

RESIDENTIAL CURBSIDE COLLECTION  
SERVICE RATE STUDY

FOR RATES EFFECTIVE MAY 1, 2018

CITY OF PORTLAND  
BUREAU OF PLANNING AND SUSTAINABILITY  
SOLID WASTE & RECYCLING  
May 2018

This document is available online at [www.portlandoregon.gov/bps/recycle](http://www.portlandoregon.gov/bps/recycle).

For more information please contact:

City of Portland  
Bureau of Planning and Sustainability  
Solid Waste & Recycling  
1900 SW 4<sup>th</sup> Avenue, Suite 7100  
Portland, OR 97201

Phone: (503) 823-7202

email: [wasteinfo@portlandoregon.gov](mailto:wasteinfo@portlandoregon.gov)

## TABLE OF CONTENTS

	<b>Page</b>
<b>I. Introduction and Summary of Rates</b>	1
Table 1. FY 2018-19 and FY 2017-18 Rates for Primary Service Levels	2
Table 2. Rate Components for 20-Gallon Can and 35-Gallon Roll Cart Service	3
<b>II. Program Attributes and Performance</b>	4
Figure 2. Household Generation of Garbage, Recycling, and Organics	4
A. Solid Waste	4
B. Recycling	5
C. Yard Debris / Food Scraps	5
<b>III. The Rate Review Process</b>	6
A. Franchise Agreement Requirements	6
B. Key Rate Review Objectives	6
C. Unique Elements of the Rate Review Process	7
1. Annual Rate Review Process Timing	7
2. Hauler Reporting Requirements	7
3. Independent CPA Review of Sample Hauler Financial Data	8
4. Application of Inflation Adjustments to Calendar Year Cost Data	8
5. Certain Costs Not Based on Reported Calendar Year Financial Data	9
6. Operating Margin Methodology	10
7. Use of Composite Weighted Averages	10
<b>IV. Key Factors Affecting FY 2018-19 Rates</b>	11
A. Recyclable Material Sales Revenue	11
B. Forecast Inflation Adjustments	11
Table 3. FY 2018-19 Inflation Adjustments	12
C. Solid Waste Disposal Costs	12
Table 4. Changes in FY 2018-19 Solid Waste Discard Weights	13
D. Organics Disposal Costs	13
E. Incentives and Disincentive	13
Table 5. Incentives and Disincentives in FY 2018-19 and FY 2017-18 rates	14
<b>Appendix A - FY 2018-19 Residential Solid Waste, Recycling and Composting Rates</b>	15
<b>Appendix B - CY 2017 Weighted Average Revenues and Costs (Dollars/Customer/Month)</b>	18

## I. INTRODUCTION AND SUMMARY OF RATES

The City of Portland’s annual rate study is conducted to evaluate the cost of providing residential<sup>1</sup> solid waste, recycling and composting curbside collection services, and to develop recommended rates for these services for the new fiscal year. This report outlines the rate review process and results for fiscal year 2018-19 (FY 2018-19) rates. While new rates are normally effective on July 1, rates for 2018 were enacted two months prior to the start of the fiscal year, becoming effective on May 1, 2018. This change was necessitated by the negative impact that China’s Green Fence and National Sword policies were having on the recyclable materials market.

Section 8.1(A) of the Franchise Agreement between the City of Portland and franchised residential haulers requires the City to perform an annual rate review to establish a rate schedule for all levels of residential solid waste, recycling and composting service. Rates are developed with the following objectives in mind:

- Having uniform solid waste, recycling and composting collection services citywide;
- Providing customers with a variety of service level options to meet individual needs;
- Identifying the true cost of individual services before adding incentives and disincentives to increase recycling and reduce solid waste generation; and,
- Allowing service providers to recover allowable costs and earn a reasonable profit.

The Solid Waste & Recycling Program (SW&R) of the Bureau of Planning and Sustainability (BPS) conducts the annual rate review process, assisted by an independent economist. The economist analyzes various factors that affect rates and produces the actual rate calculation. SW&R also contracts with an independent Certified Public Accountant (CPA) to review hauler financial records and with Portland State University (PSU) to sample the weight of solid waste discarded by residential customers.

The recommended rates are reviewed by the Planning and Sustainability Commission, a volunteer panel of residents with no hauling industry representation, and then forwarded to City Council for consideration and final adoption. City Council adopted the rates described in this report on April 18, 2018, for an effective date of May 1, 2018. A complete list of rates for FY 2018-19 can be found in Appendix A.

Table 1 outlines the adopted rate adjustments for the most common levels of service.

---

<sup>1</sup> “Residential” in this context means single-family through four-plex dwellings.

Table 1. FY 2018-19 and FY 2017-18 Rates for Primary Service Levels

<i>Service Level</i>	<i>Adopted FY 2018-19 Rates, effective May 1, 2018</i>	<i>FY 2017-18 Rates</i>	<i>Dollar Change</i>
20-gallon can	\$27.15	\$24.60	\$2.55
20-gallon cart	\$27.15	\$24.60	\$2.55
32-gallon can	\$31.80	\$28.60	\$3.20
35-gallon cart	\$31.80	\$29.25	\$2.55
60-gallon cart	\$37.65	\$35.10	\$2.55
90-gallon cart	\$44.15	\$41.60	\$2.55
Every-four-week 32-gallon can	\$24.25	\$21.70	\$2.55
Every-four-week 35-gallon cart	\$24.25	\$21.70	\$2.55
Weekly Recycling Only	\$11.05	\$8.50	\$2.55
Composting and Recycling Only	\$20.85	\$18.20	\$2.65
Terrain Differential	\$4.20	\$4.20	\$0.00

Costs underlying the FY 2018-19 rates tended reflect inflationary adjustment to the costs underlying the FY 2017-18 rates. A few notable factors include:

- High processing fees for delivering recyclable materials to local material recovery facilities are the primary driving factor behind the rate increases. The FY 2017-18 rates included \$0.27/month for recyclable materials processing. That has increased to \$2.18/month for the FY 2018-18 rates. With the addition of an operating margin and franchise fee, this translates into a \$2.23/month increase for most service levels.
- Fuel costs were higher by \$0.12/month.
- Yard rent was lower by \$0.11/month.
- While reported vehicle depreciation and interest was higher by \$0.53/month, \$0.64/month was ‘backed out,’ leaving these cost item slightly below those in FY 2017-18 rates. This ‘backing out’ was to adjust for the early recognition of vehicle depreciation costs 5 to seven years earlier, when haulers were required to replace vehicles older than a certain age. To leave customers unharmed by the forward-looking inclusion of depreciation, the amounts that were added to prior years’ rates are being netting out. The intent is to align the vehicle depreciation and interest charges include in the rates with the time frame for when they are incurred by haulers, as a group.

More detail on the factors driving the change in FY 2018-19 rates can be found in Section IV. Table 2 presents the individual FY 2018-19 rate components for the 20-gallon can and 35-gallon roll cart service levels.

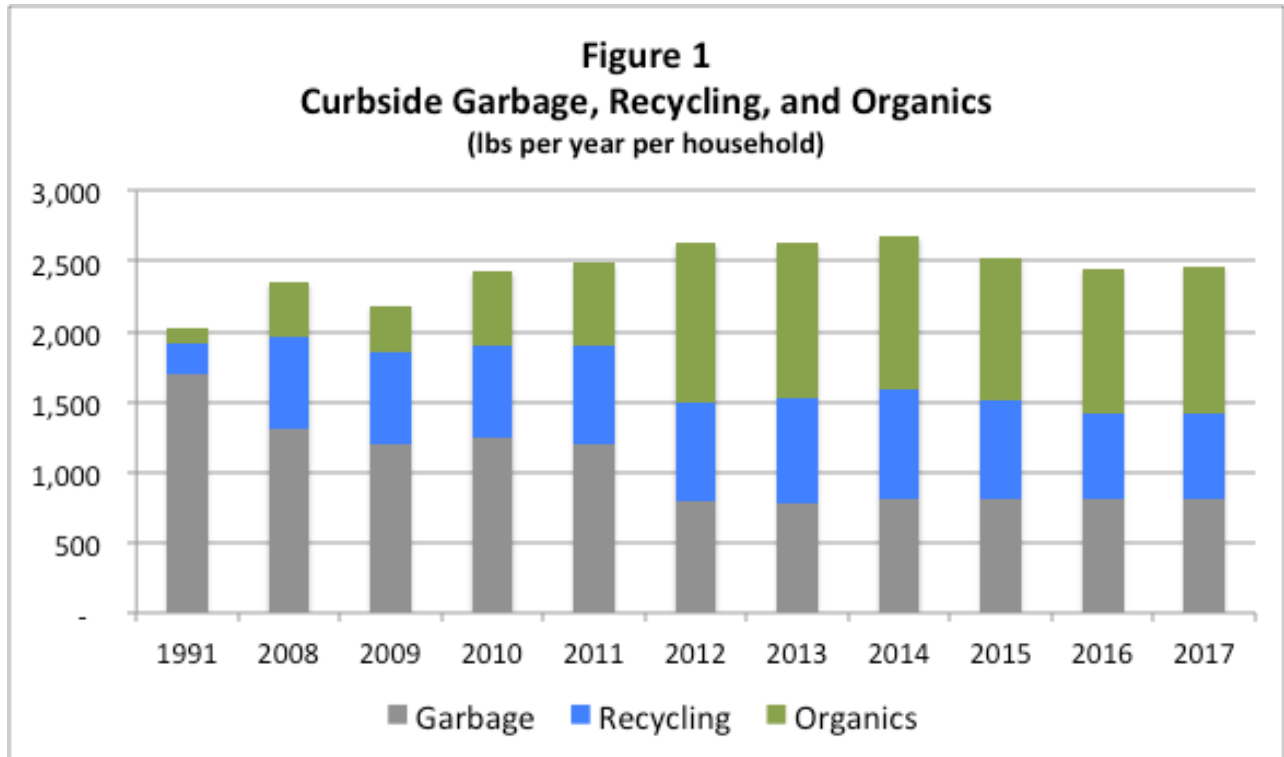
Table 2. Rate Components for 20-Gallon Can and 35-Gallon Roll Cart Service

<i>Rate Component</i>	<i>Adopted FY 2018-19 Rates, effective May 1, 2018</i>	<i>FY 2017-18 Rates</i>	<i>Dollar Change</i>
<b>20-Gallon Can Service</b>			
Solid Waste Collection	\$ 3.01	\$ 2.93	\$0.09
Solid Waste Disposal	1.63	1.60	0.03
Recycling Collection	5.43	5.24	0.19
Yard Debris/Organics Collection	4.14	4.07	0.08
Yard Debris/Organics Disposal	2.88	2.96	(0.08)
General and Administrative Costs	6.66	6.38	0.28
Net Disposal Cost, Recyclable Material	2.18	0.27	1.92
Operating Margin	2.72	2.46	0.26
Less: Incentive Discount	(2.87)	(2.52)	(0.35)
Franchise Fees*	1.36	1.23	0.13
<b>Total</b>	<b>\$ 27.15</b>	<b>\$ 24.60</b>	<b>\$2.55</b>
<b>35-Gallon Roll Cart Service</b>			
Solid Waste Collection	\$ 3.23	\$ 3.15	\$0.08
Solid Waste Disposal	2.72	2.77	(0.05)
Recycling Collection	5.43	5.24	0.19
Yard Debris/Organics Collection	4.14	4.07	0.08
Yard Debris/Organics Disposal	2.88	2.96	(0.08)
General and Administrative Costs	6.66	6.38	0.28
Roll Cart Depreciation, Interest & Maintenance	0.35	0.32	0.03
Net Disposal Cost, Recyclable Material	2.18	0.27	1.92
Operating Margin	2.90	2.64	0.26
Less: Incentive Discount	(0.27)	0.00	(0.27)
Franchise Fees*	1.59	1.46	0.13
<b>Total</b>	<b>\$ 31.80</b>	<b>\$ 29.24</b>	<b>\$2.56</b>

\* Franchise fees are a pass-through expense assessed by the City on hauler gross revenues. Because haulers are allowed to pay franchise fees using revenues collected from customers, they are included as a component of rates. Franchise fees collected from customers are remitted to the City on a quarterly basis. Rates for both FY 2017-18 and FY 2018-19 contain a 5.0% franchise fee component.

## II. PROGRAM ATTRIBUTES AND PERFORMANCE

The City of Portland strives to promote high quality solid waste, recycling, and composting collection services while simultaneously maximizing recycling participation and diversion. Figure 1 shows annual garbage, recycling and organics (yard debris/food waste generation) collected per household at the inception of the franchise system in 1991, and for the calendar years 2008 through 2017.



The following summarizes current program features and performance data.

### A. Solid Waste

Solid waste, recycling and composting collection services are provided to City residents under a franchise system that limits the number of haulers authorized to provide service. As part of this franchise system, the City regulates the rates haulers are allowed to charge customers. In 1991, the City awarded franchises to 69 haulers. By December 2017, the number of franchised haulers had decreased to thirteen. Hauler franchises range in size from fewer than 1,200 to more than 55,000 residential customers. Franchised haulers may also serve commercial customers and many have operations outside the City of Portland. Rates for commercial service within City of Portland are not regulated, whereas many surrounding jurisdictions regulate both residential and commercial rates.

The standard level of residential service in the City of Portland includes every-other-week garbage collection, with weekly curbside collection of recycling and composting. Composting collection includes yard debris and food scraps. Customers also have the option of selecting non-curb service, every-four-weeks garbage service, and/or on-call service. The City sets a variable rate schedule

based on the size and number of containers and the frequency of collection. Rates are lower for smaller volume containers and – for a given container size – for fewer containers. This variable rate structure gives customers an incentive to reduce the volume of solid waste destined for landfills, by generating less solid waste and by recycling more of their solid waste stream.

As of December 2017, 8.1% of Portland residential customers subscribed to 20-gallon can or cart service. Overall, 69.4% of the City's residential customers subscribed to 20-gallon can or cart, 32-gallon can, 35-gallon roll cart, recycling-only, composting and recycling, on-call, or every-four-weeks service levels. In 2017, the amount of garbage disposed per household was 805 pounds (sample haulers only), compared to 1697 pounds in 1992.

## **B. Recycling**

The most recent additions to the City of Portland's curbside recycling program were in 2008, when plastic tubs, buckets, and flowerpots were added. At that time, customers were also provided with a 60-gallon roll cart for all materials with the exception of glass and motor oil, which are collected on the side. Plastic bottles, telephone books, aseptic juice and milk cartons, aerosol cans, and scrap paper were added between 1992 and 1996. Other recyclable material includes newspaper, glass, cardboard, aluminum, tin cans, scrap metals, and motor oil. No materials have ever been included in, and subsequently eliminated from, Portland's curbside program.

SW&R staff continues to evaluate new materials and processing capabilities, both for future expansion opportunities, and for opportunities to reduce costs. For more information on the City's recycling efforts refer to the Solid Waste & Recycling section of BPS's website [www.portlandoregon.gov/bps/recycle](http://www.portlandoregon.gov/bps/recycle).

In 2017, Portland households recycled an average of 614 pounds (sample haulers only) of material per recycling customer household. Only 226 pounds per household was recycled in 1991, prior to the adoption of the current residential franchise system.

## **C. Yard Debris / Food Waste**

Since October 31, 2011, yard debris and food scraps (sometimes referred to as "composting" or "organics") are collected on a weekly basis, with options for customers to set out yard debris extras for a fee of \$3.75. In mid-2008 the yard debris collection system transitioned from collection via customer-provided cans or yard debris bags, to 60-gallon roll carts for curbside yard debris collection.

Prior to going to biweekly collection in 1993, monthly collection diverted only 100 pounds of yard debris per household annually. The addition of biweekly collection increased yard debris diversion to 230 pounds per household in 1994. In 2010, diversion averaged 523 pounds per household. Average disposal weight per household for 2017 was 1048 pounds per household (sample haulers only), reflecting the combined impact of the addition of food scrap collection and the switch to weekly composting collection.



### **III. THE RATE REVIEW PROCESS**

The franchised residential solid waste, recycling, and composting collection system has been in place since February 1992. The following discussion summarizes critical aspects of the annual rate review process, as established by the Franchise Agreement between the City and franchised haulers.

#### **A. Franchise Agreement Requirements**

Under the terms of Section 7 of the Franchise Agreement, the City shall:

“establish a rate schedule for all Service Levels for the residential Solid Waste, Recycling and Compostables collection services ... sufficient for Grantees in aggregate to recover Grantees’ projected Allowable Expenses, Operating Margin and projected Pass-Through Expenses .... The rate schedules established by the City shall reasonably reflect the distribution of customer Service Levels ... [and] may also include incentives to Residential Customers to reduce their Solid Waste and to reuse and recycle.”

Section 8.2 of the Franchise Agreement specifies the general requirements that the City must address in making rate adjustments. Significant provisions of Section 8 include the following:

- The City must use a customer-weighted random sampling method to select a representative number of residential haulers (sample haulers), “for the purpose of determining the reasonableness of the Allowable Expenses in the preceding rate period, and the projected Allowable Expenses, Operating Margin and Pass-Through Expenses for the next succeeding rate period.” For the FY 2018-19 rate review, the five sample haulers represented 86.4% of all solid waste and yard debris customers.
- The City may – and currently does – contract with an independent CPA to conduct financial reviews of the costs, revenues and income reported by the sample haulers. This independent CPA-reviewed financial information forms the primary basis for calculating rates.

#### **B. Key Rate Review Objectives**

The City of Portland seeks to:

- Develop rates that reflect the actual cost of providing service before adding incentives and disincentives.
- Develop rates that provide an incentive for customers to increase recycling and reduce solid waste generation. The City of Portland applies incentives to cost-of-service rates to reduce the rates for service levels with lower garbage capacities. Disincentive premiums are applied to the rates for 60- and 90-gallon roll carts and all single family multi-can and multi-cart service levels. These disincentive premiums increase the rates paid by customers and partially offset the reduction in hauler revenue caused by the incentive discounts.
- Develop rates for standardized curbside collection service as well as other levels of service, such as 32-gallon can and 35-gallon cart collected every four weeks, recycling-only and on-call service, and service for occasional solid waste and yard debris setouts.

- Develop rates that recover allowable costs and provide haulers with the opportunity to earn an operating margin equivalent to a 9.5% return on revenue.
- Ensure that non-curbside solid waste, recycling, and composting service is provided, at no additional charge, to customers in households where no one is physically able to place containers at the curbside.

### **C. Unique Elements of the Rate Review Process**

In order to comply with the Franchise Agreement and achieve the objectives described above, the City of Portland annual rate review process includes the following unique elements:

#### **1. Annual Rate Review Process Timing**

Revised residential solid waste, recycling and composting rates are usually effective on July 1st, at the start of each fiscal year. Rates are based on hauler financial data for the previous twelve-month calendar year ending on December 31st. The six-month lag between the end of the calendar year and the effective date for new rates allows time for the following events to occur:

- Preparation and submittal of calendar year financial data by the haulers;
- Selection of the sample haulers who will have their financial data reviewed by an independent CPA retained by the City;
- Completion of the independent CPA's financial review;
- Calculation of recommended rates by an economic consultant retained by the City;
- Review of the recommended rates by SW&R staff;
- Review of the recommended rates by the Planning and Sustainability Commission;
- Review and eventual approval of the recommended rates by City Council.

The 2018-19 rate review process was moved forward to allow rates to be implemented on May 1, 2018. This change was driven by the poor state of recyclable materials markets, which left haulers' operating margins substantially below the desired range.

FY 2018-19 rates are based on hauler financial data for the twelve-month calendar year ending on December 31, 2017 (CY 2017).

#### **2. Hauler Reporting Requirements**

In early March of each year, all residential franchised haulers are required to file with SW&R a comprehensive financial disclosure known as a Detailed Cost Report (DCR). The DCR requires the haulers to present information regarding their calendar year revenues, costs and income pursuant to extensive City guidelines regarding allowable and non-allowable expenses, Generally Accepted Accounting Principles, accrual basis versus cash basis accounting, depreciation policies, salvage values, cost allocations and a variety of other financial reporting topics.

In addition to the annual DCR, SW&R collects a variety of other information used in the rate review process, including quarterly customer counts by service level, and extensive labor hour, material weight and curbside setout data. SW&R also collects information on so-called "extra" services for use in the rate review process. These services – such as backyard collection services and additional solid waste and yard debris setouts – are provided to customers upon request for an additional fee. Forecasted revenues from extra services are netted against total hauler costs and thus reduce the rates for primary curbside collection services. In a similar fashion, the incremental cost of providing hilly terrain service is subtracted from total hauler costs to calculate the standard flat terrain rate and the hilly terrain surcharge.

### **3. Independent CPA Review of Sample Hauler Financial Data**

The primary purpose of the independent CPA review of sample financial data is to verify – in line item detail – the cost of providing solid waste, recycling and composting services to the City's residential customers. This reviewed cost data, after adjustments for forecast inflation, provides the primary basis for calculating all solid waste, recycling and composting rates. The independent CPA financial review also verifies sample hauler financial performance during the previous calendar year, especially as it relates to the calculation of the haulers' operating margins.

During the course of its financial review, the independent CPA often makes a variety of recommended adjustments to hauler reported financial data. Some of these adjustments may accrue to the benefit of customers by lowering sample hauler and recycling district allowable costs. Others may increase the amount of allowable costs. Upon review, the economist usually incorporates all of the independent CPA's recommended adjustments for the calculation of rates.

For the FY 2018-19 rate review, all twelve residential haulers filed their CY 2017 DCRs by March 5, 2018. Five haulers were subsequently selected via a customer-weighted random draw to have their submitted financial data reviewed by the CPA. By March 30, 2018, the independent CPA delivered the results of her financial review, including her recommended adjustments, to the economist. This information was subsequently used as the basis for the FY 2018-19 rate calculation.

### **4. Application of Inflation Adjustments to Calendar Year Cost Data**

Portland's residential solid waste, recycling and composting rates are designed to be forward looking. This means that *currently effective* rates have been designed with the intention of providing franchised haulers with adequate compensation for their *current* costs of providing service. As discussed above, there is normally a six-month time lag between the end of the calendar year for which cost data is collected and the start of the fiscal year when rates become effective. This year, that time lag was reduced to four months. Once in effect, 2018-19 rates are expected to remain unchanged until July 1, 2019. As a result, there is an average seventeen-month period between cost measurement and full cost recovery.

For example, FY 2018-19 rates are based on costs incurred by haulers during the calendar year ending December 31, 2017. The seventeen-month period between July 1, 2017 (the middle of the calendar year for which cost data was reported), and December 1, 2018 (the middle of the fourteen month span that the rates are expected to be in place), presents a risk that inflationary pressures will erode hauler profitability. For this reason, the actual calendar year costs underlying all solid waste,

recycling and composting rates are adjusted by a seventeen-month inflation factor. Section IV contains a discussion of specific inflation rates used in the calculation of FY 2018-19 rates.

## 5. Certain Costs Not Based on Reported Calendar Year Financial Data

A limited number of cost and revenue inputs used in the rate review process are not fully based on hauler reported financial data for the previous calendar year. Recyclable material sales revenue and solid waste disposal costs are the two most notable exceptions.

Recyclable material sales revenue usually lowers the amount of rate revenue required from customers and often has a significant impact on rates. Due to price volatility in the markets for recovered materials, there is often little relationship between the levels of recyclable material sales revenue earned by haulers from one year to the next. Prior to FY 2013-14 rates, the recyclable materials revenue offset included in rates was entirely forward-looking, using a forecast of recyclable materials revenue for the rate year. This tended to add year-to-year volatility to the rates paid by customers. To help moderate these rate swings, the recyclable materials revenue methodology was changed, beginning with FY 2013-14 rates. The recyclable materials revenue offset was changed to an equally weighted average of actual recycling revenue for each of the two prior calendar years and a forecast of recycling revenue for the rate year. That methodology was not used in 2018-19 rates. China's Green Fence and National Sword policies reduced the quantity of recyclable materials that could be exported to China, greatly reducing the demand side of the market and depressing prices. Whereas in a normal year haulers could expect to be paid for delivering recyclable materials to a material recovery facility (MRF), haulers were faced with substantial charges for delivering their material to local MRFs. Section IV contains a discussion of the recyclable materials revenue methodology used for 2018-19 rates.

Solid waste disposal costs are a second major rate input not based on the costs reported by haulers. In CY 2017, solid waste disposal costs totaled approximately 38.7% of the sample haulers' total solid waste collection costs. Due to their large magnitude, care is taken to ensure that the solid waste disposal costs included in rates are as accurate as possible. Towards this end, SW&R retains the services of Portland State University (PSU), which has conducted a comprehensive longitudinal study of Portland residential garbage container weights since 1992. Average net container weights calculated from the PSU data are further trued-up via a tonnage reconciliation, whereby haulers' reported tonnage is compared to expected tonnage, based on customer counts by service level and container weights. See Section IV for final can weights for FY 2018-19.

The rates for multiplexes (duplexes, triplexes and four-plexes) are based on adding an "extra unit recycling cost" to the base rate for the same size solid waste can/cart used at a single-family home. This extra unit recycling cost includes additional labor and collection costs, a recycling revenue offset, and costs for additional recycling roll carts. The extra unit charge is \$8.70 per extra unit in FY 2018-19. The multiplex rates are shown in the rate chart in Appendix A.

## 6. Operating Margin Methodology

Per the Franchise Agreement, rates are designed to allow haulers to recover legitimate costs of providing service and to provide them **the opportunity** to reach an operating margin equal to a

9.5% return on revenue. A simplified version of the operating margin calculation is presented below:

$$\begin{aligned} & \text{Gross Residential Revenues} \\ & + \text{Revenues from the Sale of Recyclable Materials} \\ & - \text{Allowable Expenses} \\ & - \text{Pass Through Expenses} \\ & = \text{Operating Margin} \end{aligned}$$

Although forecast inflation and fluctuations in the recyclable materials market can have a dramatic effect on the need for rate increases, there is generally an inverse relationship between the operating margin earned by haulers in a calendar year and the level of rate increases necessary in the upcoming fiscal year. This occurs because the actual costs experienced by haulers during the previous calendar year serve as the underlying cost basis for the upcoming fiscal year rate revenue requirement.

The use of a fixed operating margin target, coupled with the fact that allowable costs are reset every year, provides haulers with an ongoing incentive to increase operational efficiencies and control costs. This incentive occurs because haulers are allowed to retain all profits in excess of the target 9.5% operating margin used to calculate rates. Conversely, haulers who earn an operating margin below 9.5% have no recourse but to accept this outcome. Therefore, regardless of their individual profitability in past years, all haulers have an incentive to control costs in order to maximize profitability in the current calendar year.

## 7. Use of Composite Weighted Averages

With the exception of the hilly terrain surcharge, residential customers in the City of Portland pay a uniform citywide rate for each level of service. This occurs despite that fact that residential customers are currently served by one of thirteen franchised haulers, each with unique operational and cost characteristics.

Citywide rate uniformity is achieved by calculating composite weighted average costs using the financial information contained in hauler DCRs. For example, in CY 2017, wages for recycling route drivers totaled \$3,461,285 for the five haulers included in the customer-weighted random sample. This is equivalent to an annual weighted average cost per customer of \$25.34. Netting out the incremental cost of providing service in hilly terrain reduced the cost per customer to \$24.16. Making adjustments for forecast inflation brought the final cost for recycling route drivers to \$25.21 per customer per year.

As illustrated in Appendix B, this same process is followed, on a line item-by-line item basis, for all of the 138 cost categories listed in the DCRs. The total amount of these costs, after adjustments for forecast inflation, operating margins and franchise fees, defines the composite weighted average per customer revenue requirement that must be recovered through rates.

In addition to rate uniformity, the use of a composite weighted average methodology achieves two other critical objectives. First, it allows for the equitable blending of costs from haulers with often disparate operational and financial characteristics. In effect, highly efficient operators with low unit costs dampen or offset the upward rate pressures caused by inefficient operators with high unit costs. The reverse is also true.

Second, the use of a composite weighted average methodology allows the financial results of a small number of haulers to serve as a proxy for the entire residential franchise system. For 2018-19, the DCRs of the five haulers in the customer-weighted random sample served as a proxy for all thirteen haulers in the system. These five haulers still accounted for 86.4% of all solid waste and compost customers in the City. This significantly reduces administrative costs for the franchise review process, especially as it relates to the annual independent CPA review of the DCRs, while still including at least 75% of Portland customers in the sample.

#### **IV. KEY FACTORS AFFECTING FY 2018-19 RATES**

##### **A. Recyclable Material Sales Revenue**

China's 'Green Fence' and 'National Sword' policies have had a dramatic effect on west coast recycling markets, with haulers paying MRFs to accept recyclable materials. While 'negative prices' for recyclables has occurred before, in early 2018 some haulers were paying MRFs a per ton fee to accept recyclables that exceeded the tip fee for garbage. Due to these unusual market conditions, the recyclable materials processing charge in the FY 2018-19 rates was set to reflect market conditions, as of March 2018. This is a temporary deviation from the methodology used the past several years, which used the average of each of the prior two years' recycling revenue per customer and a forecast of future revenue.

The recyclable materials processing charge was calculated as the sum of two parts: a processing charge for commingled material and a revenue offset from the sale of glass, which was not impacted by China's policies.

Commingled tonnage for 2017 was 39,527 tons. With 156,841 recycling 'customer equivalents,' this translated to 0.252 tons per customer for the year. There was 9030 tons of glass, or 0.0576 tons per customer. To assign a fee per ton for the commingled material, the most recently available fee being charged by each MRF was obtained. Haulers report recycling tonnage by the MRF used, so that a weighted average fee per ton could be calculated. This worked out to \$106.74/ton. For glass, a positive price of \$12/ton was used. The final calculation for the recyclable materials processing charge per month was calculated as:

$$(\$106.74/\text{ton} * 0.252 \text{ tons commingled recyclables/customer/year} - \$12/\text{ton} * 0.0576 \text{ tons glass/customer/year})/12 = \$2.18/\text{month}.$$

The \$2.18/month processing charge is a 715 percent increase from the \$0.27/month charge included in the FY 2017-18 rates.

##### **B. Forecast Inflation Adjustments**

Table 3 shows the inflation adjustments applied to CY 2017 composite costs. These inflation adjustments are applied to all cost line items impacted by inflation, including wages and benefits, vehicle maintenance and repair, fuel, and general and administrative expenses. In aggregate, these inflators are estimated to add an average of \$0.93 per month to a residential bill compared to a zero inflation scenario.

Table 3. FY 2018-19 Inflation Adjustments

<i>Cost Category</i>	<i>17-Month Inflation Adjustment</i>	<i>Annual (12-Month) Equivalent</i>	<i>Data Source for Inflation Adjustment</i>
<b><i>Wages and Other Labor Costs</i></b>			
Solid Waste – Wages	4.26%	2.99%	Weighted average, using actual or expected contract adjustments for some haulers, and actual and forecast CPI and PPI data for other haulers
Solid Waste – Pensions	4.20%	2.94%	
Solid Waste – Health and Welfare Coverage	5.06%	3.54%	
Recycling – Wages	4.32%	3.03%	
Recycling – Pensions	4.25%	2.98%	
Recycling – Health and Welfare Coverage	5.23%	3.66%	
Organics – Wages	4.31%	3.02%	
Organics – Pensions	4.24%	2.97%	
Organics – Health and Welfare Coverage	5.18%	3.63%	
General & Administrative – Health & Welfare Coverage	5.06%	3.54%	
General & Administrative - Wages & Pension	3.77%	2.65%	Actual and forecast CPI and PPI data
<i>Non-Labor Adjustments (e.g., office rent; insurance; vehicle repair, maintenance and depreciation; etc.)</i>	3.77%	2.65%	Actual and forecast CPI and PPI data
<b><i>B20 Biodiesel Fuel/CNG combination</i></b>	5.57%	3.90%	U.S. EIA forecast

### C. Solid Waste Disposal Costs

Forecast solid waste disposal costs are driven by two primary factors: the amount of solid waste discarded by customers and the Metro tip fee. For FY 2018-19, the Metro tip fee included in rates reflects 2 months at \$94.95 per ton, plus \$3.00 per transaction, and 12 months at \$97.45 per ton, plus \$3.00 per transaction. Assuming loads average 5 tons, this translates to \$97.49/ton, an increase of 2.25% from the FY 2017-18 amount of \$95.35 per ton. Most discard weights for primary service levels were decreased for FY 2018-19 rates. See Table 4. This is primarily due to a multiple year trend of customers shifting to larger containers, without a commensurate increase in garbage disposal.

Table 4. FY 2018-19 Solid Waste Discard Weights

<i>Type of Service (collected every-other-week from single-family residences)</i>	<i>FY 2018-19 Weights</i>	<i>FY 2017-18 Weights</i>	<i>Percent Change</i>
20 Gallon Can and Cart	15.43 lbs.	15.47 lbs.	-0.3 %
32 Gallon Can	24.05 lbs.	24.05 lbs.	0.0 %
35 Gallon Roll Cart	25.67 lbs.	26.75 lbs.	-4.1 %
60 Gallon Roll Cart	44.71 lbs.	46.59 lbs.	-4.0 %
90 Gallon Roll Cart	65.93 lbs.	71.10 lbs.	-7.3 %

The impact of the tip fee changes and discard weight changes, relative to FY 2017-18 rates, are increases of \$0.03 per month for the 20-gallon can and cart, and \$0.06 for the 32-gallon can, decreases of \$0.05 for the 35-gallon roll cart, \$0.09 for the 60-gallon roll cart, and \$0.38 for the 90-gallon roll cart.

#### **D. Organics Disposal Costs**

Yard debris and food scraps collected by Portland franchised haulers are taken to one of Metro’s two transfer facilities. Similar to solid waste disposal costs, organics disposal costs are driven by the average amount of organics generated per household, and Metro’s tip fee. Organics disposal per household is forecast to be 1048 pounds per year, a 1.8% increase from the 1029 pounds per household assumed in the FY 2017-18 rates. Metro’s tip fee is set to increase from \$66.67/ton, plus a \$2.00 fee per transaction to \$67.08/ton, with the same \$2.00/transaction fee, effective July 1, 2018. Assuming an average transaction of six tons per load, the average cost of organics disposal is expected to be \$67.41/ton for the fourteen months starting May 1, 2018. This is a 0.6% increase above the \$67.00/ton used in the FY 2017-18 rates.

The organics disposal cost incorporated in rates is allocated between the primary levels of service and extra yard debris setouts. For 2018-19, the component included in the base rate for all primary service levels decreased to \$2.88 per month, a 2.6% decrease of \$0.08 from FY 2017-18 rates. The decrease reflects the impact of increasing the assumed number of yard debris extras from 0.35 per customer per year to 0.49 per customer per year.

#### **E. Incentives and Disincentives**

Several rates are set below cost-of-service through the inclusion of incentive discounts. Since rates are set to make haulers ‘whole,’ the incentive discounts are offset by disincentive charges on other service levels. Table 5 gives the incentives and disincentives for single can or cart service levels for the FY 2018-19 rates, along with those in the FY 2017-18 rates.

Table 5. Incentives and Disincentives in FY 2018-19 and FY 2017-18 rates.

<i>Service level</i>	<i>FY 2018-19 rates</i>	<i>FY 2017-18 rates</i>
20 Gallon Can	(\$ 2.87)	(\$ 2.52)
20 Gallon Roll Cart	(\$ 3.23)	(\$ 2.85)
32 Gallon Can	\$ 0.21	\$ 0.00
35 Gallon Roll Cart	(\$ 0.27)	\$ 0.00
60 Gallon Roll Cart	\$ 2.53	\$ 2.77
90 Gallon Roll Cart	\$ 5.55	\$ 5.42
32 Gallon Can, Every Four Weeks	(\$ 2.97)	(\$ 2.70)
35 Gallon Roll Cart, Every Four Weeks	(\$ 3.28)	(\$ 2.98)
Composting & Recycling Only	(\$ 0.78)	(\$ 0.78)





**Appendix A**  
**FY 2018-19 Residential Solid Waste, Recycling and Composting Rates**  
**(Rates Effective May 1, 2018)**

<b>Service Level</b>	<b>FY 2018-19</b>	<b>FY 2017-18</b>
<b>Every-Other-Week Can Services</b>		
One 20 gallon can	\$ 27.15	\$ 24.60
One 32 gallon can	31.80	28.60
Two 32 gallon cans	41.80	38.85
Two 32 gallon cans at a duplex	44.25	39.80
Two 32 gallon cans at a triplex	52.95	46.90
Three 32 gallon cans	47.85	44.90
Three 32 gallon cans at a duplex	48.45	43.90
Three 32 gallon cans at a triplex	57.15	51.00
Three 32 gallon cans at a four-plex	65.85	58.10
Four 32 gallon cans	52.35	49.40
Four 32 gallon cans at a duplex	52.65	48.05
Four 32 gallon cans at a triplex	61.35	55.15
Four 32 gallon cans at a four-plex	70.05	62.25
<b>Every-Other-Week Roll Cart Services</b>		
One 20 gallon roll cart	\$ 27.15	\$ 24.60
One 35 gallon roll cart	31.80	29.25
One 35 gallon roll cart at a duplex	40.55	36.30
Two 35 gallon roll carts	41.10	38.40
Two 35 gallon roll carts at a duplex	45.25	41.05
Two 35 gallon roll carts at a triplex	53.95	48.15
Two 35 gallon roll carts at a four-plex	62.65	55.25
Three 35 gallon roll carts	48.60	45.90
Three 35 gallon roll carts at a duplex	49.95	45.75
Three 35 gallon roll carts at a triplex	58.65	52.85
Three 35 gallon roll carts at a four-plex	67.35	59.95
Four 35 gallon roll carts	56.10	53.40
Four 35 gallon roll carts at a duplex	54.65	50.50
Four 35 gallon roll carts at a triplex	63.35	57.60
Four 35 gallon roll carts at a four-plex	72.05	64.70
One 60 gallon roll cart	37.65	35.10
One 60 gallon roll cart at a duplex	43.45	39.25
One 60 gallon roll cart at a triplex	52.15	46.35
Two 60 gallon roll carts	47.55	44.95
Two 60 gallon roll carts at a duplex	51.00	46.90
Two 60 gallon roll carts at a triplex	59.70	54.00
Two 60 gallon roll carts at a four-plex	68.40	61.10
Three 60 gallon roll carts	57.45	54.85
Three 60 gallon roll carts at a duplex	58.60	54.55
Three 60 gallon roll carts at a triplex	67.30	61.65
Three 60 gallon roll carts at a four-plex	76.00	68.75

**Appendix A (Continued)**  
**FY 2018-19 Residential Solid Waste, Recycling and Composting Rates**  
**(Rates Effective May 1, 2018)**

<b>Service Level</b>	<b>FY 2018-19</b>	<b>FY 2017-18</b>
<b>Every-Other-Week Roll Cart Services</b>		
Four 60 gallon roll carts	\$ 67.35	\$ 64.75
Four 60 gallon roll carts at a duplex	66.20	62.20
Four 60 gallon roll carts at a triplex	74.90	69.30
Four 60 gallon roll carts at a four-plex	83.60	76.40
One 90 gallon roll cart	44.15	41.60
One 90 gallon roll cart at a duplex	46.75	42.95
One 90 gallon roll cart at a triplex	55.45	50.05
One 90 gallon roll cart at a four-plex	64.15	57.15
Two 90 gallon roll carts	55.35	53.40
Two 90 gallon roll carts at a duplex	57.70	54.35
Two 90 gallon roll carts at a triplex	66.40	61.45
Two 90 gallon roll carts at a four-plex	75.10	68.55
Three 90 gallon roll carts	66.75	65.25
Three 90 gallon roll carts at a duplex	68.60	65.75
Three 90 gallon roll carts at a triplex	77.30	72.85
Three 90 gallon roll carts at a four-plex	86.00	79.95
Four 90 gallon roll carts	78.15	77.10
Four 60 gallon roll carts at a duplex	79.55	77.10
Four 60 gallon roll carts at a triplex	88.25	84.20
Four 60 gallon roll carts at a four-plex	96.95	91.30
<b>Every-Other-Week Container Services</b>		
One 1 cubic yard container	\$ 87.45	\$ 83.70
One 1 cubic yard container at a duplex	73.05	67.90
One 1 cubic yard container at a triplex	81.75	75.00
One 1 cubic yard container at a four-plex	90.45	82.10
One 1.5 cubic yard container	118.95	114.75
One 1.5 cubic yard container at a duplex	90.70	85.10
One 1.5 cubic yard container at a triplex	99.40	92.20
One 1.5 cubic yard container at a four-plex	108.10	99.30
One 2.0 cubic yard container	150.45	145.80
One 2.0 cubic yard container at a duplex	108.30	102.25
One 2.0 cubic yard container at a triplex	117.00	109.35
One 2.0 cubic yard container at a four-plex	125.70	116.45
<b>Special Services – Solid Waste</b>		
One 32 gallon can every four weeks	\$ 24.25	\$ 21.70
One 32 gallon can on-call (w/o recycling or composting)	9.75	9.40
One 35 gallon roll cart every four weeks	24.25	21.70
Occasional extra can/bag	5.00	5.00
<b>Special Services – Recycling and Organics</b>		
Recycling only – weekly	\$ 11.05	\$ 8.50
Compost & recycling only	20.85	18.20
Yard debris extra bag/can	3.75	3.75
Extra cart for recycling	5.85	3.75
Extra cart for compost	12.45	12.35

**Appendix A (Continued)**  
**FY 2018-19 Residential Solid Waste, Recycling and Composting Rates**  
**(Rates Effective May 1, 2018)**

<b>Service Level</b>	<b>FY 2018-19</b>	<b>FY 2017-18</b>
<b>Terrain Differential</b>		
Regular weekly service (single can)	\$ 4.20	\$ 4.20
Regular weekly service (multiple cans/carts)	4.35	4.35
Monthly service	2.90	2.90
Weekly recycling only service	1.45	1.45
Compost & recycling only	2.75	2.75
On-call service	0.80	0.80
Yard debris only service	0.50	0.50
<b>Non-Curb Service Surcharge</b>		
One 20 gallon can	\$ 1.75	\$ 1.70
One 32 gallon can	1.75	1.70
Two 32 gallon cans	3.50	3.40
Three 32 gallon cans	5.25	5.10
Four 32 gallon cans	7.00	6.80
<b>Excess Distance (Greater than 75')</b>		
One 20 gallon can	\$ 0.60	\$ 0.55
One 32 gallon can	0.60	0.55
Two 32 gallon cans	1.20	1.10
Three 32 gallon cans	1.80	1.65
Four 32 gallon cans	2.40	2.20
<b>Multifamily Special Services:</b>		
Recycling surcharge per extra dwelling unit	\$ 8.70	\$ 7.10
Non-curb can service	1.75	1.70
Non-curb roll cart service	3.70	3.60
Excess distance per roll cart	1.20	1.20

**Appendix B**  
**CY 2017 Composite Weighted Average Revenues and Costs**  
**(Dollars/Customer/Year)**

DCR* Line #	Line item Description	Weighted Average per Customer	Summary Percent
	<b>SUMMARY</b>		
1	Revenues (From Line 21)	\$ 384.63	100.00%
2	Direct Cost of Operations (From Lines 55)	265.01	68.87%
3	Gross Profit (Line 1 Less Line 2)	119.62	31.13%
4	General & Administrative (From Line 94)	78.34	20.37%
5	Income from Operations (Line 3 Less Line 4)	\$ 41.28	10.75%
	<b>ADJUSTMENTS TO ALLOWABLE COSTS:</b>		
6	Route Purchase – Interest (From Line 92)	\$ 0.00	0.00%
7	Route Purchase – Amortization (From Line 90)	0.00	0.00%
8	Contributions (From Line 70)	0.00	0.00%
9	Federal/State/Local Income Taxes (From Line 77 & Anywhere Else Reported)	0.00	0.00%
10	Gain on Sale of Assets (From Line 20)	0.00	0.00%
11	Officers Life Ins. Premium (From Line 61, or Wherever Included)	0.00	0.00%
12	Director's Fees (From Line 61, or Wherever Included)	0.00	0.00%
13	Other Non-Allowable Costs (From wherever included)	0.00	0.00%
14	Office in Home (From Worksheet)	0.00	0.00%
15	Yard at Home (From Worksheet)	0.00	0.00%
16	Total Adjustments to Costs (Total Lines 6-15)	\$ 0.00	0.00%
17	Allowable Franchise Costs (Lines 2 + 4 - 16)	\$ 343.35	89.25%
	NET FRANCHISE EARNINGS	\$ 40.45	11.12%
	RETURN ON REVENUES	11.12%	
	<b>REVENUE</b>		
18	Collection Revenues	\$ 385.36	100.21%
19	Recyclable Material Sales	(1.55)	-0.42%
20	Other Revenues	0.82	0.22%
21	TOTAL REVENUES	\$ 384.63	100.00%

\* DCR = Detailed Cost Report, submitted annually by all franchisees

**Appendix B (Continued)**  
**CY 2017 Composite Weighted Average Revenues and Costs**  
**(Dollars/Customer/Year)**

DCR Line #	Line item Description	Weighted Average per Customer, as Reported	Percent of Revenue	Weighted Average per Customer Net of Terrain Surcharge	Adjustments	Inflation Adjustment	Final Cost Used in Rates
	<b>SOLID WASTE - DIRECT COST OF OPERATIONS</b>						
22	Wages - Route Drivers	\$ 16.80	4.20%	\$ 16.03		4.26%	\$ 16.71
23	Wages – Mechanic	2.11	0.53%	2.01		3.77%	2.08
24	Payroll Tax Expense	1.76	0.44%	1.68		4.26%	1.76
25	Medical Insurance	3.69	0.92%	3.52		5.06%	3.70
26	Pension Plan Expense	1.51	0.38%	1.44		4.20%	1.50
27	Workers Compensation Insurance	0.41	0.10%	0.39		3.77%	0.41
28	Other Benefits	0.08	0.02%	0.08		4.26%	0.08
29	Training and Worker Safety	0.09	0.02%	0.09		3.77%	0.09
30	Fuel	3.01	0.75%	2.87		5.57%	3.03
31	Repairs & Maintenance - Vehicles	3.08	0.77%	2.94		3.77%	3.05
32	Repairs & Maint. - Containers & Carts	0.72	0.18%	0.72	-0.72	Rates based on forecast costs	
33	Repairs & Maintenance - Other Equipment	0.03	0.01%	0.03		3.77%	0.03
34	Repairs & Maintenance - Yard/Buildings	0.11	0.03%	0.11		3.77%	0.12
35	Depreciation - Vehicles	7.27	1.82%	6.94	-2.16	3.77%	5.04
36	Depreciation - Containers & Carts	2.94	0.74%	2.94	-2.94	Rates based on forecast costs	
37	Depreciation - Other Equipment	0.13	0.03%	0.13		3.77%	0.13
38	Depreciation - Yard/Buildings	0.14	0.03%	0.14		0.00%	0.14
39	Disposal Fees	42.80	10.71%	42.80	-42.80	Rates based on forecast costs	
40	Recycling Co-op Payments			0.00		0.00%	0.00
41	Recycling Bins			0.00		0.00%	0.00
42	Supplies	0.08	0.02%	0.08		3.77%	0.09
43	Yard Rent	0.88	0.22%	0.88	0.15	3.77%	1.08
44	Vehicle Rent	0.00	0.00%	0.00		3.77%	0.00
45	Other Equipment Rent	0.01	0.00%	0.01		3.77%	0.02
46	Insurance	1.01	0.25%	0.96		3.77%	1.00
47	PUC /Licenses / Fees	0.60	0.15%	0.57		3.77%	0.60
48	Franchise Fees	19.96	4.99%	19.96	-19.96	0.00%	0.00
49	Surcharges	0.00	0.00%	0.00	0.00	0.00%	0.00
50	Interest - Vehicles	1.01	0.25%	0.97		3.77%	1.00
51	Interest - Containers & Carts	0.11	0.03%	0.11	-0.11	Rates based on forecast costs	
52	Interest - Other Equipment	0.00	0.00%	0.00		3.77%	0.00
53	Interest - Yard/Buildings	0.00	0.00%	0.00		3.77%	0.00
54	Other Operational Expenses	0.35	0.09%	0.35		3.77%	0.37
55	TOTAL - SOLID WASTE	\$ 110.72	27.70%	\$ 108.78	-\$ 68.54		\$ 42.03

**Appendix B (Continued)**  
**CY 2017 Composite Weighted Average Revenues and Costs**  
**(Dollars/Customer/Year)**

DCR Line #	Line item Description	Weighted Average per Customer	Percent of Revenue	Weighted Average per Customer Net of Terrain Surcharge	Adjustments	Inflation Adjustment	Final Cost Used in Rates
	<b>RECYCLING - DIRECT COST OF OPERATIONS</b>						
22	Wages - Route Drivers	\$ 25.34	6.88%	\$ 24.16		4.32%	\$ 25.21
23	Wages - Mechanic	3.28	0.89%	3.13		3.77%	3.24
24	Payroll Tax Expense	2.71	0.73%	2.58		4.32%	2.69
25	Medical Insurance	5.61	1.52%	5.34		5.23%	5.62
26	Pension Plan Expense	2.30	0.62%	2.19		4.25%	2.28
27	Workers Compensation Insurance	0.64	0.17%	0.61		3.77%	0.64
28	Other Benefits	0.12	0.03%	0.11		4.32%	0.12
29	Training and Worker Safety	0.14	0.04%	0.14		3.77%	0.15
30	Fuel	3.99	1.08%	3.80		5.57%	4.01
31	Repairs & Maintenance - Vehicles	4.59	1.24%	4.37		3.77%	4.54
32	Repairs & Maint. - Containers & Carts	0.63	0.17%	0.63		3.77%	0.66
33	Repairs & Maintenance - Other Equipment	0.05	0.01%	0.05		3.77%	0.05
34	Repairs & Maintenance - Yard/Buildings	0.18	0.05%	0.18		3.77%	0.18
35	Depreciation - Vehicles	11.30	3.07%	10.78	-4.54	3.77%	6.65
36	Depreciation - Containers & Carts	2.01	0.53%	2.01		0.00%	2.01
37	Depreciation - Other Equipment	0.17	0.05%	0.17		3.77%	0.17
38	Depreciation - Yard/Buildings	0.23	0.06%	0.23		0.00%	0.23
39	Disposal Fees	0.00	0.00%	0.00		0.00%	0.00
40	Recycling Co-op Payments	0.00	0.00%	0.00		0.00%	0.00
41	Recycling Bins	0.00	0.00%	0.00		3.77%	0.00
42	Supplies	0.13	0.03%	0.13		3.77%	0.13
43	Yard Rent	1.35	0.37%	1.35	0.19	3.77%	1.60
44	Vehicle Rent	0.00	0.00%	0.00		3.77%	0.00
45	Other Equipment Rent	0.02	0.01%	0.02		3.77%	0.02
46	Insurance	1.56	0.42%	1.48		3.77%	1.54
47	PUC/Licenses/Fees	0.93	0.25%	0.88		3.77%	0.92
48	Franchise Fees			0.00		0.00%	0.00
49	Surcharges			0.00		0.00%	0.00
50	Interest - Vehicles	1.99	0.54%	1.89		3.77%	1.96
51	Interest - Containers & Carts	0.16	0.04%	0.16		3.77%	0.17
52	Interest - Other Equipment	0.00	0.00%	0.00		3.77%	0.00
53	Interest - Yard/Buildings	0.00	0.00%	0.00		3.77%	0.00
54	Other Operational Expenses	0.33	0.09%	0.33		3.77%	0.34
55	TOTAL - RECYCLING	\$ 69.74	18.90%	\$ 66.75	-\$ 4.35		\$ 65.15

**Appendix B (Continued)**  
**CY 2017 Composite Weighted Average Revenues and Costs**  
**(Dollars/Customer/Year)**

DCR Line #	Line item Description	Weighted Average per Customer, as Reported	Percent of Revenue	Weighted Average per Customer Net of Terrain Surcharge	Adjustments	Inflation Adjustment	Final Cost Used in Rates
	<b>ORGANICS - DIRECT COST OF OPERATIONS</b>						
22	Wages - Route Drivers	\$ 18.19	4.79%	\$ 17.46		4.31%	\$ 18.22
23	Wages - Mechanic	2.37	0.62%	2.27		3.77%	2.36
24	Payroll Tax Expense	1.92	0.51%	1.84		4.31%	1.92
25	Medical Insurance	4.19	1.10%	4.02		5.18%	4.23
26	Pension Plan Expense	1.73	0.46%	1.66		4.24%	1.73
27	Workers Compensation Insurance	0.47	0.12%	0.45		3.77%	0.47
28	Other Benefits	0.10	0.03%	0.09		3.77%	0.10
29	Training and Worker Safety	0.10	0.03%	0.10		3.77%	0.10
30	Fuel	3.16	0.83%	3.03		5.57%	3.20
31	Repairs & Maintenance - Vehicles	3.60	0.95%	3.46		3.77%	3.59
32	Repairs & Maint. - Containers & Carts	0.63	0.16%	0.63		3.77%	0.66
33	Repairs & Maintenance - Other Equipment	0.03	0.01%	0.03		3.77%	0.04
34	Repairs & Maintenance - Yard/Buildings	0.13	0.03%	0.13		3.77%	0.14
35	Depreciation - Vehicles	7.54	1.99%	7.24	-0.20	3.77%	7.31
36	Depreciation - Containers & Carts	1.22	0.32%	1.22		3.77%	1.27
37	Depreciation - Other Equipment	0.13	0.03%	0.13		3.77%	0.14
38	Depreciation - Yard/Buildings	0.16	0.04%	0.16		3.77%	0.17
39	Disposal Fees	34.36	9.06%	34.36	0.20	0.00%	34.56
40	Recycling Co-op Payments			0.00		0.00%	0.00
41	Recycling Bins			0.00		0.00%	0.00
42	Supplies	0.09	0.02%	0.09		3.77%	0.10
43	Yard Rent	1.03	0.27%	1.03	0.17	3.77%	1.25
44	Vehicle Rent	0.00	0.00%	0.00		3.77%	0.00
45	Other Equipment Rent	0.02	0.00%	0.02		3.77%	0.02
46	Insurance	1.15	0.30%	1.11		3.77%	1.15
47	PUC/Licenses/Fees	0.69	0.18%	0.66		3.77%	0.69
48	Franchise Fees			0.00		0.00%	0.00
49	Surcharges			0.00		0.00%	0.00
50	Interest - Vehicles	1.19	0.31%	1.14		3.77%	1.18
51	Interest - Containers & Carts	0.11	0.03%	0.11		3.77%	0.12
52	Interest - Other Equipment	0.00	0.00%	0.00		3.77%	0.00
53	Interest - Yard/Buildings	0.00	0.00%	0.00		3.77%	0.00
54	Other Operational Expenses	0.24	0.06%	0.24		3.77%	0.25
55	TOTAL YARD DEBRIS	\$ 84.55	22.28%	82.70	\$ 0.17		\$ 84.92



**Appendix B (Continued)**  
**CY 2017 Composite Weighted Average Revenues and Costs**  
**(Dollars/Customer/Year)**

DCR Line #	Line item Description	Weighted Average per Customer	Percent of Revenue	Weighted Average per Customer Net of Terrain Surcharge	Inflation Adjustment	Final Cost Used in Rates
	<i>GENERAL AND ADMINISTRATIVE</i>					
56	Management Salaries	\$ 18.00	4.68%	\$ 17.98	3.77%	\$ 18.65
57	Management Payroll Tax Expense	1.72	0.45%	1.72	3.77%	1.78
58	Management Medical Insurance	2.64	0.69%	2.64	5.06%	2.77
59	Management Workers Compensation	0.11	0.03%	0.10	3.77%	0.11
60	Management Pension Plan Expense	1.17	0.31%	1.17	3.77%	1.22
61	Management Other Benefits	0.11	0.03%	0.11	3.77%	0.12
62	Administrative Salaries	19.46	5.06%	19.43	3.77%	20.16
63	Administrative Payroll Tax Expense	2.29	0.60%	2.29	3.77%	2.38
64	Administrative Medical Insurance	4.27	1.11%	4.27	5.06%	4.48
65	Administrative Workers Compensation	0.06	0.02%	0.06	3.77%	0.06
66	Administrative Pension Plan Expense	0.68	0.18%	0.68	3.77%	0.71
67	Administrative Other Benefits	0.01	0.00%	0.01	3.77%	0.01
68	Office Rent	3.14	0.82%	3.13	3.77%	3.25
69	Advertising and Public Education	1.10	0.29%	1.09	3.77%	1.14
70	Contributions	0.00	0.00%	0.00	3.77%	0.00
71	Professional Fees	1.00	0.26%	1.00	3.77%	1.04
72	Training & Worker Safety	0.06	0.02%	0.06	3.77%	0.06
73	Insurance	0.62	0.16%	0.62	3.77%	0.65
74	Telephone	2.13	0.55%	2.13	3.77%	2.21
75	Utilities	1.75	0.46%	1.75	3.77%	1.82
76	Property Taxes/Licenses/Fees	1.65	0.43%	1.64	3.77%	1.71
77	Federal/ State/Local Income Taxes	0.43	0.11%	0.43	-9.50%	0.39
78	Dues & Subscriptions	0.63	0.16%	0.62	3.77%	0.65
79	Depreciation - Office Building	0.24	0.06%	0.24	3.77%	0.25
80	Depreciation - Office Equipment	0.23	0.06%	0.23	3.77%	0.24
81	Repairs & Maintenance - Office	0.93	0.24%	0.93	3.77%	0.96
82	Cleaning and Maintenance	0.62	0.16%	0.62	3.77%	0.64
83	Equipment Rental	0.07	0.02%	0.07	3.77%	0.07
84	Office Supplies	1.77	0.46%	1.77	3.77%	1.83
85	Postage & Freight	1.34	0.35%	1.34	3.77%	1.39
86	Miscellaneous Expense	1.60	0.42%	1.60	3.77%	1.66
87	Travel/Meals/Lodging	0.80	0.21%	0.80	3.77%	0.83
88	Professional Meetings and Seminars	0.00	0.00%	0.00	3.77%	0.00
89	Bad Debts	0.37	0.10%	0.37	-10.78%	0.33
90	Amortization - Route & Intangibles	0.00	0.00%	0.00	0.00%	0.00
91	Amortization - Other	0.00	0.00%	0.00	0.00%	0.00
92	Interest - Route	0.00	0.00%	0.00	0.00%	0.00
93	Interest - Other	1.04	0.27%	1.04	3.77%	1.08
94	Corporate Overhead	6.29	1.64%	6.28	3.77%	6.52
94	TOTAL - G & A	\$ 78.34	20.37%	\$ 78.22		\$ 81.15