



Solid Waste & Recycling Rate Review Report



BELL & ASSOCIATES, INC. | MAY 2019

City of Tigard Solid Waste Rate Review

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Background

The City of Tigard (City) contracted with Bell & Associates, a consulting firm with expertise in solid waste collection operations, to provide the City with solid waste and recycling consulting services. In March 2019, Pride Disposal and Waste Management submitted their annual detailed cost reports to the City for the calendar year 2018.

Annual Cost Report

Collection of waste and recycling within Tigard is accomplished under an exclusive franchise agreement between Pride Disposal, Waste Management, and the City. The report provides line-item costs and revenues associated with providing service within the City as well as combined line item totals for their non-Tigard operations. The format of the report provides the capacity to calculate the cost of service for each line of business (cart, container, and drop box). Cart collection is primarily residential customers whereas business customers are serviced with a container. Reported results were analyzed and the following tasks were completed:

- a. Analyze reported route collection hours to the reported customer counts for each line of business.
- b. Using a predictive test of revenue for each line of business, ensure the reported revenues are reasonable for the number of reported customers.
- c. By thoroughly reviewing the reported direct cost line items, determine if the expense is reasonable in relation to the customer and operational data entered from the detailed cost report.
- d. Utilize a predictive test of disposal to determine if the reported disposal expense is reasonable.
- e. Using the reported administrative line items, determine if the expense is reasonable in relation to the operational data entered from the detailed cost report.
- f. Review the costs between the City and Pride's other franchised collection operations to determine if the allocations are reasonable.

Adjusted Report

Financial data was consolidated by service, showing the collection systems total revenues and expenses. This consolidated report allows the calculation of the system's return-on-revenue and provides a measure of the adequacy of rates. Table 1 details the return for each collection service provided within the Tigard franchise collection system.

Table 1: Adjusted 2018 Tigard Results

Cost Component	Roll Cart	Container	Drop Box	Composite
Revenues	5,080,846	4,438,758	3,718,647	13,238,251
Allowable Costs for Rates	4,834,055	3,998,798	3,474,697	12,307,550
Franchise Income	246,791	439,960	243,950	930,701
Return on Revenues	4.9%	9.9%	6.6%	7.0%

Projected Results for 2018

Projected revenues for the calendar year were calculated on the combined 3.9% rate increase that was effective in January 2019 as well as the recycling surcharge enacted in July 2018 for residential and commercial service.

The line item expenses from 2018 were adjusted to project the results for 2020 using assumptions based on contractual obligations such as the labor agreement between Pride Disposal and the union drivers, estimated disposal increases, changes for yard debris disposal, truck replacement, and estimated inflation.

The increased costs of the food waste collection program were calculated and included in the overall composite costs. The estimated increase of \$21,093 for Phase 1 is 25.6% of other collection costs. Table 2 summarizes the inflation assumptions.

Expense	Increase
Driver Wages	3.66%
SW Disposal Fees	1.83%
Yard Debris Processing	23.5%
Health Insurance	4.22%
Truck Replacement	4.89%
Inflation / Administration	3.90%
Food Waste Collection	25.60%

Year to Year Comparison of Expenses

Projected increases from the rate increases combined with increases in expenses from 2018 to 2020 are summarized in Table 3.

Table 3: Revenue and Expense Comparison from 2018 to 2020

Description	2018 Actual	2020 Projected	% ▲
Service Revenue	\$13,238,251	\$13,814,249	4.4%
SW and Yard Debris Disposal	\$4,503,443	\$4,614,912	2.5%
Recycling Processing	\$615,456	\$759,012	23.3%
Labor, Health Ins, & Payroll Taxes	\$2,583,557	\$2,680,634	3.8%
Truck, Fuel, Repair & Maintenance	\$1,629,778	\$1,685,151	3.4%
Equipment and Containers	\$339,382	\$344,667	1.6%
Franchise Fees	\$642,125	\$670,462	4.4%
Other Direct Expense / Food Waste	\$345,151	\$373,946	8.3%
Management & Administration	\$1,649,376	\$1,703,567	3.3%
Total Expenses¹	\$12,308,268	\$12,832,351	4.3%

The estimated rate of return for the current year for each service is detailed on page 10.

¹ Includes \$1,992 of unallowable costs which are adjusted for the calculation of rates.

Combining the increased revenue and expenses allows for the projection of the expected results of collection operations for the calendar year 2020. Table 4 is a summarization of the results.

Table 4: Projected 2020 Tigard Results

Cost Component	Roll Cart	Container	Drop Box	Composite
Revenues	\$5,289,470	\$4,723,996	\$3,800,783	\$13,814,249
Total Allowable Cost	\$5,046,438	\$4,248,676	\$3,535,245	\$12,830,359
Franchise Income	\$243,032	\$475,320	\$265,538	\$983,890
Return on Revenues	4.59%	10.06%	6.99%	7.12%
Target Rate of Return	10.00%	10.00%	10.00%	10.00%

Residential Collection

Residential revenue is projected to finish 2020 at 4.59%; therefore, an increase is needed in 2020 to bring the rate to a 10% return. Table 5 details the calculation for the increased collection cost. Table 6 compares the two rate increase methods calculated in Table 5; either a uniform percentage increase on the current rate or a flat dollar amount increase across all weekly cart customers.

Table 5: Residential Rate Calculation

Description	Amount
Projected Allowable Costs	\$4,782,201
Margin @ 10%	\$531,356
Franchise Fees @ 5%	\$279,661
Revenue Requirement	\$5,593,218
2020 Projected Revenue	\$5,289,470
Required Revenue Increase	\$303,748
Increase Percentage	5.7%
Cost per Customer per Month	\$1.78

Table 6: Calculation of the Cart Collection Service Rate

Cart Service	Customers	2019 Rate	5.7% Increase	2020 Rate	\$1.78 Rate Increase	% ▲
One 20 gallon	1,826	\$24.66	\$1.41	\$26.07	\$26.44	6.7%
One 35 gallon	8,986	\$27.88	\$1.59	\$29.47	\$29.66	5.9%
One 60 gallon	2,525	\$40.73	\$2.32	\$43.05	\$42.51	4.0%
One 90 gallon	470	\$48.34	\$2.76	\$51.10	\$50.12	3.4%
Com / MF. 35 gal	65	\$27.88	\$1.59	\$29.47	\$29.66	5.9%
Com / MF 60 gal	113	\$40.73	\$2.32	\$43.05	\$42.51	4.0%
Com / MF 90 gal	266	\$48.34	\$2.76	\$51.10	\$50.12	3.4%

The current rate structure was established approximately 20 years ago to provide a financial incentive to recycle; therefore, the cart rates were not established at the cost of service. Table 6A, details the cost of service for each container size and the change from the current rates to a cost of service rate.

Table 6A: Cost of Cart Collection Service

Cart Service	Customers	2019 Rate	\$ ▲	2019 COS Rate	\$1.78 Rate Increase	% ▲
One 20 gallon	1,826	\$24.66	\$2.83	\$27.49	\$29.27	18.7%
One 35 gallon	8,986	\$27.88	\$2.83	\$30.71	\$32.49	16.5%
One 60 gallon	2,525	\$40.73	\$(4.86)	\$35.87	\$37.65	-7.6%
One 90 gallon	470	\$48.34	\$(7.78)	\$40.56	\$42.34	-12.4%

Commercial Collection

The return for commercial collection in Table 4 shows a margin slightly above 10%; therefore, an adjustment is not necessary for customers with a container for service.

Drop Box Rates

The projected rate of return for drop box service is 6.99%. Therefore, an increase of \$13.62 per haul is recommended for open top service and \$13.70 for compactor service to bring the rates to the cost of service. Table 7 summarizes the proposed increases for drop box and roll off compactor service.

Table 7: Proposed Drop Box Haul Rates

Service / Box Volume	Current Haul Fee	Proposed Increase	New Rate	Total Rate
10 Yard Box per Haul	\$154.38	\$13.62	\$168	Haul charge + actual disposal fee
20 Yard Box per Haul	\$154.38	\$13.62	\$168	Haul charge + actual disposal fee
30 Yard Box per Haul	\$154.38	\$13.62	\$168	Haul charge + actual disposal fee
40 Yard Box per Haul	\$154.38	\$13.62	\$168	Haul charge + actual disposal fee
Compactor per Haul	\$161.30	\$13.70	\$175	Haul charge + actual disposal fee

Continued Commercial Subsidy of Cart Collection – Alternative 1

If the City wanted to maintain the commercial subsidization of residential rates and spread the 2020 rate increase across residential and commercial collection services, the increase to cart collection customers is 2.6% or \$0.72 per customer per month. Commercial container customers would also experience an increase of 2.6%. The rate for the two-yard container collected weekly would increase by \$4.60 per month from \$176.99 to \$181.59.

Medical Waste Collection Rates

The following table is the proposed increases for medical waste collection. Collection service and disposal are provided to 61 customers within the City. Service is provided on a regular collection route or an on-call basis.

Table 8: Proposed Medical Collection Rates

Service Component	Current Rate	Proposed Rate	\$ ▲	% ▲
On-site Pick-up Charge	\$32.84	\$36.30	\$3.46	10.5%
Disp.-Svc Cost per 17 or < Gal. Unit	\$23.41	\$23.33	(\$0.08)	-0.3%
Disp.-Svc Cost per 23 Gal. Unit	\$23.41	\$25.40	\$1.99	8.5%
Disp.-Svc Cost per 31 Gal. Unit	\$23.41	\$27.68	\$4.27	18.2%
Disp.-Svc Cost per 43 Gal. Unit	\$28.37	\$32.17	\$3.80	13.4%
Pharmaceutical Waste 5 gal. container	n/a	\$48.49		



Food Waste Collection Costs and Rate Alternatives

Washington County's recycling outreach office has estimated the number of customers within Tigard that would qualify for the Metro food waste collection program and is summarized in Table 9.

Table 9: Estimated Food Waste Program Participants

Totals	Customers
Phase 1 (1,000 lbs. food waste weekly)	30
Phase 2 (500 lbs. food waste weekly)	32
Phase 3 (250 lbs. food waste weekly)	56
Total Food Waste Participants	118

Implementing the rates to support Metro's food waste program can be accomplished by two rate methods; either a variable rate assessed on the cost of service or allocate the program costs over the commercial rate base.

Cost of Service Rate

The service rate is comprised of the collection cost, container, food waste disposal cost, operating margin, and franchise fee. The cost of collection was calculated on the combined 2019 Tigard composite to collect waste using either a roll cart or a container. The expected number of stops per hour is 7 stops, which is lower than garbage and recycling because the number of customers generating food waste in quantities high enough to implement the program is limited. Therefore, the time and distance between stops are higher than garbage. Table 10 summarizes the cost of service in 2019 costs for a 64 gallon roll cart and a 2 yard container.

Table 10: Commercial Food Waste Cost of Service Rates

Rate Component	64 gallon cart	2 yard container
Collection Cost	\$90.12	\$90.12
Cart / Container	\$0.65	\$5.77
Food Waste Disposal	\$20.46	\$63.30
Margin @ 10%	\$12.36	\$17.69
Fran Fee @ 5%	\$6.18	\$8.84
Total Cost of Service Rate	\$129.77	\$185.72

Food waste collection costs would be an additional charge assessed to food waste generators. There is a potential for the customer to down-size their level of solid waste collection and reduce the cost impact from the program, but that change will vary for each customer.

Allocated Program Costs

The second method is the same approach currently in use to assess the cost of recycling services to commercial customers within Tigard and throughout the Portland metropolitan area. Because each customer's recycling needs vary, the cost of the service is blended with the cost of providing waste collection and the cost of recycling service is assessed on the level of waste collection service. While most customers receive a commensurate level of waste and recycling service, some customers either receive more and some receive less than the number of waste collection yards and/or collection frequency than waste.

The primary difference between assessing the cost of service rate and the allocated cost is the assumption of the cost savings from disposing of the food waste at a lower rate than solid waste. While customers may not be able to reduce their level of waste collection service to benefit from the savings, the weight, and subsequently the reduced cost of the diverted food waste will be realized within the composite by the franchised haulers.

Table 11 summarizes the overall cost to the Tigard composite for each phase of the Metro program from the expected number of participants summarized in Table 9.

Table 11: Food Waste Program Costs and Rate Impacts

Description	Note	Phase 1	Phase 2	Phase 3
Monthly Program Cost	A	\$2,805	\$5,797	\$11,034
Food Waste Savings	B	\$(1,032)	\$(1,581)	\$(2,124)
Total Monthly Cost	C	\$2,088	\$4,396	\$8,953
Annual Program Cost	D	\$25,056	\$52,752	\$107,436
2019 Composite Costs	E	\$4,012,784	\$4,012,784	\$4,012,784
% of Composite Costs	F	0.61%	1.28%	2.60%
Rate Impacts				
2 yard weekly	G	\$1.33	\$2.79	\$5.65
4 yard weekly	G	\$1.78	\$3.72	\$7.54
6 yard weekly	G	\$2.21	\$4.65	\$9.45

Table Notes

A: Estimated collection cost to provide a weekly pick up of one container or cart to the number of customers in each phase from Table 9. Cost includes the cost of the container.

B: Estimated savings from the difference in the lower disposal cost of food waste compared to solid waste.

C: Collection cost less savings on food waste disposal (A – B).

D: Total Monthly Cost x 12 months

E: Estimated commercial collection cost in the calendar year 2019 for each of the three phases

F: Percentage of Annual Program Cost compared to the 2019 Composite Cost (D / E)

G: Current rate for each listed container is multiplied by the Percentage of Composite Costs (F x current rate)

The estimated cost of the program in the first year is \$25,056. As a percentage of the total commercial cost in 2019, the program is less than one percent of the total commercial collection cost. The rate impact was calculated by multiplying the percent of composite costs by the current container rate and then dividing by 85% to account for the 10% operating margin and 5% franchise fee. As more customers are added to the program and the costs increase, so will the rate impact across the commercial customer base.



2018 Tigard Adjusted Results

Franchised Solid Waste & Recycling Collection Services
Adjusted Return on Revenues
January 1 to December 31, 2018

	Automated Cart Service			Container Service			Drop Box			Grand Totals
	Solid Waste	Recycling	Yard Debris	Solid Waste	Recycling					
Collection & Service Revenues	5,004,562	8,233	68,051	4,424,687	14,071		3,718,647		13,238,251	
	% of direct costs	% of direct costs	% of direct costs	% of direct costs	% of direct costs		% of direct costs			
Direct Costs of Operations	2,201,663	1,311,670	534,038	2,356,781	1,012,964		3,241,776		10,658,892	
Disposal Expense	973,056 44%	298,985 23%	134,085 25%	1,423,888 60%	316,471 31%		1,972,414 61%		5,118,899	
Labor Expense	497,218 23%	508,718 39%	206,273 39%	406,505 17%	402,064 40%		562,779 17%		2,583,557	
Truck Expense	362,334 16%	344,771 26%	145,098 27%	206,684 9%	208,236 21%		362,655 11%		1,629,778	
Equipment Expense	55,707 3%	42,989 3%	26,273 5%	53,086 2%	44,898 4%		116,429 4%		339,382	
Franchise Fees	255,675 12%	0 0%	0 0%	222,732 9%	0 0%		163,718 5%		642,125	
Other Direct Expense	57,673 3%	116,207 9%	22,309 4%	43,886 2%	41,295 4%		63,781 2%		345,151	
	% of G&A costs			% of G&A costs			% of G&A costs			
Indirect Costs of Operations	787,630			629,794			233,227		1,650,651	
Management Expense	163,380 21%	1,406,126 21%		130,442 21%			47,319 20%		341,141	
Administrative Expense	223,813 28%	1,212,209 28%		178,685 28%			64,851 28%		467,349	
Other Overhead Expenses	400,437 51%	852,203 51%	-301,547	320,667 51%			121,057 52%		842,161	
		124,969								
Less Unallowable Costs	946	255,675		741			306		1,993	
Customers / Yards / Drop Box Pulls	14,256			266,864			7,431			
Revenues	5,080,846			4,438,758			3,718,647		13,238,251	
	% of \$			% of \$						
Direct Costs of Operations	4,047,371			3,369,745			3,241,776		10,658,892	
	80%			76%			87%			
Indirect Costs of Operations	787,630			629,794			233,227		1,650,651	
	16%			14%			6%			
Total Cost	4,835,001			3,999,539			3,475,003		12,309,543	
Less Unallowable Costs	946			741			306		1,993	
	0%			0%			0%			
Allowable Costs	4,834,055			3,998,798			3,474,697		12,307,550	
Franchise Income	246,791			439,960			243,950		930,701	
Adjusted Return on Revenue	4.86%			9.91%			6.56%		7.03%	

2019 Tigard Projected Results

**Franchised Solid Waste & Recycling Collection Services
Projected 2019 Results
January 1 to December 31, 2019**

	Automated Cart Service						Container Service				Drop Box	Grand Totals	
	Solid Waste		Recycling		Yard Debris		Solid Waste		Recycling				
		% ▲from prior year		% ▲from prior year		% ▲from prior year		% ▲from prior year		% ▲from prior year			
Collection & Service Revenues	5,218,146	4.3%	3,273	-60.2%	68,051	0.0%	4,710,879	6.5%	13,117	-6.8%	3,800,783	2.2%	13,814,249
Direct Costs of Operations	2,222,757		1,381,808		570,100		2,378,535		1,106,469		3,298,893		10,958,562
Disposal Expense	978,894	0.6%	357,885	19.7%	165,595	23.5%	1,432,431	0.6%	401,127	26.8%	1,984,248	0.6%	5,320,180
Labor Expense	508,176	2.2%	519,956	2.2%	210,825	2.2%	415,446	2.2%	410,913	2.2%	575,120	2.2%	2,640,436
Truck Expense	362,334	0.0%	344,771	0.0%	145,098	0.0%	206,684	0.0%	208,236	0.0%	362,655	0.0%	1,629,778
Equipment Expense	55,707	0.0%	42,989	0.0%	26,273	0.0%	53,086	0.0%	44,898	0.0%	116,429	0.0%	339,382
Franchise Fee	259,973	1.7%	0		0		227,002	1.9%	0		196,660	20.1%	683,635
Other Direct Expense	57,673	0.0%	116,207	0.0%	22,309	0.0%	43,886	0.0%	41,295	0.0%	63,781	0.0%	345,151
Indirect Costs of Operations	801,793						609,821				237,334		1,648,948
Management Expense	166,979	7.4%					126,622	-8.3%			48,360	2.2%	341,961
Administrative Expense	228,880	7.4%					173,595	-8.2%			66,343	2.3%	468,818
Other Overhead Expenses	405,934	6.4%					309,604	-8.7%			122,631	1.3%	838,169
Less Unallowable Costs	868						818				306		1,992
Customers / Yards / Drop Box Pulls	14,256						266,864				7,431		
Revenues	5,289,470						4,723,996				3,800,783		13,814,249
		% ▲from prior year						% ▲from prior year					
Direct Costs of Operations	4,174,665	3.1%					3,485,004	3.4%			3,298,893		10,958,562
Indirect Costs of Operations	801,793	6.9%	15%				609,821	-8.5%	13%		237,334		1,648,948
Total Cost	4,976,458	3.7%					4,094,825	1.5%			3,536,227		12,607,510
Less Unallowable Costs	868	0.0%					818	0.0%			306		1,992
Allowable Costs	4,975,590						4,094,007				3,535,921		12,605,518
Franchise Income	313,880						629,989				264,862		1,208,731
Projected Return on Revenues	5.93%						13.34%				6.97%		8.75%
2018 Return on Revenues	5.60%						9.09%				6.56%		7.04%

2020 Tigard Projected Results

**Franchised Solid Waste & Recycling Collection Services
Projected 2020 Results
January 1 to December 31, 2020**

	Automated Cart Service			Container Service			Drop Box	Grand Totals					
	Solid Waste	Recycling	Yard Debris	Solid Waste	Recycling								
		% ▲from prior year		% ▲from prior year		% ▲from prior year							
Collection & Service Revenues	5,218,146	4.3%	3,273	-60.2%	68,051	0.0%	4,710,879	6.5%	13,117	-6.8%	3,800,783	2.2%	13,814,249
Direct Costs of Operations	2,291,932		1,404,560		576,127		2,419,148		1,142,177		3,294,840		11,128,784
Disposal Expense	990,863	1.8%	357,885	19.7%	165,595	23.5%	1,449,945	1.8%	401,127	26.8%	2,008,509	1.8%	5,373,924
Labor Expense	515,906	3.8%	527,846	3.8%	214,026	3.8%	421,776	3.8%	417,169	3.8%	583,911	3.8%	2,680,634
Truck Expense	406,411	12.2%	356,535	3.4%	147,520	1.7%	214,054	3.6%	211,543	1.6%	349,088	-3.7%	1,685,151
Equipment Expense	56,487	1.4%	43,607	1.4%	26,533	1.0%	53,914	1.6%	45,876	2.2%	118,250	1.6%	344,667
Franchise Fee	264,237	3.3%	0		0		235,307	5.6%	0		170,918	4.4%	670,462
Other Direct Expense	58,028	0.6%	118,687	2.1%	22,453	0.6%	44,152	0.6%	66,462	60.9%	64,164	0.6%	373,946
									Com FW Program				
Indirect Costs of Operations	774,687						688,169				240,711		1,703,567
Management Expense	161,654	3.9%					143,456	3.9%			49,183	3.9%	354,293
Administrative Expense	221,446	3.9%					196,563	4.0%			67,412	3.9%	485,421
Other Overhead Expenses	391,587	2.7%					348,150	2.7%			124,116	2.5%	863,853
Less Unallowable Costs	868						818				306		1,992
Customers / Yards / Drop Box Pulls	14,256						266,864				7,431		
Revenues	5,289,470						4,723,996				3,800,783		13,814,249
		% ▲from prior year						% ▲from prior year					
Direct Costs of Operations	4,272,619	5.6%					3,561,325	5.7%			3,294,840		11,128,784
Indirect Costs of Operations	774,687	3.3%	14.6%				688,169	3.3%	14.6%		240,711		1,703,567
Total Cost	5,047,306	5.2%					4,249,494	5.3%			3,535,551		12,832,351
Less Unallowable Costs	868	0.0%					818	0.0%			306		1,992
Allowable Costs	5,046,438						4,248,676				3,535,245		12,830,359
Franchise Income	243,032						475,320				265,538		983,890
Projected Return on Revenues	4.59%						10.06%				6.99%		7.12%
2018 Return on Revenues	5.60%						9.09%				6.56%		7.04%