



## Submitted Electronically

August 17, 2018

Mrs. Tammy Bennett  
Assistant Public Works Director  
City of Lawrence  
P. O. Box 708  
Lawrence, KS 66044-0708

### **Subject: Solid Waste Downtown Rate Model**

Dear Mrs. Bennett:

MSW Consultants provides the following letter report incorporating the recommended downtown solid waste rate model, benchmarking activities to support the validity of the model, and other related observations.

#### **PROJECT INTRODUCTION**

The City of Lawrence provides shared refuse and cardboard recycling dumpsters in the alleys of a 9.5 block area downtown because space limitations in the area prevent separate services. Service is provided six days a week, Monday through Saturday. Businesses and residents within this area use these shared dumpsters for trash disposal and cardboard recycling. Commercial accounts have historically been charged a service rate based on the square footage of their business space, while residential accounts pay a single-family residential solid waste rate.

Billing of downtown area businesses has experienced problems. Earlier this year, City staff determined there were accounts in the downtown area either not sharing in the cost or paying only a minimum rate that would be charged to vacant locations in between tenants, and in a few cases, paying more than they should. As a result of these billing issues, the City has not been realizing revenue for the downtown area to the level that would be achieved had billing been accurate and in alignment with the City's current rate structure.

The City hired MSW Consultants through an RFP process to address these deficiencies. Specifically, MSW Consultants assisted the City to provide the following services:

- ◆ Review and comment on the City's calculated cost of service for the downtown area,
- ◆ Develop a downtown solid waste rate model that better assigns system cost to businesses based on a combination of their size and their waste stream profile,
- ◆ Conduct benchmarking on at least 10% of the downtown accounts and the associated rates from the developed model with similar accounts that lie outside the downtown area, and
- ◆ Provide support during the public engagement process during development and informational process for the new rates.

The letter report is broken into the following sections:

- ◆ Methodology,
- ◆ Analysis and Rate Options, and
- ◆ Observations, Conclusions and Recommendations.

## METHODOLOGY

The approach to successful completion of this project was organized into the following activities:

- ◆ **Data Assembly** – MSW Consultants requested and City staff provided account and service level information for the downtown area, the estimated cost of service for these accounts, and historical billing information.
- ◆ **Kickoff Meeting** – MSW Consultants met with City staff to gather insight and discuss project goals and desired improvements for the downtown area rate structure.
- ◆ **Downtown Tour** – MSW Consultants walked the downtown corridor service area with City staff, conducting an on-the-ground assessment of containers, approach restrictions and any other existing anomalies that might affect service provision.
- ◆ **Customer Classification System** – MSW Consultants collaborated with the City to develop a downtown tenant classification system framework. The tenants are first identified by business type, then sizes determined based on square footage and occupancy permit, per City feedback.
- ◆ **Cost of Service Review** – The revenue requirement for the downtown area was determined two different ways. First, City staff prepared a cost allocation worksheet to estimate the full cost to serve the downtown area (see Attachment A). MSW Consultants reviewed the City’s allocation methods and found them to be reasonable. Second, the revenue requirement was calculated assuming the City could charge its current commercial rates for each dumpster in service in the downtown area. The advantages and disadvantages of each method were discussed in more detail with the City and guidance provided to proceed with the path covering the City-calculated cost of service.
- ◆ **Rate Design** – MSW Consultants developed a model to calculate rates according to the customer classification system that would sufficiently meet the revenue requirement for downtown area service levels. Classifications were established based on existing City commercial service rates, at much reduced service levels than would be required for stand-alone accounts elsewhere in the City. The synergies of the shared, grouped dumpsters result in reduced rates for the downtown accounts.
- ◆ **Public Engagement** – MSW Consultants attended two public meetings for the downtown account holders on July 12, 2018, to answer questions and explain the methodology.

## ANALYSIS & RATE OPTIONS

The following bullets summarize salient aspects of the data assembly and analysis performed to arrive at a rate recommendation.

- ◆ **Current Conditions** - The current published rates for commercial solid waste for accounts citywide are displayed in Table 1. These rates are for customers outside the downtown area. In most cases, these accounts have their own container and in some cases, such as strip malls, office parks, etc. the property shared the service level and staff assigns “unique” shares which sum to the rate.

**Table 1 Existing Citywide Commercial Solid Waste Rate Structure (\$/month)**

Container Size (cubic yds)	Pickups Per Week					
	1	2	3	4	5	6
	<b>Uncompacted</b>					
<b>1</b>	\$57.54	\$94.32	\$131.10	\$167.87	\$204.65	\$241.43
<b>1.5</b>	\$68.51	\$113.15	\$157.79	\$202.43	\$247.07	\$291.71
<b>2</b>	\$80.54	\$134.09	\$187.64	\$241.19	\$294.74	\$348.29
<b>3</b>	\$103.41	\$175.43	\$247.46	\$319.48	\$391.51	\$463.54
<b>4</b>	\$125.87	\$216.80	\$307.72	\$398.64	\$489.57	\$580.49
<b>6</b>	\$167.59	\$290.03	\$412.46	\$534.89	\$657.33	\$779.76
<b>8</b>	\$206.16	\$359.87	\$513.58	\$667.29	\$821.01	\$974.72
<b>10</b>	\$254.99	\$445.84	\$636.69	\$827.53	\$1,018.39	\$1,209.23
	<b>Compacted</b>					
<b>2</b>	\$134.14	\$241.29	\$348.43	\$455.58	\$562.73	\$669.88
<b>3</b>	\$176.10	\$320.82	\$465.54	\$610.26	\$754.98	\$899.70
<b>4</b>	\$216.68	\$398.42	\$580.15	\$761.88	\$943.62	\$1,125.35
<b>6</b>	\$290.04	\$534.94	\$779.83	\$1,024.71	\$1,269.61	\$1,514.50
<b>8</b>	\$359.74	\$667.03	\$974.31	\$1,281.60	\$1,588.89	\$1,896.18
<b>10</b>	\$441.86	\$819.59	\$1,197.32	\$1,575.04	\$1,952.77	\$2,330.49

Because of the prevalence of shared dumpsters, and because of unique container placement and access characteristics, the City has historically applied a rate to the downtown accounts based on a square footage guide. The guideline for this rate assignment is provided in Table 2. If the location is a bar or restaurant, it is moved up to the next highest square footage level to accommodate the additional quantity that is produced by such business type compared to the others. The residential units within the downtown area are charged at the citywide single-family residential rate of \$18.80 per month.

**Table 2 Current Downtown Commercial Solid Waste Rates Based on Square Footage (\$/month)**

	Square Footage				
	<1,000	1,001-2,000	2,001-5,000	5,001-12,000	>12,000
<b>Rate Assignment</b>	Min. Comm.	1yd x 1/wk	1yd x 3/wk	1yd x 6/wk	2yd x 6/wk
<b>Monthly Rate</b>	\$23.49	\$57.54	\$131.10	\$241.43	\$348.29

When a downtown tenant vacates, accounts sometimes get defaulted to the commercial minimum solid waste rate. Over time, several of these accounts have retained the commercial minimum rate after occupancy by a new tenant. Once this was discovered by City staff earlier this year, account information was researched for the 9.5 block area in detail and it was determined 77 percent of the downtown area businesses were being billed incorrectly. Table 3 compares the current rate revenue from the downtown area to the rate revenue that would be generated had all downtown area businesses been charged the correct rate based on the City’s existing downtown rate schedule. As shown, the revenue loss is roughly \$15,000 monthly as a result of the erroneous billing.

**Table 3 Comparison of Actual Monthly Revenue vs. Revenue from Existing Monthly Rate Structure for Downtown Area**

Number of Businesses	185
Actual Rate Revenue	\$21,212.87
Rate Revenue at Existing Downtown Rate Structure	\$36,239.42

It should be noted that the downtown area residential accounts use the alley shared dumpsters and pay a monthly rate consistent with citywide single-family homes. City staff audited these accounts and found 7 percent of the downtown area residential accounts were being billed incorrectly. These were corrected during the audit.

◆ **Account Classification Development** – Based on the account information gathered, MSW Consultants developed a classification system that further distinguishes downtown area accounts by business type. The business categories identified are defined as follows:

- **Restaurant** – Businesses serving food or drinks as the primary function, generating a combination of food waste, beverage container and product packaging materials.
- **Bar Only-No Food** – Businesses serving beverages only with no extended meal menu, generating primarily beverage container and product packaging materials.
- **Retail** – Businesses selling products or services to the general public, generating product packaging, office materials, and small quantities of food product waste from break rooms or employee food consumption on site.
- **Office** – Businesses providing professional services or products not associated with retail, primarily generating paper or mixed fiber materials and small quantities of food product waste from break rooms or employee food consumption on site.
- **Church** – Places of worship primarily generating mixed waste from office areas, congregational gatherings and occasional food product from special events.
- **Bank** – Financial institutions recognized and regulated by state and federal law, providing checking, savings, lending and other financial management services, generating primarily paper fiber materials and small quantities of food product waste from break rooms or employee food consumption on site.
- **Exceptions** – Businesses not falling into any of the above categories, either unique in the downtown area or accounts with unusual circumstance such as master metering for several business units, etc.
- **Residential** – Living accommodations that generate mixed materials typical of residential units outside the downtown area.

Each industry type is further classified into three size ranges: large, medium, and small. These levels are based primarily on square footage with additional consideration of occupancy given to the Restaurant and Bar Only-No Food categories. The guidelines determined are presented in Table 4 below.

**Table 4 Square Footage and Occupancy Permit Guideline for Tenant Size Determination**

<b>Business Type</b>	<b>Small</b>	<b>Medium</b>	<b>Large</b>	<b>Exception</b>
<b>Restaurant or Bar Only-No Food</b>				
Square Footage	< 2,000	2,001 - 4,500	4,501 - 11,000	> 11,000
<b>Restaurant</b> Occupancy	< 62	62 - 150	151 - 375	> 375
<b>Bar Only-No Food</b> Occupancy	< 80	81 - 160	161 - 400	> 400
<b>Retail, Office, Church, or Bank</b>				
Square Footage	< 2,500	2,501 - 5,000	5,001 - 12,000	> 12,000

The number of downtown accounts falling into each business category and size that are assigned a rate are presented in Table 5 below. In addition, there are a few Exception accounts, being unique or Mixed Business use. There are also 61 residential units in the downtown area.

**Table 5 Downtown Accounts by Business Type and Size**

<b>Classification</b>	<b>Large</b>	<b>Medium</b>	<b>Small</b>	<b>Total</b>
Restaurant	12	29	16	57
Bar Only - No Food	7	4	2	13
Retail	27	25	36	88
Office	11	4	4	19
Church	2	0	0	2
Bank	2	1	0	3
Subtotal Categorized Commercial Accounts	61	63	58	182

◆ **Determination of Revenue Requirement** – Key to developing rates is the determination of revenue needed to be recovered to provide a given service level. Typically, this would be accomplished by establishing rates from the bottom up, allocating system-wide costs into service sectors to determine fully-loaded costs for the entire solid waste operation. For this downtown-specific project where citywide solid waste operations are not being evaluated, MSW Consultants developed the model with respect to covering costs determined the following ways:

- **Estimated Actual Cost of Service** – This cost estimate was prepared by the City based on current manpower and equipment at actual costs per hour, including supervision, container maintenance and overhead. MSW Consultants reviewed the City’s calculated costs and found them to be reasonable. However, the focused nature of estimating costs for a small fraction of the overall City service territory without the benefit of a system-wide full cost-of-service analysis limits our ability to fully validate this estimate.
- **Recoupment of Rate Revenue Based on Current City Commercial Rates** – Another method for determining revenue need would be to simply treat each of the dumpsters in service within the downtown area as if it were at a stand-alone establishment, in which case the City’s commercial solid waste rate structure would be applied. This approach presumes the dumpsters are fully utilized every collection, and whereas the container size and service frequency could be adjusted if needed by businesses outside the area, this is not true for downtown businesses. Service levels are maintained to cover peak demand, such as University football weekends or other events drawing large numbers to the downtown area.

The City identified a total of 129 two- and three-cubic yard containers being utilized for trash and cardboard collection six days per week, for a total of 1,632 cubic yards serviced weekly. Table 6 provides the revenue need based on the two approaches. It should be noted that required cost recovery represents the full cost of solid waste services and does not include costs incurred by other departments of the City that provide ancillary services to the downtown area, such as servicing of the sidewalk receptacles.

**Table 6 City Calculated Cost vs. Cost based on Existing Citywide Commercial Rates**

Revenue Sufficiency Basis	Revenue Need
Estimated Actual Cost of Service	\$19,127/month
Application of Existing Citywide Commercial Rates	\$33,316/month

- ◆ **Rate Design** – Considering the distinctive aspects of shared refuse and cardboard dumpsters “for the good of all” in the downtown area and associated feedback from City staff, MSW Consultants developed a model based on the City’s estimated cost of providing service in the downtown area. The model was further defined, developing Classes the determined business types and sizes would fall into. Applying the revenue needs to the established classification system and incorporating a contingency, recommended rates are displayed in Table 7 below. The rates are taken from existing commercial service rates. As authorized by City Code 9-412.2(C)(2), City staff shall assign the most appropriate category or determine the most appropriate rate for accounts deemed to be Exceptions. There are also 61 residential accounts in the downtown area that are billed monthly at the residential rate of \$18.80 per unit.

**Table 7 Recommended Downtown Rate Structure (\$/Month)**

	Class A	Class B	Class C	Class D	Class E	Class F	Exception
Rate	\$241.19	\$187.64	\$134.09	\$80.54	\$57.54	\$23.49	
Business Types	Large Restaurant	Medium Restaurant Large Bar	Small Restaurant Medium Bar Large Retail	Small Bar Medium Retail	Small Retail		Hotel Mixed Business Specialty
Falling Into Each Class				Large Bank Large Office Large Church	Medium Bank Medium Office Medium Church	Small Bank Small Office Small Church	

- ◆ **Benchmarking** – MSW Consultants compared the downtown solid waste rates to the rates which would be paid by accounts of similar industry and business intensity outside the downtown area. The City supplied 36 accounts outside the downtown area for benchmarking against the downtown service level and rates. In all cases except one, the recommended rates were either equal to or less than the benchmarked accounts. The exception was the Retail-Small rate, which is slightly higher than the minimum commercial rate (\$23.49) that the benchmarked account was paying for as part of a shared container. This is reasonable in that the efficiencies of multiple entities sharing containers for one service stop is the same scenario being demonstrated in the downtown area.
- ◆ **Past Billing Review** – The final task the City requested was to provide a recommendation for addressing past billing errors. As referenced previously, the City identified a substantial number

of downtown area accounts that have not been billed the correct rate. The discrepancies date back to 2013 for over one hundred accounts from the time of a billing system conversion, per City records. Table 8 summarizes the erroneously billed accounts and their associated over- or under-billing as provided by the City in early May.

**Table 8 Billing Discrepancies as of May 2018**

Calculation	Quantity	Monthly Discrepancy
No. of accounts being billed at rate less than correct rate	127	(\$17,574)
No. of accounts being billed at rate higher than correct rate	16	\$2,547
		(\$15,027)

◆ **Rate and Revenue Options** – Based on the previous analysis, Table 9 summarizes the revenue generation for the following four rate structures:

- 1) **Current Revenue:** Reflects the revenue that has been generated under the current erroneous rates which have been in effect since roughly 2013 and/or applied during business turnover.
- 2) **Historical Model Revenue:** This is the amount of revenue that would be generated were the accounts in the downtown area being charged at the City’s existing downtown rate structure.
- 3) **City-estimated Cost-based Revenue Requirement:** This reflects the revenue needed to cover the City’s estimated full cost for servicing the downtown area, with no contingency.
- 4) **Recommended Downtown Rate Model:** The recommended rate structure is designed to cover the City-estimated Cost-based Rates plus a reasonable contingency.

**Table 9 Comparison of Revenue by Rate Schedule (\$/month)**

Revenue Considerations	Monthly Amount
1) Current Revenue	\$21,213
2) Historical Model Revenue	\$36,239
3) City-estimated Cost-based Revenue Requirement	\$19,127
4) Recommended Downtown Rate Model*	\$24,214

\* Model includes contingency to allow for vacancies/changes in classification.

## **OBSERVATIONS, CONCLUSIONS AND RECOMMENDATIONS**

◆ **Billing Error Corrections** – MSW Consultants provides the following considerations with respect to whether the City should retroactively bill the accounts.

- Whereas Lawrence operates its Solid Waste Division as an Enterprise Fund, it must recover its operating expenses primarily through user charges. Because of this

responsibility, MSW Consultants believes it is justifiable to correct billing errors to the extent the City management determines necessary.

- Lost revenue has been compared to costs incurred providing the service. The current monthly revenue collected has recovered costs to provide the service in the downtown. Since it appears the revenue level has been sufficient to cover the costs, MSW Consultants does not recommend back billing to recover underpayments.
- If the City chooses, however, to retroactively invoice to correct the billing errors, this should include credits where appropriate and could consider options of recovering various percentages of lost revenue, basically splitting the difference with the account holders.
- As there is no current citywide policy regarding back billing, MSW Consultants recommends a policy be established to address back billing.

- ◆ **Due Diligence** - It is evident that City staff has been working diligently to address the downtown billing oversights since they were discovered. Staff has done a thorough identification of the accounts, the rates being charged, the correct rate under current billing structure, and timing of past rate changes.
- ◆ **“Live” Model Management** - The downtown rate model has been developed to cover the costs of service in a fair and equitable manner based on the current mix of occupancy and on waste and recycling collection service provided to these entities. This model should be maintained by City staff and reviewed regularly. To avoid future billing errors, communication between utility billing and solid waste staff is critical when accounts turn over. Typically this can be accomplished by setting up automatic reports for when accounts change tenants, or account “Ons” and “Offs.” Communications with other City departments that handle occupancy permits may also be helpful. Per staff report, these improvements have been implemented.
- ◆ **Business Turnover Management** – On the occasion a business vacates a location, MSW Consultants recommends the downtown rate classification be reduced to the lowest level (i.e., “Small”) for that Business type during the time the property is vacant. This maintains a level of revenue for the term of the vacancy to allow for minor cleanout and incidental material generated from the transition. Should a new tenant undertake a remodeling or reconstruction effort that generates construction and demolition waste, MSW Consultant recommends that a temporary dumpster be spotted for containment and removal of the construction wastes so that these wastes are not overwhelming the existing downtown area receptacles. City staff confirmed roll-off dumpster service is the current practice for handling construction waste disposal citywide and in the downtown area.
- ◆ **Contingency** – The recommended rate option incorporates a contingency level above the full cost base. The revenue generated from the new rates should be reviewed at least annually to determine if category/classification rates or level of contingency should be adjusted.
- ◆ **Ordinance Revision** – Whereas the City ordinance currently authorizes the Department Director to establish rates in circumstances such as the downtown area, the City could adopt the recommended classification system, authorizing periodic rate adjustments as deemed necessary to sustain adequate revenue for the services. Further, establishing the guidelines for billing error correction through ordinance would provide clear guidance on how to rectify such a problem if future errors occur.

- ◆ **Systemwide Cost and Rate Study** – Whereas the City conducted a detailed cost analysis for this particular service area, a systemwide cost of service and rate study would identify bottom-up allocated costs associated with each service line and enable the City to ensure service lines are adequately funded and/or subsidizing others. Per City staff report, such analysis is planned for 2019. It should be noted that such a comprehensive study could identify a change to the full-cost estimates for servicing the downtown area, which could in turn require another adjustment to the rates recommended in this analysis.
- ◆ **Future Downtown Rate Modeling** – Several businesses at the Public Meetings voiced their interest in the incorporation of commingled recycling collection into the rate modeling. Consistent with residential rate setting, commercial rates can be set as all-inclusive fees to cover the management of all material streams (refuse, recycling, organics, etc.) The City has the refuse and corrugated cardboard collection integrated into the model currently. Downtown businesses currently can subscribe to their own (locked) commingled recycling cart as part of a pilot program. MSW Consultants recommends the City evaluate the incorporation of commingled recycling collection into the rate structure, which would incorporate the provision of containers throughout the 9.5 blocks and spread the cost throughout the rate structure.
- ◆ **Future Downtown Collection Optimization** – The City currently has 94 trash dumpsters in two alleys spanning a 9.5 block area. In some cities, alley utilization is becoming more popular for restaurants and businesses who have entries in the alley. MSW Consultants recommends the City evaluate placement of regional compactors for this area. The efficiency of compactor collection, paired with the aesthetic improvement by removing numerous dumpsters from the alleyways, is a win-win. MSW Consultants noted at least two city-owned locations that may be feasible for compactor placement that could be further evaluated on request. Additionally, private property is also an option if an agreement can be reached with the owner. Per City staff report, a downtown master planning effort is currently underway. MSW Consultants recommends alley configurations and container issues be included in the comprehensive plan.

Sincerely,

**MSW CONSULTANTS**



Cynthia M. Mormile  
Sr. Project Manager

Attachment: A – City-Calculated Downtown Collection Cost of Service, May 2018

Attachment A - City-Calculated Downtown Collection Cost of Service, May 2018

**Input**

**Each truck has 1 Operator+2 Loaders**

**Operator 1**

Benefits calculation	3rd quartile of range	\$23,1611
Life Insurance	unemployment, KPERS, SS, Medicare	\$0,1714
Health care calculation	annual cost / 2080 for per hour (18.20/year)	\$0,0088
<b>Operator 1 w/ benefits, REG</b>	annual cost / 2080 for per hour (\$10,482/year)	\$5,0394
<b>Operator 1 w/ benefit, OT</b>	hourly rate plus all benefits (w/ HC)	<b>\$32.18</b>
	premium hourly rate plus benefits (not HC or Life Ins)	<b>\$40.70</b>

**Loader**

Benefits calculation	mid point of range	\$19,9015
Life Insurance	unemployment, KPERS, SS, Medicare	\$0,1714
Health care calculation	annual cost / 2080 for per hour (18.20/year)	\$0,0088
<b>Loader w/ benefits, REG</b>	annual cost / 2080 for per hour (\$10,482/year)	\$5,0394
<b>2 Loaders w/benefits, REG</b>	hourly rate plus all benefits (w/ HC)	<b>\$28.36</b>
<b>Loader w/ benefit, OT</b>	hourly rate plus all benefits (w/ HC) x 2	<b>\$56.72</b>
<b>2 Loaders w/benefits, OT</b>	premium hourly rate plus benefits (not HC or Life Ins)	<b>\$34.97</b>
	premium hourly rate plus benefits (not HC or Life Ins) x 2	<b>\$69.94</b>

**Field Supervisor (FS)**

Benefits calculation	mid point of range	\$25,6331
Life Insurance	unemployment, KPERS, SS, Medicare	\$0,1714
Health care calculation	annual cost / 2080 for per hour (18.20/year)	\$0,0088
<b>FS w/ benefits, REG</b>	annual cost / 2080 for per hour (\$10,482/year)	\$5,0394
	hourly rate plus all benefits (w/ HC)	<b>\$35.07</b>

**Senior Maintenance Worker (SMW)**

Benefits calculation	mid point of range	\$22,2897
Life Insurance	unemployment, KPERS, SS, Medicare	\$0,1714
Health care calculation	annual cost / 2080 for per hour (18.20/year)	\$0,0088
<b>SMW w/ benefits, REG</b>	annual cost / 2080 for per hour (\$10,482/year)	\$5,0394
	hourly rate plus all benefits (w/ HC)	<b>\$31.16</b>

**Rear Load packer truck**

fuel / maintenance / depreciation		<b>\$48.00</b>
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**Overhead fee 25%**

admin fees, overhead external to dept, container maintenance		<b>0.25</b>
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<b>Per hour rate, REG</b>	<b>REG Labor (1 Operator 1 &amp; 2 Loaders), truck, admin fees</b>	<b>\$171.13</b>
<b>Per hour rate, OT</b>	<b>OT Labor (1 Operator 1 &amp; 2 Loaders), truck, admin fees</b>	<b>\$198.29</b>

Landfill tip fee	per ton drop off	\$29.93
Landfill tons - weekly	16,000 lbs average per day, Mon-Sat, 6 days	48.00
Landfill fee - weekly	\$29.93 x 48 tons	\$1,436.64
Trash collection cost, Mon-Fri	2 hours x 5 days, labor REG + truck + admin fees	\$1,711.26
Trash collection cost, Sat	2 hours x 1 day, labor OT + truck + admin fees	\$396.59
Trash collection cost, total	Mon-Fri (REG) + Sat (OT)	\$2,107.84

<b>Trash collection + landfill fee</b>	<b>weekly cost + 1 hr of FS + 1 hr of SMW</b>	<b>\$3,609.56</b>
<b>Trash collection + landfill fee</b>	<b>monthly cost (multiply by 4.3452)</b>	<b>\$15,684.25</b>

MRF cardboard tip fee	per ton drop off	\$30.00
MRF cardboard rebate	per ton - current markets are low (when high over \$100)	-\$75.00

Cardboard (OCC) tons - weekly	3,000 lbs average per day, Mon-Sat, 6 days	9
OCC fee - weekly	30+(75) x 9 tons	-\$405.00

OCC collection cost, Mon-Fri	1 hour x 5 days, labor REG + truck + admin fees	\$855.63
OCC collection cost, Sat	1 hour x 1 day, labor OT + truck + admin fees	\$198.29
OCC collection cost, total	Mon-Fri (REG) + Sat (OT)	\$1,053.92

<b>OCC collection + MRF fee/rebate</b>	<b>weekly cost</b>	<b>\$648.92</b>
<b>OCC collection + MRF fee/rebate</b>	<b>monthly cost (multiply by 4.3452)</b>	<b>\$2,819.70</b>

<b>Trash &amp; OCC collection + fees</b>	<b>weekly cost</b>	<b>\$4,258.48</b>
<b>Trash &amp; OCC collection + fees</b>	<b>monthly cost (multiply by 4.3452)</b>	<b>\$18,503.95</b>

**Equipment - Container Costs**

Trash dumpsters 2-yard	89 total x \$445 each = \$39,605 spread over 8 years = \$4,950.63/yr	\$412.55 per month
Trash dumpsters 3-yard	5 total x \$615 each = \$3,075 spread over 8 years = \$384.38/yr	\$32.03 per month
	<b>Total for trash dumpsters</b>	<b>\$444.58 per month</b>

OCC dumpster 2-yard	26 total x \$445 each = \$11,570 spread over 8 years = \$1,446.25/yr	\$120.52 per month
OCC dumpster 3-yard	9 total x \$615 each = \$5,535 spread over 8 years = \$691.88/yr	\$57.66 per month
	<b>Total for OCC dumpsters</b>	<b>\$178.18 per month</b>

<b>collection + fees + containers</b>	<b>monthly cost - Trash &amp; OCC</b>	<b>\$19,126.71</b>
collection + fees + containers	monthly cost - Trash only	\$16,128.83
collection + fees + containers	monthly cost - OCC only	\$2,997.88