



TECHNICAL MEMORANDUM

To: Kevin Lugo
From: MSW Consultants
Date: May 8, 2020
Subject: Refuse Customer (Unit) Subsidy Analyses – City of Reading

A portion of the City of Reading’s residential refuse collection system are fixed costs. The industry standard and proven best practice is to distribute collection system fixed costs across all eligible residential units. This memorandum and analysis summarize the amount of fixed costs subsidized by approximately 21,000 City residential units that “opt in” to the City-contracted refuse collection service currently provided by Republic Services. The City provides extensive litter and illegal dumping services and programs that benefit the entire City that are currently funded via revenue recovery within the City trash bill assessed to each residential unit with contract collection services for curbside refuse and recycling pickup. Currently, about 6,000 residential units “opt out” of City-contracted refuse collection services.

SUBSIDY SUMMARY

Table 1 estimates that each residential unit under City-contracted refuse collection service currently subsidize \$14.05 per year or a total annual subsidy of \$295,120 applied to the City’s 21,000 contract customers (units). Stated differently, 6,000 city units do not pay for \$295,120 (22 percent) of refuse collection subsidized by the 80 percent of units under contract collection.

With consideration of the persistent litter and illegal dumping problem high annual abatement costs, MSW Consultants estimated subsidies for two highly recommended litter prevention and enforcement programs to be added to contracted collection, education and enforcement services as part of the upcoming procurement process. The subsidy to incorporate two (2) City SWEEP officers is \$1.27 per unit per year, or \$26,667 total annually. The subsidy to outsource a one-year bin monitoring program including a comprehensive audit City’s curbside recycling program is \$2.65 per unit or \$55,559 total (one-time cost).

Table 1 – Summary of Fixed Cost Not Charged To Opt-out Customers (Units)

Subsidy	Total Annual Subsidy	Annual Subsidy Per Unit
Refuse Collection ⁽¹⁾	\$295,120	\$14.05
2 City SWEEP Officers	\$26,667	\$1.27
Bin Monitoring Program	\$55,556	\$2.65
Total	\$377,342	\$17.97

(1) Subsidy by 21,000 contract customers (units)

Refuse Collection (Fixed Cost) and Disposal Cost

The City-contracted price per unit for residential collection services is \$128.04. **Table 2** shows the distribution of collection and disposal costs within the unit fee and as a total collection cost. Using \$60 per ton for disposal, the disposal cost per unit is \$64.80 per year, leaving \$63.24 as the cost per year per unit for the collection portion of the service. The total cost of residential collection under the current contract with Republic Services is a little over \$1.3 million. In MSW Consultants' opinion, the collection portion of the service fee represent fixed costs of the collection system. Collection vehicles operate the same routes and pass by both opt-in and opt-out customers. It is extremely likely opt-out customers utilize collection services provided by the contracted hauler and City-provided collection services. Just one example is opt-out customers may not subscribe for waste pickup and place garbage in recycling bins collected by the contracted hauler. **Table 3** illustrates that the fixed collection costs per unit is estimated at \$49.19, when collection costs are equitably distributed across all 27,000 eligible customers (units).

Table 2 – Collection and Disposal Cost

Collection Calculations	
Annual Collection and Disposal Fee Per Unit ⁽¹⁾	\$128.04
Disposal Portion	
Annual Generation per Unit (Tons)	1.08
Estimated Tip Fee per Ton	\$60.00
<i>Annual Disposal Cost per Unit</i>	\$64.80
Collection Portion	
<i>Annual Collection Cost</i>	\$63.24
Opt In Units	21,000
Annual Collection Cost Total (21,000 Units)	\$1,328,040

(1) Contractual price per unit for curbside collection services.

Table 3 – Collection System Fixed Cost Subsidy Distribution

	Count	Annual Cost	Annual Collection Cost per Unit
All Residential Units	27,000	\$1,328,040	\$49.19
Opt-Out Units	6,000	--	--
Opt-In Units	21,000	\$1,328,040	\$63.24
	Opt-Out Subsidy per Unit		\$14.05
	Total Opt-Out Subsidy		\$295,120

Litter and Illegal Dumping Prevention/Enforcement Analysis

A prevention-first and ongoing enforcement program for litter and dumping is strongly recommended for the City. These programs can easily and cost-effectively be incorporated as education/enforcement services within the upcoming procurement process and resulting contract(s) for residential waste and recyclables collection services. MSW Consultants highlights two distinctly different programs and presents these costs in **Table 4**.

- Solid Waste Education and Enforcement Program (SWEEP)** - Contracting services to implement a Solid Waste Education and Enforcement Program (SWEEP) including two City SWEEP officers to provide education, litter prevention and enforcement costs an estimated \$120,000 per year and would continue each year for the duration of the collection contract.
- Bin Monitoring Program** – An outsourced professional service including an intensive curbside bin and waste system audit conducted over a 12-week period to include up to 4 passes at all 27,000 units to conduct monitoring and bin tagging. The results of the monitoring program would be a basis to assess and benchmark waste system performance and to guide future waste management policy decisions.

As shown in **Table 4** the differences in annual costs between spreading these new program costs across all 27,000 eligible units were used to find the subsidized amounts for contracted customers (units) and opt out units. The annual subsidy estimated for each contracted unit is estimated at \$3.92. While there are added costs and a small amount of addition subsidy that would be borne by contract customer (units), this analysis does not calculate cost reductions expected from the City adapting to a prevention-first litter and illegal dumping strategy which is far more cost effective than cleanup.

Table 4 – Litter and Illegal Dumping Prevention/Enforcement Costs

	Amount	
New System Costs		
2 SWEEP Officers (annual)	\$120,000	
Bin Monitoring Program (one-time)	<u>\$250,000</u>	
Subtotal - New System Costs	\$370,000	A
Total Units	27,000	B
Net Cost per Unit (A÷B)	\$13.70	C
Opt out Units	6,000	D
Total Subsidy to Opt out Units (C x D)	\$82,222	E
Annual Subsidy per Contracted Unit E ÷ (B - D)	\$3.92	F