout carts which are not out when the truck passes, will not be collected until the next regularly scheduled pickup day. To buy a garbage cart: \$57 delivered; may purchase a second garbage cart for a maximum of two (2) garbage carts per household. Backdoor service available for Garbage only. Tipping Fee =\$33/ton + \$2/ ton tax.	The majority of residential waste collection is performed with automated curbside waste collection vehicles servicing 90-gallon roll-out trash carts; additional carts-\$50. a limited number of neighborhoods are approved for manual collection where residents must provide their own 32-gallon trash can. When filled with trash, cans should weigh less than 50 pounds. Existing townhome communities that receive private trash collection service may be eligible to convert to City service. Most crews work four-day weeks, with no collection activities on Wednesdays	Operate a Household Hazardous Waste Center and transfer station. The disposal fee at Republic's Uwharrie landfill is \$31 / ton.	E-waste disposal is funded in this account; The monthly rates include weekly trash and yard waste collections, bi-weekly recycling, as well as bulky item collection upon request. Extra bagged trash that does not fit in your cart requires the purchase of orange extra trash stickers.

(1) Number of Routes from UNC School of Government Report for FY12/13

(2) Collection cost only, City disposal cost is embedded in the \$48/Household/Year fees, City does not pay a separate disposal cost

Table 4.2 - Comparable Central Business District Collection (CBD) Systems

	Fayetteville	Winston-Salem	Greenville	High Point	Greensboro	Durham	Wilmington
What services are included in the CDB category?	No City service provided, all third party commercial arranged by businesses.	Garbage and Recycling for businesses and residences in the CBD; special events cleanup; uses crew who also clean sidewalks, empty trash receptacles and maintain other common areas	No City service provided, all third party commercial arranged by businesses.	3 month per year hub of activity for furniture industry. City services 96 gallon garbage carts only. Large Commercial containers are picked up by commercial companies.	7 days/wk. manual trash collection, 5 days/wk. large waste container, yard waste by appt., 3 days/wk. recycling, bulk by appt. Commercial-based waste program. Downtown Greensboro Inc.(DGI) also operates the Clean and Green Team. This team works seven days a week to address cleanliness and maintenance issues in Downtown. They pick up litter, remove graffiti, water plants and perform other similar duties.	downtown is 5 days per week	Includes collection from 250 brick trash receptacles and city collected 276 accounts;; commercial establishments and city Streets; clean up activities for various city Festivals; Commercial establishments in the Central Business District can elect City of Wilmington trash collection from trash bags instead of carts.
Public or private collection in the CBD	Open Market	Public	N/A	Open Market for large containers	Public	Public	Public (Using Carts/Bags) & Private Front Load Container (Front Load)
Number of Collection Points	Unknown	2,000	N/A	180	268	14	276
Annual Tons collected from CBD	0	902	N/A	N/A	304	Unknown	854
Frequency of collection (e.g. 1/week?)	N/A	daily	N/A	4 days Monday-Thursday	7 days per week	Monday through Friday	2 times per week up to 2 times per day; 7 days per week
Number of routes	Unknown	1	N/A	1	3 routes total in the CBD district area; semi-auto trash, recycling and glass collection.	2	Run three (3) routes per day seven x week
What are the number of FTE's Positions assigned to this work (e.g., Drivers, Helpers, etc.)	N/A	6	N/A	1	4	0	10
Equipment dedicated to this work	N/A	1 rear load packer truck and one pick up truck with lift gate	N/A	split packer recycling/trash	3 rear loader packers	1 front load and 1 rear loader	Two 6cy mini packers; one flat bed; two pick up trucks
How does this work overlap with other collection services?	N/A	Leaf and brush collection overlaps within the CDB	N/A	N/A		Recycling same day	Does not over lap
How are customers billed?	N/A	N/A	N/A	Switching to Enterprise Fund, some tax based and some by user fee, monthly fee of \$8.00	Semi-auto fees are tax based. Special CDB fee provides extra revenue dollars	tax base	Monthly Fee
FY 2015 budget for CDB- Expense	N/A	\$488,570	N/A	\$81,000	\$1,246,045	\$57,414	\$1,011,551
Revenues (CDB Customers pay City)	N/A	\$0.00	N/A	\$0.00	(\$75,000.00)	\$0.00	(\$258,000)
Landfill Disposal Charge per ton	N/A	\$36	N/A	\$35	\$44	\$0	\$0
CBD Trash Disposal Cost	N/A	\$32,472	N/A	\$0	\$13,376	\$0	\$0
Gross CBD Disposal Cost	0	\$521,042	0	\$81,000	\$1,184,421	\$57,414	\$753,551
Total CBD Trash Cost as \$ per Ton	N/A	\$577.65	N/A	N/A	\$3,896	\$0	\$882
CBD Trash Total Cost per CBD Unit per Year	N/A	\$260.52	N/A	\$450	\$4,419	\$4,101	\$2,730
Other comments on this activity	Parks and Recreation empty solar powered waste receptacles downtown	(2,000 estimated) Businesses that receive once-a-week hand collection of garbage qualify to participate in the Small Business Curbside Recycling Program; Businesses (including churches, nonprofit organizations) that are ineligible for the City's program are: 1) those that use a Front Load Container for garbage collection; 2) those located in the Central Business District receiving hand collection of garbage six days a week.	N/A	Currently the waste collection is funded by tax base. However, beginning this year a fee of \$8 per month will be charged to fund the program. There is overlap this year to building funds by the collection \$8 per household.	Businesses that only generate 2 96-gallon trash containers or less can use residential garbage collection. One green roll-out trash can is provided at no charge. A second can may be purchased for \$70. If a business generates more trash than can be enclosed in these two containers, the business must make arrangements with a private trash hauler. (Revenue only from ABC collection fees). The three rear loader trucks are multiuse. The average route takes approximately 2 hours to complete. A single truck may collect bagged trash, dump at TS, then go back and collect glass only which is taken to the MRF.	Business Recycling Program	Bag It Program- color coded bag system for solid waste disposal and recycling service offered to 116 residential and 160 commercial customers; 714 tons from accounts + 140 ton public trash cans

Table 4.3 - Comparable Bulk Item

	Fayetteville	Winston-Salem	Greenville	High Point	Greensboro	Durham	Wilmington
What services are included in the Bulk Item Collection category?	The Bulky Item program collects all items placed curbside and generated by residents that will not fit in a cart or bag. Items include, but are not limited to, furniture, mattresses, limb piles, construction debris, and metal items, such as swing sets, grills and bicycles. The trucks used for this operation have a grapple boom and an open bed measuring from 20 to 40 cubic yards. Owner-generated construction debris is picked up for a \$50 fee per.	Bulky items will be picked up by the city crews only during annual neighborhood area cleanup, scheduled sometime between March 2 and September 4; they do not mix bulky items with yard waste, recyclables or brush; items the city can collect include: mattresses, appliances, furniture, carpet and toys. Items not acceptable for collection include: electronic waste, yard waste, wood, lumber, building material, glass, tires, car parts, paint, oil drums, cement, rocks and hazardous or infectious waste.	Bulky trash pick up is available by appointment only. This includes any items that will not fit inside the 96 gallon garbage cart.	Residents can rent 4x8x14 "red box" for \$100. this is picked up by a separate truck using a 14 yard roll off container. City will drop off and pick up. Public multifamily is collected by City (Bulky?). All commercial accounts OBW is private.	Bulk Trash consists of items that are too big to fit in your green trash container, such as furniture, mattresses, swing sets, and lawn mowers (drained of gas / oil). Bulk trash items are collected every other week; Large appliances are collected by appointment.	Up to three bulky items can be placed on the curb the same day as your normal household collection for garbage and recycling, weekly. Residential garbage crews note bulky items on the curb and the next day a bulky crew will come back to pick it up. Residential pickup of bulky items and brush too large for yard waste crews to pick up. 21 sites around the city have a large container for businesses to dump waste.	Call in service for municipal collection of bulky items, such as appliances and furniture
Public or Private Bulk Container Collection	Public	Public	Public	Public	both (Public and Private by who)	Public	Public
Number of Collection Points	60,527	77,533	38,357	35,544	80,640	17,500	31,253
Annual Bulk Item Tons Collected 2014	1,852	2,400	Not Available, rolled up into trash	Not Available, rolled up into trash	43,000	2,118	2,012
Frequency of collection (e.g. 1/week?)	Call Ahead Service	Once during collection period	Weekly (some twice a week)	Weekly	Bulk trash items are collected every other week	Weekly	By appointment only.
Number of routes	5	26 (completed 1 per week March - September)	1	5	8	4	8
What are the number of FTE's Positions assigned to this work (e.g., Drivers, Helpers, etc.)	6	36	0	3	17	4.4	7
Equipment dedicated to this work	6 grapple trucks	5 knuckle booms, 16 small dump trucks (dump trucks and knuckle boom trucks overlap as needed with brush collection).	1-2 knuckle boom trucks. These are pulled from yard waste/brush service as they receive calls from residents requesting pick ups.	3 trucks fitted with a boom and grapple bucket	1 knuckle boom, 8 rear load packers. Knuckle boom used as needed for commercial customers. Does not run.	4 grapple trucks	Two 25 yard rear loaders
How does this work overlap with other collection services?	First responder to remove debris assists in collections for special events such as the Fayetteville Beautiful annual citywide cleanup, Cross Creek cleanup, the Dogwood Festival, the International Folk Festival and the All-American Marathon.	(this work force overlaps with brush collection as only one route is run per week)	Same personel is used for leaves, brush, and yard waste.	No	routes cross with roll out carts, some locations receive both services	No	Does not over lap
Are Customers billed and how are customers billed?	Cost embedded in County Solid Waste Fee for bulk	Charged annually based on size of container and frequency of collection	\$14.50 monthly Trash Fee includes bulk collection	\$8 per month	Fees- billed via the Water Dept.; Large appliances are collected by appointment.	\$72 per year for two bulk pickups and yard waste	Included in monthly fee
FY 2015 budget for Bulky Item Collection- Expense	\$1,315,186	\$1,784,240			\$4,240,645	\$720,089	\$633,620
Landfill Disposal Charge per ton	\$0	\$46	\$33	\$35	\$44	\$31	\$59
Bulky Item Disposal Cost	\$0	\$110,400			\$1,892,000	\$65,658	\$118,708
Revenues	(\$8,580)	(\$1,451,040)			(\$4,806,920)	\$0	\$0
Gross Disposal Cost	\$1,306,606	\$443,600			\$1,325,725	\$785,747	\$752,328
Total Bulky Item Cost as \$ per Ton	\$705.51	\$184.83			\$30.83	\$370.99	\$373.92
Bulky Item Total Cost per Household per Year	\$21.59	\$5.72			\$16.44	\$44.90	\$24.07
Other comments on this activity	Revenue is derived from 45 tons of metal taken to OmniSource(included in 1,852 tons); This program mitigates an average of 5 illegal dumpsites per week; property owner is charged a \$100 move out fee for large piles of debris left behind;one grapple truck is a spare	Bulky items such as carpet, appliances, furniture, mattresses, etc., will be picked up by the city crews during annual neighborhood cleanups, scheduled during March through August, at no other time will city crews collect bulky waste. Bulky item collection is for single family residences, NOT businesses or apartments.	City does not pick up construction and demolition/building debris; Bulky Item Collection not budgeted separately.	Residents can rent 4x8x14 "red box" for \$100. this is picked up by a separate truck using a 14 yard roll off container. City will drop off and pick up.	11 men working 10 hour shifts; The collection truck uses a mechanical arm to lift the discarded appliance. Solid waste crews will collect small amounts of construction debris from do-it-yourself home improvement projects. The collection of building materials is limited to two 32-gallon containers per job. Debris from jobs performed by professional contractors will not be collected.	Excess debris will be charged. Prohibited Items-Dirt, Building materials, Construction debris, Loose leaves, Tree stumps, Tires, Propane tanks, Car parts. Television collection is offered by appointment only and is not considered a bulky item.	Bulky items, metal bulky items, and yard waste must be placed neatly in separate piles on the right-of-way for pick up. Three different trucks service these items; FY11/12 County reported-2,012 tons of bulky items

Table 4.4 - Comparable Brush and Leaf Curbside Collection System

	Fayetteville	Winston-Salem	Greenville(1)	High Point	Greensboro	Durham	Wilmington
What services are included in the Brush and Leaf Collection category?	See Yard Waste Collection	Curbside of brush; loose leaf collection; bulky item collection	Loose leaf collection	grass clippings, leaves, bush trimmings, tree cuttings, limbs; boxed or clear bags <50 lbs.; loose leaves collected for 10 wks. each fall/winter	Field Operations Department conducts an annual Loose Leaf Collection Program from November to January with two scheduled pickups in each area of the city.	Bulky Brush	See Yard Waste Cart Collection
Public or private collection	See Yard Waste Collection	Public	Public	Public	Public	Paying yard waste customers are entitled to two free bulky brush pickups per year. Bulky brush must not exceed 4 cubic yards or one average size pickup truck. Excess debris will be charged.	N/A
Number of Collection Points	See Yard Waste Collection	77,533	20,000	35,544	80,640	N/A	N/A
Tons collected FY2014	See Yard Waste Collection	15,000	0	0	13,089	N/A	N/A
Frequency of collection (e.g. 1/week?)	See Yard Waste Collection	Curbside of brush every 21 working days except during leaf collection months; loose leaf beginning November 1 until three rounds of collection have been completed; bulky collection annually March through August.	Weekly pick up, bulky trash by appointment only.	once a year taken care of by streets department not solid waste	weekly, no Weds or weekends, 2 seasonal leaf sweepings	N/A	N/A
Number of routes	See Yard Waste Collection	16 per quadrant, 4 quadrants	Varies based on demand, only collected once per year	0	72	N/A	N/A
What are the number of FTE's Positions assigned to this work (e.g., Drivers, Helpers, etc.)	See Yard Waste Collection	65	0	0	44	N/A	N/A
Equipment dedicated to this work	See Yard Waste Collection	13 commercial log knuckle boom trucks, 25-26 small dump trucks	6 grapple trucks (same trucks used for yard waste)	3 truck mounted vacuum trucks, four pick-up trucks with self contained vacuums	9 packer trucks	N/A	N/A
How does this work overlap with other collection services?	See Yard Waste Collection	yard pick up	yard waste	Does not overlap	yard waste picked up at the same time	N/A	N/A
How are customers billed?	See Yard Waste Collection	No fee, tax based	Not Charged (pending) yard waste over 4 cubic yards \$25/per collection	No fee, tax based	No fee, in tax base	N/A	N/A
FY 2015 budget Brush and Leaf Collection	See Yard Waste Collection	\$5,115,670	See Yard Waste Collection	See Yard Waste Collection	See Yard Waste Collection	N/A	N/A
Yard Waste Processing Charge per ton		\$0					
Yard Waste Processing Cost		\$0					
Gross Processing Cost		\$5,115,670					
Total Brush and Leaf Cost as \$ per Ton		\$341.04					
Brush and Leaf Total Cost per Household per Year		\$65.98					
Other comments on this activity	See Yard Waste Collection	None	Budget is included in the yard waste collection; annual tonnage included in yard waste numbers	Budget is included in the yard waste collection; annual tonnage included in yard waste numbers	owner provided cans or clear bags	N/A	N/A

(1) Tonnage not tracked

Table 4.5 - Comparable Yard Waste Collection System

	Fayetteville	Winston-Salem	Greenville	High Point	Greensboro	Durham	Wilmington
What services are included in the Yard Waste Collection category?	City is responsible for daily pickup of containerized curbside yard, leaf debris and small limbs generated by residents	Leaf collection begins in November; There are three rounds of leaf collection. Year-round leaf collection, of containerized yard waste to residents who purchase 96 gallon rollout carts	Collection of yard waste in bags	grass clippings, leaves, bush trimmings, tree cuttings, limbs; boxed or clear bags <50 lbs.; loose leaves collected for 10 wks. each fall/winter	1 time per week collection of containerized yard waste and Christmas trees	Yard waste collection is an optional fee-based program. For a \$72 fee, residents are enrolled into the yard waste program from July 1 to June 30. Leaves, grass, shrub clippings, garden residue, twigs, branches and small limbs Only brown biodegradable paper bags will be collected. A maximum of 10 biodegradable bags per week, weighing no more than 25 pounds, can be set out on collection day. Bundles must be securely tied to be collected.	Loose yard waste such as grass clippings, leaves, pinecones, straw, and vines must be containerized
Public or private collection	Public	Public	Public	Public	Public	public	Public
Number of Collection Points	60,527	77,533	38,357	35,544	80,640	16,714	30,252
Annual Tons Collected FY 2014	19,861	22,800	18,000	2,359	14,851	14,520	11,228
Frequency of collection (e.g. 1/week?)	1 time per week	1 time per week	1 time per week	1 time per week	1 time per week	1 time per week	1 time per week
Number of routes	10-12 crews, seasonally dependent	4	6	12	72	10	32
What are the number of FTE's Positions assigned to this work (e.g., Drivers, Helpers, etc.)	27	8	12	13	44	15	22
Equipment dedicated to this work	11 rear loaders	6 automated trucks, one packer truck	6 knuckle booms	3 rear load packer trucks	9 packer trucks	1 side loader, 1 rear loader, 1 automated side loader	9 Rear Load Packer Trucks
How does this work overlap with other collection services?	Does not overlap	N/A	leaf and bulk	Trash, recycling, yard waste carts and bulky items picked up at the same time	Also conducts Leaf collection	Leaf collection	Does not over lap
How are customers billed?	Included in Solid Waste Fee with charges for large loads	Billed on an annual basis.	included in monthly fee	no fee, tax based	Tax base	\$72 per year and 1.50 per month cart rental. Fees added to water bill.	Part of Monthly Fee
FY 2015 budget for Yard Waste Collection- Expense	\$1,454,420	\$1,415,430	\$1,711,220	\$1,102,319	\$2,972,802	\$1,350,512	\$1,718,050
FY 2015 budget Brush and Leaf Collection- Expense from Table 4	\$0	\$5,115,670	\$0	\$0	\$0	\$0	\$0
Revenues from Brush and Leaf Collections	\$0.00	(\$828,000.00)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Yard Waste Facility Processing Fee per ton	\$0.00	\$0.00	\$0.00			\$0.00	\$8.40
Yard Waste, Brush and Leaf Processing Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$94,315
Net Yard Waste, Brush and Leaf Collection and Processing Cost	\$1,454,420	\$5,703,100	\$1,711,220	\$1,102,319	\$2,972,802	\$1,350,512	\$1,812,365
Total Yard Waste, Brush and Leaf Collection and Processing Cost as \$ per Ton	\$73.23	\$250.14	\$95.07	\$467.28	\$200.18	\$93.01	\$161.41
Yard Waste, Brush and Leaf Collection and Processing Cost per Household per Year	\$24.03	\$73.56	\$44.61	\$31.01	\$36.87	\$80.80	\$59.91
Other comments on this activity	Workers rip open bags to collect yard waste and put bags in a sack on the side of the truck. YW can be containerized as well. The city offers additional 96 gallon rollout carts for \$53 each plus \$11.50 for delivery. Yard Waste is taken to the county-owned Yard Waste Compost Facility.	Yard Waste such as leaves, grass clippings, shrubbery trimmings, garden residue, etc., can no longer be placed in bags or boxes for collection by city crews; Residents not wanting to compost yard waste can have their yard debris collected in a special 96 gal. rollout cart purchased from the city for \$65; \$60 annual sticker fee; Only 3 carts per residence (150-lb. limit each), are eligible for service. The City takes yard waste to their City operated yard waste composting operation. They pay a fee to themselves to cover operation of \$28/cu yard.	Yard waste should be separated (leaves, limbs, etc.) and at the curbside but not in the road. Limbs can be no longer than 5 feet in length and 4 inches in diameter. Yard waste is taken to a debris landfill at the per load rate of \$25 for one axle trucks and 35 for two axle trucks.	Citizen can rent a "red trailer" From the city for disposal of large limb piles. Yard waste is taken to the City operated composting operation at a rate of \$31 /ton.	Yard waste is collected weekly on the regular garbage collection day in homeowner 32-gallon trash can or clear plastic bags. Filled cans and bags should weigh no more than 50 pounds. Using black plastic bags, paper bags, and green recycling bags will result in non-collection. Tie yard waste in bundles not more than five feet long and no heavier than 50 pounds. Yard waste is taken to City's composting operation at rate \$40/ton	The service fee does not include the cart rental fee. If a cart is at the residence they are charged an \$18 leasing fee. Note that this is an annual service that cannot be cancelled. Yard waste customers must notify Solid Waste Management in the event of address change. Leaves, grass, shrub clippings, garden residue, twigs, branches and small limbs Only brown biodegradable paper bags will be collected. A maximum of 10 biodegradable bags per week, weighing no more than 25 pounds, can be set out on collection day.	Yard waste is processed through Diversified BioMass in Wilmington a commercial facility and reused as soil and mulch. Processing cost= \$8.40 per ton

Table 4.6 - Comparable Residential Recycling Systems

	Fayetteville	Winston-Salem	Greenville	High Point	Greensboro	Durham	Wilmington
What services are included in the Residential Recycling category?	Private curbside residential collection of recyclables through a private contract; ESD Collects from City-owned buildings, athletic facilities and the City's five (5) recycling drop-off sites.	Curbside and multi family recycling; Have contract for single stream roll out cart collection. Newspaper, magazines, junk mail, telephone books, chipboard, aluminum, steel, all plastics, cardboard, glass and aerosol cans. Also includes servicing 9 drop off centers.	Curbside and multi-family, city-issued container. Cardboard, chemical jugs (label removed, 3x rinsed), white goods/appliances, electronics, thermostats, cooking oil, yard waste, aluminum, glass, plastics, steel/tin cans, newspaper, paperboard, magazines	Curbside aluminum/metal cans, plastic bottles/milk jugs, glass jars/bottles, newspaper, magazines, phone books, office paper, junk mail, cardboard and chipboard	Curbside city-issued 96-gallon cart or green bags and 20 City drop off centers	Single Stream; Curbside city-issued 96-gallon cart; newspaper, mail, magazines, cardboard, phonebooks, juice/milk cartons, glass bottles, aluminum aerosol cans, plastic bottles/clean food containers, small toys	Voluntary curbside Single Stream collection program using 96-gallon carts for single family, small businesses and small apartment complexes
Public or private collection	Public for City Facilities & Private Curbside Contracted with Waste Management	Private (City contract)- Waste Management	Public	Public	Public	Public	Private subscription service (See above)
Single stream or Dual Stream Recycling	Single Stream	Single Stream	Single Stream	Single Stream	Single Stream	Single Stream	Single Stream
Cart Size	35- Gallon	96-Gallon	96-Gallon	95-Gallon	96-Gallon	96-Gallon	96-Gallon
Number of Collection Points	60,527	77,553	38,357	35,544	80,640	69,800	22,000
Annual Tons Collected -FY2014	9,280	12,671	5,538	8,827	18,123	13,700	7,104
Recyclable Material Pounds per Household per Week	5.90	6.28	5.55	9.55	8.64	7.55	12.42
Curbside Recyclables as a % of all tons managed	12.1%	14.0%	11.7%	22.6%	13.8%	17.6%	16.3%
Frequency of collection (e.g. 1/week?)	Weekly	Weekly	Weekly	Every other week	Every other week	Every other week	Every other week; same day as trash collection
Number of daily routes	WM= 10-12; ESD= 1-2	N/A	6	4	72	11	12
What are the number of FTE's Positions assigned to this work (e.g., Drivers, Helpers, etc.)	2	0	15	7	15	15.8	5
Equipment dedicated to this work	1- Cart Delivery truck; 1 pick up truck to deliver trash carts as needed	N/A	3 automated side loaders and 3 manual rear loaders	City provided cart	15 automated trucks	2 side loader, 1 rear loader, 7 automated side loaders	4 rear loaders
How does this work overlap with other collection services?	Small truck route also collects trash from narrow streets, and other locations that is hard to get as big truck into.	Does not overlap	Does not overlap	11 drop off sites; Material Recovery Facility	Does not overlap	Does not overlap	Does not overlap
How are customers billed?	Included in Solid Waste Fee; Charge for changing cart size or resident damaged carts	No fee, Tax based	No fee, Tax based	\$1.00 per month	No fee, Tax based	No fee, Tax based	Included in trash Fee
FY 2015 budget for Residential Recycling- Expense	\$2,346,892	\$2,688,188	\$1,233,167	\$2,456,136	\$2,818,049	\$1,615,264	\$779,796
Recyclables Processing Cost (Income)	(\$102,080)	(\$416,990)	(\$6,242)	(\$909,046)	(\$357,031)	(\$503,064)	\$142,080
Gross Recycling Cost for Collection & Processing all Tons	\$2,244,812	\$2,271,198	\$1,226,925	\$1,547,090	\$2,461,018	\$1,112,200	\$921,876
Gross Recyclables Cost as \$ per Ton	\$241.90	\$179.24	\$221.55	\$175.27	\$135.80	\$81.18	\$129.77
Recycling Net Cost per Household per Year	\$37.09	\$29.29	\$31.99	\$43.53	\$30.52	\$15.93	\$41.90
Other comments on this activity	This program also manages scheduling and logistics of cart repairs and delivery of 35 gallon recycling carts for residents; Revenues are total tons x \$11/ton rebate from Pratt	Single-Family households are provided with one BLUE City owned 96-gallon rollout recycling cart; Multi-family households use blue for comingle, paper must be separated in paper bags. The City pays no tipping fee on recyclables. They have a profit sharing deal with Waste Management, Inc.	Curbside service uses a City-approved 96 gallon rollout container; You do not have to sort your recyclables, they can be comingled; Containers used for recyclables must be placed three feet from the garbage containers on the service day; 3 city drop off centers and 150 other drop off centers one per multi-family location Recyclables are taken to Eastern Carolina Vocational Center for recycling. The city pays nothing for tipping and receives no rebate. The recycables fund positions for special needs and some in kind labor.	35 (includes MRF staff, 4 collections) The City is providing 95-gal recycling carts to residents. Residents may purchase an additional recycling cart for \$57 and delivered. There is a maximum of 2 carts serviced at each residence. Recyclables are taken to the City's MRF for processing. The collections budget pays \$30 / ton unloaded at MRF.	The City has 20 large public recycling containers located at fire stations and public facilities throughout the City. They may be used by both residents and businesses.; City began every other week collection in 2008.	Durham uses \$36.72 per ton rebate for budgeting purposes based on a rolling average of the Average Market Value of the Southeast USA region. Shredded paper must be placed in bags. Only paper or clear plastic bags are acceptable.	\$20/ton processing fee to Waste Management, they have a transfer station in Wilmington and ship to Raleigh NC; annual tonnage estimate for FY14-15; Residents who are not city trash customers may use the recycling drop-off centers located throughout New Hanover County

Table 4.7 - Comparable Other City Provided Operations

	Fayetteville	Winston-Salem	Greenville	High Point	Greensboro	Durham	Wilmington
Other Operations under Sanitation	Administration and Non-Program	Sanitation administration, Sanitation code enforcement.	Also provide mosquito and rodent control	Kersey Valley Landfill. Total budgeted staffing is significantly higher than actual as budget includes 20 MRF employees, 12 composting, and 13 other disposal employees	Field Operations is a diverse department that provides many of the City's critical services. Trash, recycling, yard waste, and loose leaf collection, street, storm water, park, and right-of-way maintenance, street cleaning, Snow and ice removal, Solid waste disposal, White Street Landfill, Solid Waste Transfer Station, Household Hazardous Waste Collection Center	Administration, Code Enforcement and Waste Reduction Education	Administration and Other Non-Operations
What are the number of FTE's Positions assigned to this work (e.g., Drivers, Helpers, etc.)	8	0.00	0.5	3	16	18	5
Equipment dedicated to this work	7 Pick up trucks and 1 Jeep				unknown	0	one SUV
Total Number of Households	60,527	77,533	38,357	35,544	80,640	69,800	31,253
Total Tons of All Waste Handled (Trask, Bulk, YW and Recycling)	76,725	90,808	47,309	39,040	131,278	77,838	43,673
FY 2015 budget for Environmental Services Administration- Expense	\$924,933	\$0	\$0	\$0	\$0	\$0	\$416,014
FY 2015 budget for Non- Program Expenditures	\$740,511	\$988,540	\$600,000	\$700,000	\$749,507	\$1,213,004	\$1,012,486
Gross Cost for Admin and Other City Provided Operations all tons	\$1,665,444	\$988,540	\$600,000	\$700,000	\$749,507	\$1,213,004	\$1,428,500
Gross Administration and Other Operating Cost as \$ per Ton	\$21.71	\$10.89	\$12.68	\$17.93	\$5.71	\$15.58	\$32.71
Gross Administration and Other Operating Net Cost per Household per Year	\$27.52	\$12.75	\$15.64	\$19.69	\$9.29	\$17.38	\$45.71
Other comments on this activity	Personnel include Department head, office staff and Supervisors	Code Enforcement: Enforces the City's sanitation ordinances, including the regulation of refuse storage, improperly containerized yard waste, and illegal distribution of handbills and advertisements. Sanitation Administration: Provides leadership, planning, employee safety training and enforcement, and fiscal stewardship for all sanitation programs.	Partial Director of Public Works, Superintendent, Recycling Coordinator, Pesticide Control Officer, Administrative Assistant. Administrative costs and indirect non program costs are under city hall budget. The figure included above is what City Hall requested from Sanitation to cover these expenses; 0.5 FTE for clerical personnel.	Utilities department bills a \$5 Landfill Fee to pay for developing additional space in the landfill, this falls under a separate landfill facilities fund. The City estimates Admin. expense at \$700K annually. The cost is calculated by taking the number of finance, management and leadership up to the City Manager level FTEs and multiplying by a factor. The cost is imbedded in the overall department budget.	Special Services responsible for manual curbside solid waste collection in areas where automated collection is not possible with current equipment. Provides for the initial delivery and necessary maintenance of municipally-provided containers. Additional services are appliance pick-up, ABC collection, and Central Business District collection. Expenses are in the sanitation department and other department budgets. Figure above is for indirect cost for administrative and other non-program costs.	Commercial users may use the Waste Disposal and Recycling Center; however, the Hazardous Household Waste facility does not accept materials from commercial users. Collection costs of household solid waste, recycling, bulky items, yard waste, transfer station operations, code enforcement and administrative costs are budgeted in the solid Waste Fund.	Budget includes Administration and nondepartmental budget; included in the nondept. Are indirect costs to the Gen. Fund for a 50% share of the Public Services Compliance Officer and Sustainability Manager position's salary benefits and operating expenses. It also includes an amount for the Safety and Training Specialist in Public Services Admin. It also includes Debt service for financing roll out carts for the recycling program.

Table 4.8 - Comparable Miscellaneous Other Information

	Fayetteville	Winston-Salem	Greenville	High Point	Greensboro	Durham	Wilmington
How does private collection operate in the City?	Open market for commercial businesses, Waste Industries has a Transfer Station	Open Market	Open Market	Private for commercial properties compete with City, but city is typically less expensive	Private serves townhouse and high rise building; site.	The City operates two drop-off facilities for City and Durham County residents to safely dispose of recyclables, electronics, appliances, household hazardous waste and trash. The City's yard waste processing facility opened on June 21, 2010. It is accessible from the same location as the transfer station. A private contractor operates the transfer station.	Open Market
If private collection is available, are businesses licenses required?	yes	Yes	No franchise fee required	No franchise license required	No franchise fee, just business license. July 15 this goes away.	N/A	Yes; \$200.00 Per Annum
How many business licenses are assigned to the private sector collection.	Unknown	This number is not available per NC law these licensees will no longer exist.	None (6 companies serve area)	None	N/A	N/A	N/A
Non-Collection Related Personnel (Landfill, Transfer Station, MRF, Yard Waste Facility, Drop off centers, etc.)	0					5.8	None
FY 2015 budget for Miscellaneous Expenditures	\$0	\$0	\$0	\$0	\$0	\$6,686,095	\$0
County Charge per Household per Year	\$2,905,296						
Cumberland County Additional Charges	\$88,103						
Other comments on this activity	FY 2015 Transfer Station Lease (Approx. \$5,000/ month) and per ton Host Fees (Estimated using first 1/2 FY 2015 actuals)	The Division operates (2) permanent leaf drop-off sites, Reynolds Park Road which only accept leaves from City Sanitation crews during the leaf season, Overdale Yard-waste Facility and Forum 52 Yard-waste Facility which accepts leaves from	None	Kersey Valley Landfill. Total budgeted staffing is significantly higher than actual as budget includes 20 MRF employees, 12 composting, and 13 other disposal employees.	None	Solid Waste Division maintains equipment assigned to the post-closure Land Clearing Inert Debris(LCID) site. Also includes Transfer Station Maintenance, Operating and maintaining a HHW site, and yard	None
Basis of disposal costs to the City	\$40 per year per household unit through County Taxes	No fee, tax based	Combined monthly utilities billing - gas, water, sewer, electric and trash via paper or email.	No fee, tax based	No fee, tax based	No fee, tax based	As of July 1, 2014, the fee for the regular sized (maxi) cart is \$26.29 per month and the mini cart fee is \$21.36 per month. A minimum of 12 stickers at \$1.25 each must be purchased at one time.
What disposal facility receives the waste from the City Residential collections?	Trash and bulk - Ann St. Landfill; Recycling- Pratt Industries; Yard Waste- Wilkes Rd Treatment & processing Facility	Solid Waste Division operates a sanitary landfill at Hanes Mill Road; the Division supervises closed out landfill operations on Ebert Street, Airport Road, Overdale and Link Road; there is sufficient land at the Landfill until at least 2021, and possibly until 2029, depending on the "waste stream" into the Landfill. A contract was negotiated with Stokes County in 1995 to provide for disposal of its sanitary waste at the Hanes Mill Road Landfill. The Division operates a active, C&D landfill on Old Salisbury Road, these materials may also be disposed at Hanes Mill Road Landfill.	Pitt County - 14 transfer stations, (Pitt Co SLF closed 1995), Bertie Co LF	Kersey Valley Landfill	The White Street Landfill accepts only construction debris and yard waste it no longer accepts MSW Residential. The White Street Landfill manages a compost operation and sells compost and mulch. Commercial and industrial trash should be disposed of at the Transfer Station, 6310 Burnt Poplar Rd. Transfer Station, (White Street MSW portion of LF - Closed, but operates as TS), Uwharrie Reg LF (Mt. Gilead, NC) In January 2013, the City entered into a new 5-year contract with ReCommunity for the processing and marketing of the city's recyclable materials.	City owned transfer station, yard waste facility, Waste hauled from TS to Sampson County Landfill	New Hanover County Landfill; Yard waste is processed through Diversified Bio Mas
Other comments on this activity	FY 2015 Transfer Station Lease (Approx. \$5,000/ month) and per ton Host Fees (Estimated using first 1/2 FY 2015 actuals)	The Division operates (2) permanent leaf drop-off sites, Reynolds Park Road which only accept leaves from City Sanitation crews during the leaf season, Overdale Yard-waste Facility and Forum 52 Yard-waste Facility which accepts leaves from the general public as well as the City Sanitation crews throughout the year. Leaves that are taken to the Overdale Yard-waste Facility and Forum 52 Yard-waste Facility are mixed with grass clippings from the City's Yard Cart collection and is then distributed to the general public for compost at certain times of the year.	None	Kersey Valley Landfill. Total budgeted staffing is significantly higher than actual as budget includes 20 MRF employees, 12 composting, and 13 other disposal employees. Operating expenses for MRF are managed as a separate business unit and budget.	None	Solid Waste Division maintains equipment assigned to the post-closure Land Clearing Inert Debris(LCID) site. Also includes Transfer Station Maintenance, Operating and maintaining a HHW site, and yard waste composting facility and Scrap tire disposal	None
Basis of disposal costs to the City	\$40 per year per household unit through County Taxes		\$33 (however, city pays zero, fee recovered by county by fee charged with taxes)				City pays \$59 per ton at New Hanover county Landfill
What disposal facility receives the waste from the City Residential collections?	Trash and bulk - Ann St. Landfill; Recycling- Pratt Industries; Yard Waste- Wilkes Rd Treatment & processing Facility	Solid Waste Division operates a sanitary landfill at Hanes Mill Road; the Division supervises closed out landfill operations on Ebert Street, Airport Road, Overdale and Link Road; there is sufficient land at the Landfill until at least 2021, and possibly until 2029, depending on the "waste stream" into the Landfill. A contract was negotiated with Stokes County in 1995 to provide for disposal of its sanitary waste at the Hanes Mill Road Landfill. The Division operates a active, C&D landfill on Old Salisbury Road, these materials may also be disposed at Hanes Mill Road Landfill.	Pitt County - 14 transfer stations, (Pitt Co SLF closed 1995), Bertie Co LF	Kersey Valley Landfill	The White Street Landfill accepts only construction debris and yard waste it no longer accepts MSW Residential. The White Street Landfill manages a compost operation and sells compost and mulch. Commercial and industrial trash should be disposed of at the Transfer Station, 6310 Burnt Poplar Rd. Transfer Station, (White Street MSW portion of LF - Closed, but operates as TS), Uwharrie Reg LF (Mt. Gilead, NC) In January 2013, the City entered into a new 5-year contract with ReCommunity for the processing and marketing of the city's recyclable materials.	City owned transfer station, yard waste facility, Waste hauled from TS to Sampson County Landfill	New Hanover County Landfill; Yard waste is processed through Diversified Bio Mas