

**Summary**

**Cost of Services Analysis**

The following is a service-by-service analysis of the collections offerings made by the Sanitation and Environmental Services Department. The goal of this analysis is to illustrate the cost of each type of service to the customer consuming the service. The SES fund has, historically, required a subsidy of at minimum \$500,000 from the General fund to operate. Currently the City charges \$16.50/month for residential collection services - inclusive of standard collection, yard waste, bulky waste and special event collections. In addition, the City charges commercial customers for door to door collection. The reason for the study was to see if a particular service was disproportionately costing more than another, and if an overall rate increase is required or targeted increases or tapering of services in order to achieve the overall financial goal of the system: self-sufficiency.

This analysis **only** examines the collection services of the City of Franklin. The cost to operate the transfer station - segregated within the budget under the Disposal Division of the SES Fund - are not included as they are already independent and self sustaining. If the costs to operate and dispose of trash at our transfer station rise, then the BOMA has the ability to increase the rate we charge independent haulers (which will be discussed on another agenda item at the November meeting of the Budget & Finance Committee). And if it becomes impractical to maintain our own transfer station, we can close it down. But regardless, residential and commercial trash collection would have to continue. The full cost to collect and dispose of residential and commercial trash, as well as the administrative oversight to operate the collection service, is included in this analysis.

We segregated the collection service into five distinct categories:

- Refuse / Automated Collection
- Recycling / Blue Bag Collection
- Ground Trash / Yard Bag Collection
- Knuckleboom Collection
- Commercial Collection

In segregating each of the five services, we examined the cost to produce each distinct service as if they we stand alone business units. Everything necessary to operate the business was captured - labor costs, vehicle/fleet costs, fuel costs, manager & dispatching costs, administrative oversight, vehicle insurance, and disposal costs. We also were able to segregate the total amount of customers for each type of service and the tonnage each service produces annually.

**Findings:**

The following table summarizes the costs, customers and tonnage of Collections Serves provided by the City of Franklin, Tennessee:

**Collection Summary by Customer, Tonnage, Cost**

	<u>Cost</u>	<u>Customers</u>	<u>Tonnage</u>
Automated Collection	\$ 1,291,118	19,137	16,482
Blue Bags/Recycling	\$ 1,378,076	10,547	3,135
Ground Trash/Yard Bags	\$ 1,273,790	3,760	2,796
Knuckleboom Collection	\$ 1,057,646	536	2,611
Commercial Collection	\$ 667,662	1,100	8,876
<b>Totals</b>	<b>\$ 5,668,291</b>	<b>35,080</b>	<b>33,901</b>

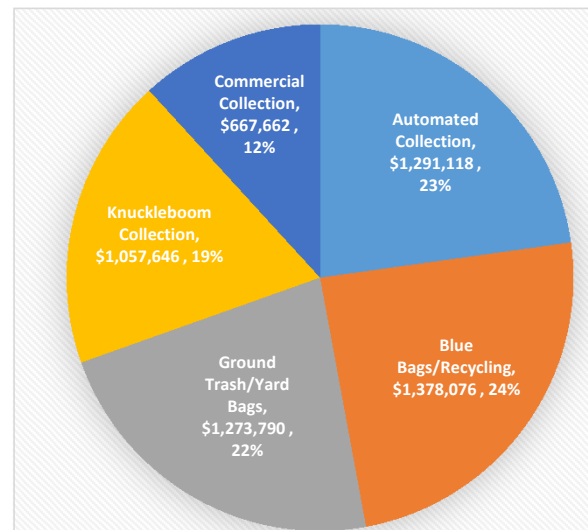
**Summary**

The numbers provided on the previous page show that the total estimated cost of service in FY 2016 for collection services is \$5,668,291 - or roughly 72% of the total budget for the fund (the remaining 28% is the cost to operate the transfer station.) The opposite is true for total tonnage - of the over 81,000 tons collected last year by the City of Franklin, only 33,901 or 42% of the total tonnage coming across the scales was generated through collection activities. The remainder came from operating the transfer station.

Within each of these three main categories, interesting results occur. Let's examine each one by one:

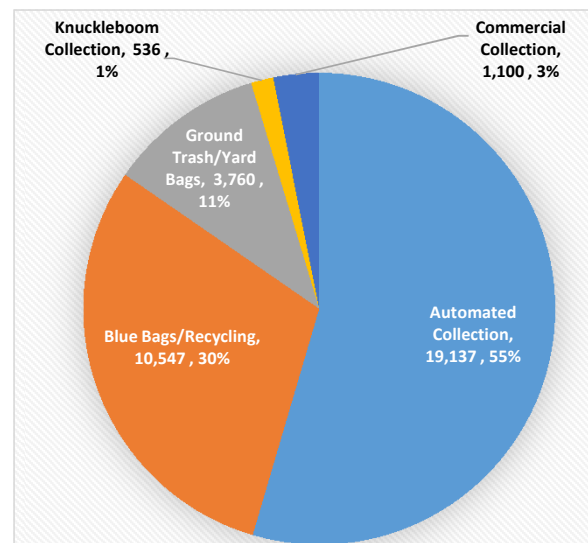
**Costs**

When examining the five collection service offerings through the lens of how much they cost, most of the costs are evenly distributed between the residential collection offerings. Recycling costs the most (24%), followed by automated refuse collection (23%), ground trash/yard bags (22%) and knuckleboom collections (19%). A significant drop off occurs in overall cost with the final offering, commercial collection at only 12% of the total cost. Automated collection, recycling and ground trash individually cost twice as much as does commercial collection. (It is important to remember that participation in commercial collection service is voluntary for businesses and not mandatory.)



**Customers**

When examining the five collection service offerings through the lens of how many customers take advantage of each service, the distribution changes dramatically from the cost lens. Automated refuse collection has a clear majority of all customers - 19,137 or 55%, followed by residential recycling/blue bags customers - 10,547 or 30%. Combined, those two services have over 85% of the customers for collection service in the City of Franklin. The remaining services make up the remaining 15% of customers - ground trash/yard bags (11%), commercial collection (3%) and knuckleboom collection (1%). Combined, these three services only have approximately 5,400 customers.

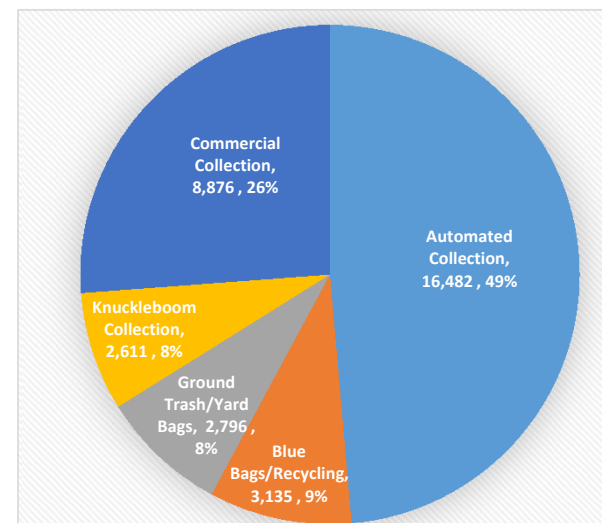


This is even more striking when one compares the total customers to the total costs. Taking out commercial collection and examining only the residential collection services, the "bread and butter services" - automated refuse collection and blue bag recycling - account for \$2.67 M of cost (47%) and nearly 29,700 customers (85%), whereas the additional services of ground trash/yard waste and knuckleboom account for \$2.3M of cost (41%) but have only 4,300 customers (12%).

**Summary**

**Tonnage**

A final lens to compare the five collection services is the lens of how much tonnage they produce. Again automated refuse collection produces the most tonnage - nearly half of all tonnage collected by the City comes from automated collection (16,482 tons in FY 2015 or 49%). But unlike cost and customer totals, commercial collection produces the second highest amount of tonnage. Nearly 1 in every 4 tons collected by the City comes from the small base of commercial customers (8,876 tons in FY 2015 or 26%). The remaining three services collect almost equal amounts of tonnage - blue bag/recycling 3,135 tons in FY 2015 or 9%, ground trash 2,796 tons in FY 2015 or 8% and knuckleboom collection 2,611 tons in FY 2015 or 8%.



Each of these services are provided in detailed worksheets following this summary, along with a financial reconciliation of the fund budget provided at the end of the packet.

**Considerations:**

As detailed on the sheets which follow, a few findings become clear. First, the combined cost per customer of the "bread and butter services" - automated collection and blue bag/recycling services - comes to \$16.51 (\$5.62 for automated collection and \$10.89 for recycling). This is remarkably close (1 penny off) from the current monthly charge of \$16.50 to customers of the City's Sanitation department. Second, commercial collection services are profitable. As detailed on page 10, they are the only service which actually makes money - a forecast \$410,000 surplus in FY 2016 (\$1,080M in revenue less \$670,000 in expenses). Third, the ancillary services (ground trash & knuckleboom) have remarkably higher per customer costs - \$28.23 and \$164.38 respectively.

If the collection services of the City of Franklin and the Sanitation and Environmental Services Fund is ever to become self-sufficient, changes will need to be made either in the pricing structure, services offered or some combination of both. We would like to present to you four possible changes for your consideration:

**1) Require pre-registration of Ancillary services.** Currently, Knuckleboom trucks follow regular collection routes and pick up large items, brush, etc. Given our advances in technology through the new route planning software, our existing databases within Infor and GIS, and some advanced planning, we could reduce the costs of the Knuckleboom service by only making planned stops. This would require all individuals who desire a larger pick-up to have to call, email, text or otherwise pre-register at least the day before the desired pick-up date. Many communities nationwide use some sort of preregistration service. This option would also open the possibility to charging a separate one-time charge for pick-up of this service.

**Summary**

**2) Raise Commercial Rates/Increase Commercial Customers.** Commercial collection services are already profitable, and a concerted effort here could generate even more revenue. Our last market study showed that we are currently charging less than private sector competitors, and we should be able to increase our fees without approaching their cost. Not having a profit margin to reach is always a strategic advantage of municipal services.

**3) Implement Tiered Pricing.** Residential collection customers of the City of Franklin currently get what could be described as a "Cadillac" service of collection. Recycling, Refuse, Knuckleboom and Yard Waste is picked up at home for a flat \$16.50 per month so long as you set the items out by the pick-up date. But as the numbers show, the vast majority of the community does not utilize services available to them and pays for them. It could be possible to create a tiered pricing structure - say \$16.50 for basic, \$19.50 for enhanced and \$22.50 for premium service where the level of service you receive would be dependent upon what you pay. A basic service would only have refuse and recycling collection, whereas a premium service may have all of the same service received now plus additional options. Of all of the potential options, this would require both additional cost (equipment within the trucks to distinguish what type of customer they are picking up from, RFID tags in each of the containers which are coded to tell the drivers on handheld devices the service level they are to receive and employee training) and a significant behavioral change on behalf of customers. Further study of this would be necessary prior to implementation, but we now have the technology to make this a potential option.

**4) Raise all residential rates annually for three years to break-even and be self-sufficient.** Of all the potential options to achieve self-sufficiency, this is the easiest to implement, but one which we try to avoid. Our calculations show that in order to make up the current \$500,000 deficit funded through a General Fund transfer to the SES fund, the residential collection rate would need to be \$18.50 monthly. We would propose a three year phase in of one dollar per year - so \$17.50 (eff. 7/1/2016), \$18.50 (eff. 7/1/2017) and \$19.50 (eff. 7/1/2018). Why go to \$19.50 if all that is needed to break even is \$18.50? We envision cost increases over the next several years in labor and general expenses which will justify the need to increase to \$19.50.

At this time, we are not making any recommendations on which option to take. It is very likely a combination of approaches will be utilized to achieve self-sufficiency. We seek input from the Budget & Finance before making recommendations as part of the FY 2017 Budget Recommendations later in February 2016.

**Guide:**

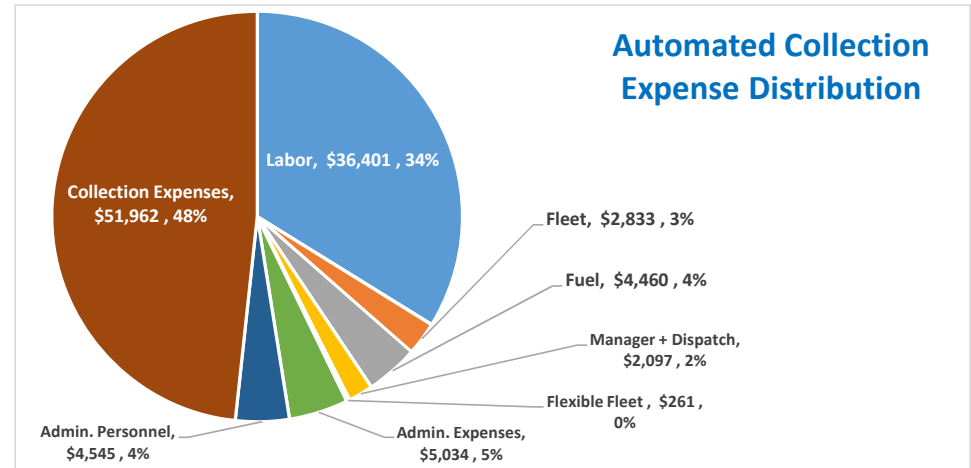
Please see details for each service on the following pages.

Summary	1
Automated Collection	5
Blue Bags	6
Ground Trash Collection	7
Knuckleboom Collection	8
Commercial Collection	9
Financial Summary	10



<b>Service:</b>	<b>Residential: Automated Collection</b>	<b>Cost</b>	<b>23%</b>	<b>Customers</b>	<b>55%</b>	<b>Tonnage</b>	<b>49%</b>
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Automated Collection: This aspect of collection is the most basic, busiest and most important. It provides for the weekly collection of refuse to the 19,137 residential customers in the City of Franklin. The automated collection consists of planned routes using side-loading automated machines (7) 4 days a week, 10 hours per day.

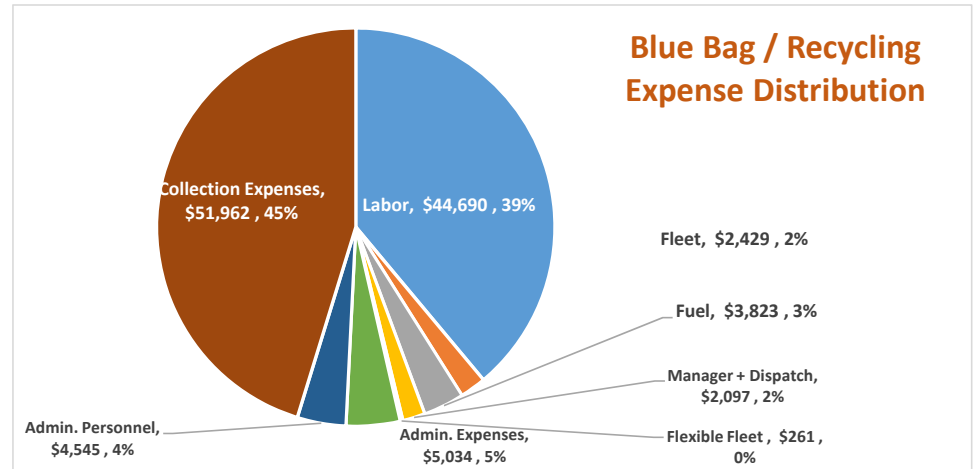


AUTOMATED COLLECTION		Automated Collection Expense		Per month	Annually
Labor Costs:		Labor	\$	36,401	\$ 436,815
<b>Total Employees: 7</b>	<b>\$ 283,955</b>	Fleet	\$	2,833	\$ 33,999
+ Benefits	\$ 141,154	Fuel	\$	4,460	\$ 53,525
+ OT, Misc.	\$ 11,706	Manager + Dispatch	\$	2,097	\$ 25,165
Total Labor Costs for Automated Collection	\$ 436,815	Flexible Fleet	\$	261	\$ 3,128
<i>Divide by 12 months</i>	<i>12</i>	Admin. Expenses	\$	5,034	\$ 60,407
<b>MONTHLY Labor for Automated Collection</b>	<b>\$ 36,401</b>	Admin. Personnel	\$	4,545	\$ 54,538
		Collection Expenses	\$	51,962	\$ 623,541
Number of trucks assigned & used by service	7	<b>Total Monthly Automated Collection Expense</b>	<b>\$</b>	<b>107,593</b>	<b>\$ 1,291,118</b>
		<i>Divide by number of customers</i>		<i>19,137</i>	
		<b>Automated Collection per Household</b>	<b>\$</b>	<b>5.62</b>	
		<i>total tonnage*</i>		<i>1,373.52</i>	<i>16,482.23</i>
		<b>Cost per ton</b>	<b>\$</b>	<b>78.33</b>	
		<i>*includes all tonnage from Sideloader trucks</i>			



<b>Service:</b>	<b>Residential: Blue Bags</b>	<b>Cost</b>	<b>23%</b>	<b>Customers</b>	<b>55%</b>	<b>Tonnage</b>	<b>49%</b>
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**Blue Bags:** Blue Bags encompass the City's recycling program. They are collected on the same 4 day per week, 10 hour per day schedule. The City uses a single-stream recycling method and accepts: Plastics (1-7), Aluminum/Steel, Mixed Paper, Office Paper and Cardboard, with cardboard kept separate. Large cardboard is kept separate.

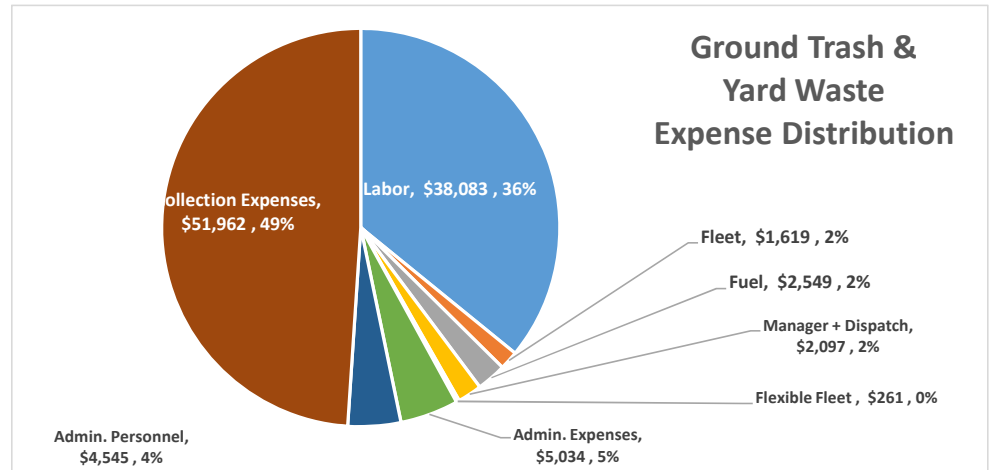


<b>BLUE BAGS</b>		<b>Blue Bags Expense</b>		<b>Per month</b>	<b>Annually</b>
Labor Costs:		Labor	\$	44,690	\$ 536,277
<b>Total Employees: 9 + 2PT = 10FT Employees</b>	<b>\$ 334,628</b>	Fleet	\$	2,429	\$ 29,142
+ Benefits	\$ 201,649	Fuel	\$	3,823	\$ 45,878
+ OT, Misc.	\$ 16,722	Manager + Dispatch	\$	2,097	\$ 25,165
Total Labor Costs for Blue Bags Collection	\$ 536,277	Flexible Fleet	\$	261	\$ 3,128
<i>Divide by 12 months</i>	\$ 12	Admin. Expenses	\$	5,034	\$ 60,407
<b>MONTHLY Labor for Blue Bags Collection</b>	<b>\$ 44,690</b>	Admin. Personnel	\$	4,545	\$ 54,538
		Collection Expenses	\$	51,962	\$ 623,541
		<b>Total Monthly Blue Bags Collection Expense</b>	<b>\$</b>	<b>114,840</b>	<b>\$ 1,378,076</b>
		<i>Divide by number of customers</i>		<i>10,547</i>	
		<b>Blue Bag Collection per Household</b>	<b>\$</b>	<b>10.89</b>	
		<i>total tonnage*</i>		<i>261.25</i>	<i>3,135.02</i>
		<b>Cost per ton</b>	<b>\$</b>	<b>439.57</b>	
		<i>* includes cardboard and blue bags.</i>			



<b>Service:</b>	<b>Residential: Ground Trash &amp; Yard Waste Collection</b>	<b>Cost</b>	<b>22%</b>	<b>Customers</b>	<b>11%</b>	<b>Tonnage</b>	<b>8%</b>
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Ground Trash & Yard Waste Collection: Ground Trash & Yard Water Collection helps divert waste from landfills and offers a low-cost convenient way to dispose of grass, leaves, shrub trimmings and small twigs. It is only accepted in brown biodegradable bags.



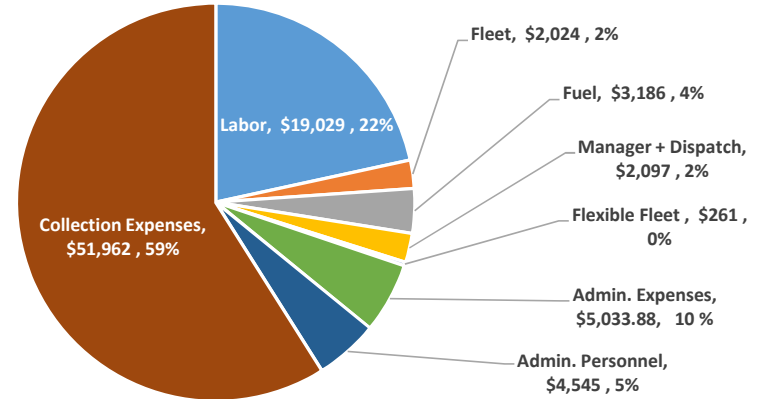
<b>GROUND TRASH/YARD BAGS</b>		<b>Ground Trash/Yard Waste Collection Expense</b>		
			<b>Per month</b>	<b>Annually</b>
Labor Costs:		Labor	\$ 38,083	\$ 456,997
<b>Total Employees: 8</b>	<b>\$ 282,300</b>	Fleet	\$ 1,619	\$ 19,428
+ Benefits	\$ 161,319	Fuel	\$ 2,549	\$ 30,585
+ OT, Misc.	\$ 13,378	Manager + Dispatch	\$ 2,097	\$ 25,165
Total Labor Costs for Ground/Yard Collection	\$ 456,997	Flexible Fleet	\$ 261	\$ 3,128
<i>Divide by 12 months</i>	<i>12</i>	Admin. Expenses	\$ 5,034	\$ 60,407
<b>MONTHLY Labor for Ground Trash/Yard Waste Collection</b>	<b>\$ 38,083</b>	Admin. Personnel	\$ 4,545	\$ 54,538
		Collection Expenses	\$ 51,962	\$ 623,541
		<b>Total Monthly Ground/Yard Collection Expense</b>	<b>\$ 106,149</b>	<b>\$ 1,273,790</b>
		<i>Divide by number of customers</i>	<i>3,760</i>	
		<b>Ground Trash/Yard Bag Collection per Household</b>	<b>\$ 28.23</b>	
		<i>total tonnage*</i>	<i>233.03</i>	<i>2,796.40</i>
		<b>Cost per ton</b>	<b>\$ 16.13</b>	
		<i>*includes Residential Ground Trash and Brown Bags</i>		



<b>Service:</b>	<b>Residential: Knuckleboom Collection</b>	<b>Cost</b>	<b>19%</b>	<b>Customers</b>	<b>1%</b>	<b>Tonnage</b>	<b>8%</b>
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**Knuckleboom Collection:** Knuckleboom collection services are provided by the City free of charge to any resident who needs a larger pick-up. Items such as Bulky Waste and Large Appliances or White Goods are picked up by this crew.

**Knuckleboom Expense Distribution**



<b>KNUCKLEBOOM COLLECTION</b>		<b>Knuckleboom Collection Expense</b>		<b>Per month</b>	<b>Annually</b>
Labor Costs:		Labor	\$ 19,029	\$ 228,350	
<b>Total Employees: 4</b>	<b>\$ 141,002</b>	Fleet	\$ 2,024	\$ 24,285	
+ Benefits	\$ 80,660	Fuel	\$ 3,186	\$ 38,232	
+ OT, Misc.	\$ 6,689	Manager + Dispatch	\$ 2,097	\$ 25,165	
Total Labor Costs for Knuckleboom Collection	\$ 228,350	Flexible Fleet	\$ 261	\$ 3,128	
<i>Divide by 12 months</i>	<i>12</i>	Admin. Expenses	\$ 5,034	\$ 60,407	
<b>MONTHLY Labor for Knuckleboom Collection</b>	<b>\$ 19,029</b>	Admin. Personnel	\$ 4,545	\$ 54,538	
Number of trucks assigned & used by service	5	Collection Expenses	\$ 51,962	\$ 623,541	
		<b>Total Monthly Knuckleboom Collection Expense</b>	<b>\$ 88,137</b>	<b>\$ 1,057,646</b>	
		<i>Divide by number of customers</i>	<i>536</i>		
		<b>Knuckleboom Collection per Household</b>	<b>\$ 164.38</b>		
		<i>total tonnage</i>	<i>217.60</i>	<i>2,611.22</i>	
		<b>Cost per ton</b>	<b>\$ 405.04</b>		

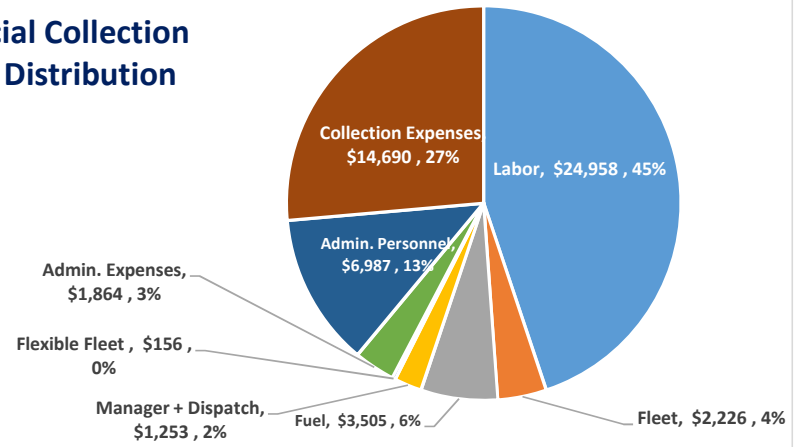




<b>Service:</b> Commercial Collection	<b>Cost</b> 12%	<b>Customers</b> 3%	<b>Tonnage</b> 26%
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**Commercial Collection:** The City picks up commercial refuse at 1,466 private customer locations throughout the City. Although the number of customers accounts for only 7% of regular customers, tonnage collected from commercial collection accounts for 26% of total City of Franklin collections.

**Commercial Collection Expense Distribution**



<b>COMMERCIAL COLLECTION (to include backdoor services)</b>		<b>Commercial Collection Expense per Month</b>		<b>Per month</b>	<b>Annually</b>
<b>Total Employees: 5</b>	\$ 208,594	Labor	\$ 24,958	\$ 24,958	\$ 299,491
+ Benefits	\$ 87,386	Fleet	\$ 2,226	\$ 2,226	\$ 26,714
+ Overtime & Vacancy Adjustment	\$ 3,511	Fuel	\$ 3,505	\$ 3,505	\$ 42,055
<b>Total Labor Costs for Commercial Collection</b>	\$ 299,491	Manager + Dispatch	\$ 1,253	\$ 1,253	\$ 15,041
<i>Divide by 12 months</i>	12	Flexible Fleet	\$ 156	\$ 156	\$ 1,870
<b>MONTHLY Labor for Non-Residential/Commercial Collection</b>	\$ <b>24,958</b>	Admin. Expenses	\$ 1,864	\$ 1,864	\$ 22,363
Number of trucks assigned & used by service	7	Admin. Personnel	\$ 6,987	\$ 6,987	\$ 83,844
		Collection Expenses	\$ 14,690	\$ 14,690	\$ 176,283
		<b>Total Monthly Commercial Collection Expense</b>	\$ <b>55,638</b>	\$ <b>55,638</b>	\$ <b>667,662</b>
		<i>Divide by number of customers</i>		1,100	
		<b>Commercial Collection Service per Customer (to include backdoor services)</b>	\$ <b>50.58</b>		
		<i>*total tonnage</i>		739.65	8,875.79
		<b>Cost per ton</b>	\$ <b>75.22</b>		
		<i>*includes Front End Commercial and backdoor Commercial</i>			



# City of Franklin

## Sanitation Review

### Summary

#### Financial Summary

##### Revenue Proposed (FY 2016)

Residential	(79% of monthly fees)	\$	4,084,889
Commercial	(21% of monthly & dumpster fees)	\$	1,078,487

<b>Total Revenue</b>		<b>\$</b>	<b>5,163,376</b>
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##### Expenses (FY 2016)

Automated		\$	1,291,118
Blue Bags		\$	1,378,076
Ground Trash/Yard Bags		\$	1,273,790
Knuckleboom		\$	1,057,646
Commercial		\$	667,662

<b>Total Collection Costs</b>		<b>\$</b>	<b>5,668,291</b>
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##### Results

<b>Net Revenue Surplus / (Deficit)</b>		<b>\$</b>	<b>(504,915)</b>
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<b>Net Residential Revenue Surplus / (Deficit)</b>		<b>\$</b>	<b>(915,741)</b>
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<b>Net Commercial Revenue Surplus / (Deficit)</b>		<b>\$</b>	<b>410,826</b>
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##### Disposal Costs

##### Revenues

<b>Revenue Proposed (FY 2016)</b>		<b>\$</b>	<b>2,142,317</b>
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##### Expenses (FY 2016)

Original Budget		\$	3,528,730
Less COF Trash Covered within Collection		\$	(1,371,244)

<b>Net Disposal Costs</b>		<b>\$</b>	<b>2,157,486</b>
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##### Results

<b>Net Revenue Surplus / (Deficit)</b>		<b>\$</b>	<b>(15,169)</b>
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<b>Total Revenue Surplus/(Deficit)</b>		<b>\$</b>	<b>(520,084)</b>
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##### Unallocated Revenues

Intergovernmental		\$	-
Charges for Services		\$	31,259
Use of Money and Property		\$	163,825
Other Revenue		\$	325,000

<b>Total Unallocated Revenues</b>		<b>\$</b>	<b>520,084</b>
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<b>Forecast Balance EOY FY 2016</b>		<b>\$</b>	<b>0</b>
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