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February 2019

Private Transfer Station Rate Transparency Report

Rates and estimated costs at private transfer stations located in the Metro region

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EXECUTIVE SUMMARY

The purpose of this report is to increase transparency of costs and rates for wet waste transfer at privately owned transfer stations in the Metro region. This report estimates the cost components and documents published rates for wet waste. These cost components may be used by local governments to inform annual rate setting activities for the commercial companies that haul wet waste. Because this report provides estimates only, the most reliable and accurate information on privately owned transfer station costs would be a full review of actual costs and financial records for each transfer station.

In July 2016, to improve overall system function, the Metro Council adopted the Transfer System Configuration Policy and directed the Chief Operating Officer to implement it (Resolution No. 16-4716 – **Appendix A**). The new policy intended to increase rate transparency at all transfer stations. Metro published costs and rates for its own transfer stations in a memo attached to the staff report for Ordinance No. 18-1417, adopted by the Metro Council on March 29, 2018 (See **Appendix B**). The considerations that inform the rates at the public transfer stations are not directly comparable to those for the privately owned stations and consequently are not illustrated in this report. For example, Metro's South and Central transfer stations service nearly 350,000 self-haul customers every year, which is 80 percent of all loads delivered to all transfer stations in the region. Metro assesses a single (blended) tonnage charge (rate) on all incoming loads of wet or dry waste. Metro's stations provide services such as seven-day-a-week operations for commercial haulers and robust access for self-haul customers that are not widely available at privately owned transfer stations in the region. These services are often more costly to provide but are services the public expects and uses heavily.

Transfer stations in the region vary with respect to a number of characteristics. Some are on a smaller parcel of land, have fewer employees, and focus exclusively on the reload and transfer of wet waste for a few customers. Other stations may serve more customers, provide a wider range of services, and have longer hours of operation. These facility attributes are documented and presented in the **Facility analyses** section for each transfer station to provide context. These attributes are not used directly in estimating operating costs; this report instead uses estimates of facility disposal costs and publicly available facility rates to estimate total operating costs.

Privately owned transfer stations' operating costs

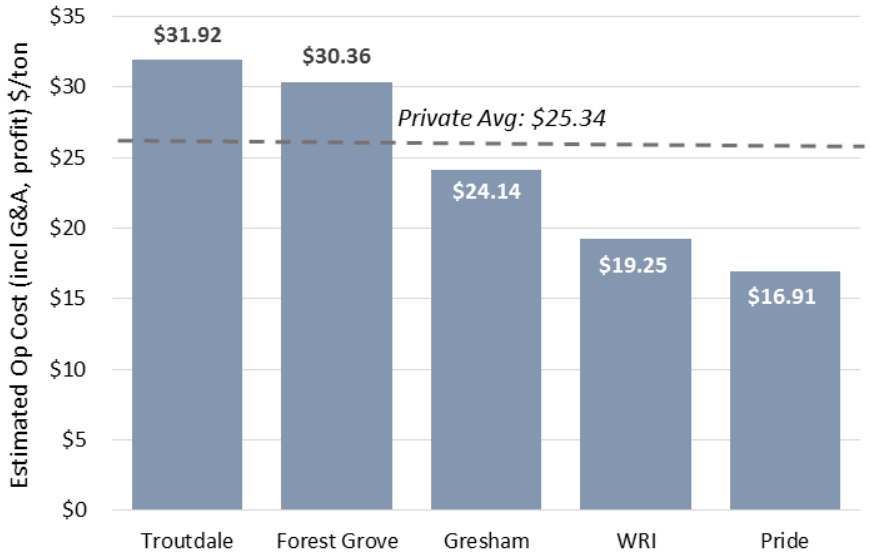
This report estimated two primary cost components for each privately owned transfer station. First, ***per-ton disposal costs*** were estimated as the sum of the average landfill tip fees incurred by the transfer station, the per-ton transport costs incurred to reach landfills, and local and state fees and taxes incurred on disposal. Second, ***per-ton operating costs*** were estimated as the difference between the transfer station's average revenue per ton[1] and its per-ton disposal costs. This simple model assumes that privately owned stations set their rates to recover their

[1] Revenue per ton is the per-ton tip fee charged to haulers plus any per-load transactions fees converted to a per-ton basis using haulers' average payload into the facility.

primary costs—operating the station and disposing of the wet waste received at the station—plus general administrative expenses plus profit. Because this report does not have access to the financial records or data to estimate a transfer station's overhead and profit, the per-ton operating costs are estimates and include estimates of overhead and profit.

The average operating costs for each privately owned transfer station are shown in **Figure 1**. Tonnage-weighted average operating costs across the five private facilities was estimated at $25.34 per ton. The estimated operating costs for two facilities, Troutdale Transfer Station and Forest Grove Transfer Station, were above this average. Pride Recycling Transfer Station's operating cost estimate was the lowest at $16.91 per ton. The facility with the highest estimated average cost was Troutdale Transfer Station at $31.92 per ton. More information regarding the factors that informed Metro's estimates of the costs is provided in the **Report purpose and methodology** section.

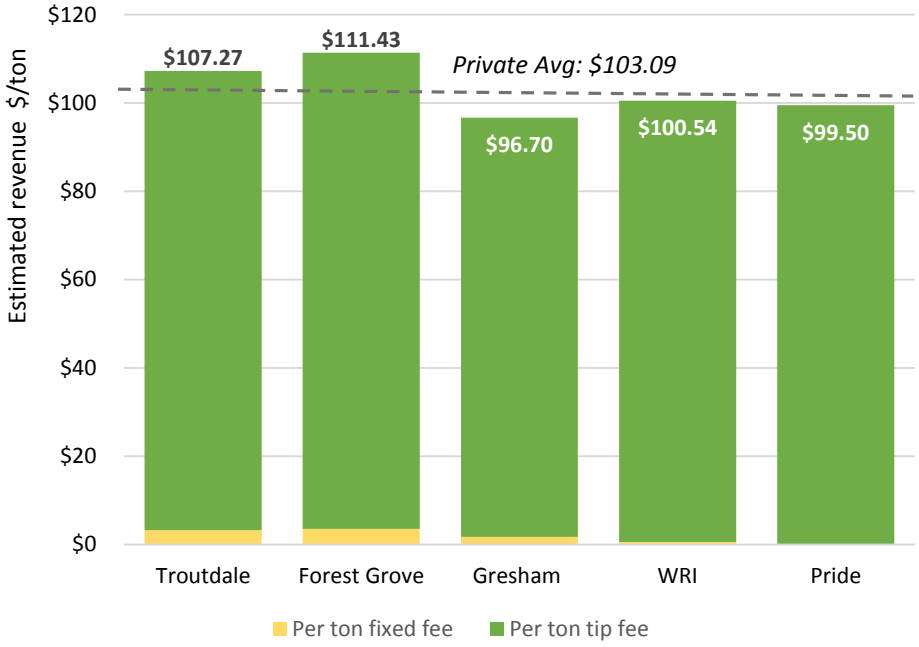
Figure 1. Regional average and facility-specific operating costs for wet waste in 2017



Privately owned transfer stations' revenue

This report estimated the revenue per ton of wet waste for each privately owned transfer station using publicly available data on the fixed fees (transaction fee or environmental charge) and tipping fees per ton. The tipping fee, also known as a gate rate, is the price per ton to drop off wet waste at a transfer station. The tipping fee combined with the fixed fees is the estimated revenue per ton (**Figure 2**). The average revenue per ton across the five private facilities was estimated at $103.09. The estimated revenue per ton for two facilities, Troutdale Transfer Station and Forest Grove Transfer Station, was above this average. The estimated revenue per ton ranged from a low of $96.70 at Gresham Sanitary Transfer Station to a high of $111.43 at Forest Grove Transfer Station.

Figure 2. Regional average and facility-specific revenue for wet waste in 2017



Assumptions behind operating costs

The waste management industry in general, and transfer station operations in particular, exhibit strong economies of scale. An analysis of more than 20 transfer stations' operating costs found that two attributes accounted for more than 80 percent of the variation in costs: incoming tonnage and the size of the incoming loads.[2] As a transfer station's incoming amount of wet waste increases, average costs per ton to manage that waste decreases. The same relationship is true for average load sizes; as the average size of an incoming load increases, the costs per ton to handle those loads decreases.

However, these relationships were not found across the five privately owned transfer stations reviewed in this report. For example, Troutdale and Forest Grove transfer stations accept more wet waste in larger payloads (tons per load) than Pride Recycling Transfer Station. While the former two facilities would be expected to have lower operating costs per ton than the latter, this report found the opposite. **Table 1** provides the tonnage throughput along with the operating costs (including overhead and profit) estimated for each of the five privately owned transfer stations. As shown in **Table 1**, Pride Recycling Transfer Station had the lowest operating costs ($16.91) and Troutdale and Forest Grove transfer stations had the first and second highest operating costs ($31.92 and $30.36, respectively).

[2] Stevens, Barbara J. Metro Transfer System Ownership Study. CH2M, 2006. pC-10.

Table 1. Key factors at private transfer stations

	Private stations				
	Troutdale	Forest Grove	Gresham Sanitary	WRI	Pride
Number of loads*	11,925	21,952	4,024	13,031	14,228
2017 Accepted tonnage*	81,000	125,100	23,000	75,100	80,000
Avg. tons per load**	7	7	6	6	6
Estimated operating costs (including G&A and profit)	$31.92	$30.36	$24.14	$19.25	$16.91

**From in or out of region sources; wet tons only.*
***From in or out of region sources; commercial wet tons only.*

Report limitations

This report did not observe the expected relationships between tonnage throughput, load size, and average operating costs across all five of the privately owned transfer stations. This may be due to two factors, described below.

First, this report worked with a limited set of publicly available data. The rates and estimated costs in this report were determined by using generic assumptions for each facility to model costs. Although the rates and cost model for each facility was reviewed by that facility's operators, Metro cannot guarantee that the estimates are accurate. The estimates are accurate to the extent that the inputs and assumptions used for constructing the cost estimates are accurately stated. This limited data set also meant that overhead and profit were not separated out from operating costs. Consequently, the variation in operating costs may reflect facilities' different overhead buffers or profit margins.

Second, this report relies on a model to estimate costs, and no model is 100 percent accurate. For example, this report assumes that facilities set tip fees (total revenue) to recover their operating and disposal costs, including their overhead and profit. By this logic, total revenue minus disposal costs would equal operating costs to run the transfer station. However, transfer station operators that also operate collection and disposal services have opportunities to spread costs and revenue throughout their multiple lines of business. This means that vertically integrated companies could have an operating cost for transfer station operations that is not solely based on their stand-alone transfer station operation costs.

Next steps

The Metro Council has authority to determine whether additional steps are needed to make rates even more transparent. The staff report that accompanied the Transfer System Configuration Policy (2016) presented options to the Metro Council for ensuring rate transparency. These options include gathering actual operating cost information from private transfer stations in the Metro region. The Metro Council can seek to conduct a full detailed rate review at private transfer stations, which may include hiring an independent contractor to

review private transfer station financial records to determine actual costs. After implementing options to improve transparency and provide useful information to local governments, if private tip fees appear to be substantially higher than costs can justify, the Metro Council may consider guidelines to implement rate regulation. The Metro Council has broad legal authority over solid waste, including authority to set rates at private transfer stations operating within its jurisdiction.[3]

[3] ORS 268.317(5) and Metro's home rule charter.

BACKGROUND

Metro manages the regional garbage and recycling system for the benefit of the public. As part of this responsibility, Metro evaluated how the structure of the existing public-private system of solid waste transfer stations can best serve the public interest in the future. In 2015, Metro created a task force to advise Metro on how the region's waste transfer system can better serve the public. The task force consisted of representatives from garbage and recycling hauling companies, transfer station operators and other waste handling facilities.

After the task force completed its work, the Metro Council adopted a policy in July 2016 (See **Appendix A** for Resolution No. 16-4716 and the accompanying staff report) that established several goals for the Metro region's waste transfer system and directed Metro staff to implement the policy. Of the eight components in the adopted policy, two emphasized greater transparency in describing the costs of services provided at publicly owned (Metro) and privately owned transfer stations and the rates charged to customers to cover those costs:

- **Component 6: Improve transparency about the cost of services provided at the public stations**. Provide a separate accounting of the cost of various discrete public services provided at the public stations i.e., separate out the cost of services such as wet waste consolidation and transfer, dry waste recovery, self-haul, and organics consolidation and transfer to provide a more detailed and direct comparison of the cost of services offered at private stations.
- **Component 7: Rate transparency at private stations.** Local government representatives have stated they would benefit from additional transfer station rate transparency in their collection franchise rate review processes.

In an effort to deliver greater transparency as described above, Metro staff produced a letter to local governments that identified Metro's current rate structure and its underlying components with respect to the cost of services provided at Metro's public transfer stations, providing both direct and indirect costs on a per-ton basis for each waste stream (See **Appendix C**). An analysis of Metro South and Metro Central transfer stations' direct and indirect costs on a per-ton basis for each waste stream is also included as part of Metro's annual rate adjustments and is provided to local governments, which set rates for the collection of garbage and recyclables at homes and businesses, to provide some cost-based benchmarks for their rate-setting purposes.

The considerations that inform the rates at the public transfer stations are not directly comparable to those for the privately owned stations and consequently are not illustrated in this report. For example, Metro's stations service nearly 350,000 self-haul customers every year, which is 80 percent of all loads delivered to all transfer stations in the region. Metro assesses a single (blended) tonnage charge (rate) on all incoming loads of wet or dry waste. Metro assesses a single tonnage charge (rate) on all incoming loads of wet or dry waste whereas private stations assess one charge for wet waste and a separate charge for dry waste. Metro's stations provide services such as seven-day-a-week operations for commercial haulers and robust access for self-haul customers that are not widely available at privately owned

transfer stations in the region. These services are often more costly to provide but are services the public expects and uses heavily. An overview of Metro's stations is provided in **Appendix D**.

REPORT PURPOSE AND METHODOLOGY

This report takes the next step of providing greater transparency by presenting estimates of the cost components and documenting the rates at the privately owned transfer stations in the region, specifically with respect to wet waste transfer operations. Metro staff estimated facility costs for calendar year 2017, the most recent year for which complete data are available.

These cost components may be used by local governments to inform their annual rate-setting activities. Local governments can compare a hauler's per-ton disposal costs to this report's average per ton revenue estimate for whichever facility the hauling firm proposes to use as follows: divide the disposal cost line item by the hauler's expected number of tons for the year. Since this report's average per ton revenue estimates are from 2017, this report's per ton revenue estimate will need to be inflation-adjusted to the years covered by the hauler's direct cost report. The cost estimates also provide information for making relative comparisons of rates and costs between privately owned transfer stations. As this report provides estimates only, the most reliable and accurate estimates of privately owned transfer station costs and associated rates would be a full assessment of actual costs for each facility.

This report also presents a profile of operational attributes for each facility, including land, building, equipment, labor and service characteristics (See **Facility analyses**). These data are provided as informational addenda to the cost estimates for each station. Importantly, these data were not used in the cost estimates themselves. These data are intended only to put wet waste operating cost estimates in context. In preparing information to fulfill the purpose of this report, Metro staff did not have access to any financial records nor used proprietary data from any privately owned transfer stations.

A profile of operational attributes for each facility and the cost estimates are presented in the **Facility analyses** section of this report and defined as follows:

1. **Overview** - A brief description of each facility, including its location, ownership and history, comes from a combination of data from the Metro solid waste facility franchise, Regional Transfer Capacity Study, and observations by Metro staff. Aerial imagery for the facility site is provided by Metro's Data Resource Center.

2. **Property taxes, land and buildings** – This section presents information about the acreage of the tax lot on which the transfer station is located, the square footage of buildings on that tax lot, and the most recent property taxes assessed for that tax lot. These data are available from county tax assessor records for each facility. In addition, Metro staff made observations to contextualize this data.

3. **Equipment** – An approximate description of plant and equipment is provided in this section for each facility, including scales, scalehouses, balers, compactors, and sorting lines. Scales are large pieces of equipment which allow the facility to measure incoming and outgoing load weights and are sometimes accompanied by offices or attended buildings called scalehouses. Balers are machines that are typically used to compact recyclables into blocks which can be stacked and transported. Similar to balers in concept, compactors are

machines used for compressing solid waste for economical transport to distant landfills. Sorting lines are machines that are used to separate incoming streams of waste into materials for marketing and sale. The separated residual dry waste is placed into the compactor. Information provided on these types of equipment for each facility is general and based on observations made by Metro staff. Information on owned rolling equipment (like truck tractors or trailers) or yellow stock (heavy equipment used in the operation of the transfer station) is not available. Descriptions are made from observations by Metro staff for the most recent full calendar year, 2017.

4. **Labor** – This illustrates an estimate of the average number of employees working at the transfer station on a typical day. Since staffing varies throughout the calendar year, with seasonal ebbs and flows of tonnage, this information comes from observations made by Metro staff for a full calendar year (2017).

5. **Services** – This describes information about the services provided at the facility, including the types of material streams accepted from commercial haulers or the public (termed, "self-haul"), the provision of a public recycling area, whether the facility hosts household hazardous waste (HHW) events, and the hours of operation for both commercial and public customers. While all facilities in the Metro region may sort a couch, treadmill, or other item of bulky waste out of a self-haul load, this report only designates facilities as accepting self-hauled bulky waste when the facility has a designated space for collecting self-hauled bulky waste, such as a drop box. Information about whether the facility performs post-collection recovery on its incoming mixed dry waste stream is also provided. Information is from observations by Metro staff during 2017.

6. **Tonnage amounts** – This is information on the facility's regulatory constraints on wet tonnage, along with actual wet tonnage received and transferred over the last few years. The facility's calendar year 2017 franchise tonnage authorization applies to incoming wet waste that is generated within the Metro jurisdictional boundary ("in-district"). Actual wet waste tonnages are provided from the facilities' own reports to the Solid Waste Information System (inbound in-district + from other inbound = actual wet waste tonnages) and rounded to the nearest hundred tons. This realized wet waste tonnage can be larger than a facility's authorized limit without going into non-compliance, as the tonnage applied to the authorized limit can be smaller than the realized wet waste tonnage.

7. **Cost estimates** - Estimates of the facility's approximate 2017 operating costs, including general and administrative expenses (G&A) and profit (also known as overhead), are provided as the difference between the facility's average revenue per ton and its average disposal costs per ton:

   Operating costs per ton (incl. G&A + profit) = Revenue per ton – Disposal costs per ton

   Revenue per ton is estimated as the facility's tip fee (derived from facility "gate" rates), plus any transaction fees (converted to a per-ton basis). Disposal costs per ton are estimated as the sum of the facility's landfill tip fee, per-ton landfill transport costs, and local and state solid waste fees and taxes. This estimation method assumes that facilities set tip fees to recover their operating and disposal costs, including their overhead and profit. The specific

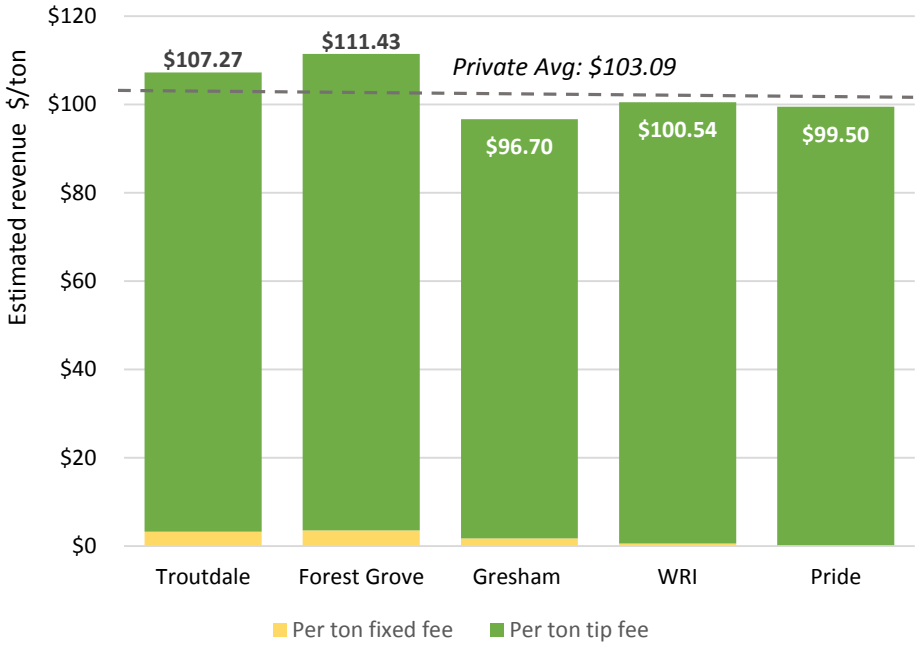
data sources, assumptions and calculations underlying the cost estimates for each facility are provided for each facility in its profile in the **Facility analyses** section of this report.

FINDINGS

Revenue estimates

This report estimated the revenue per ton of wet waste for each privately owned transfer station using publicly available data on the fixed fees (transaction fee or environmental charge) and tipping fees per ton at each facility in 2017. Revenue is the per-ton tip fee charged to haulers plus any per-load transactions fees converted to a per-ton basis using haulers' average payload into the facility. The estimated revenue per ton for two facilities, Troutdale Transfer Station and Forest Grove Transfer Station, were above the average rate (**Figure 3**). This estimated revenue ranged from a low of $96.70 per ton at Gresham Sanitary Transfer Station to a high of $111.43 per ton at Forest Grove Transfer Station.

Figure 3. Regional average and facility-specific revenue for wet waste in 2017



Cost estimates

This report estimated two primary cost components for each privately owned transfer station. First, ***per-ton disposal costs*** were estimated as the sum of the average landfill tip fees incurred by the transfer station, the per-ton transport costs incurred to reach landfills, and local and state fees and taxes incurred on disposal. Second, ***per-ton operating costs*** were estimated as the difference between the transfer station's average revenue per ton and per ton disposal costs.[4] This simple model assumes that private facilities set their rates to recover their primary costs (operating the station and disposing of the wet waste received at the station) plus overhead and profit. Because this report does not have facility specific data to use to estimate a

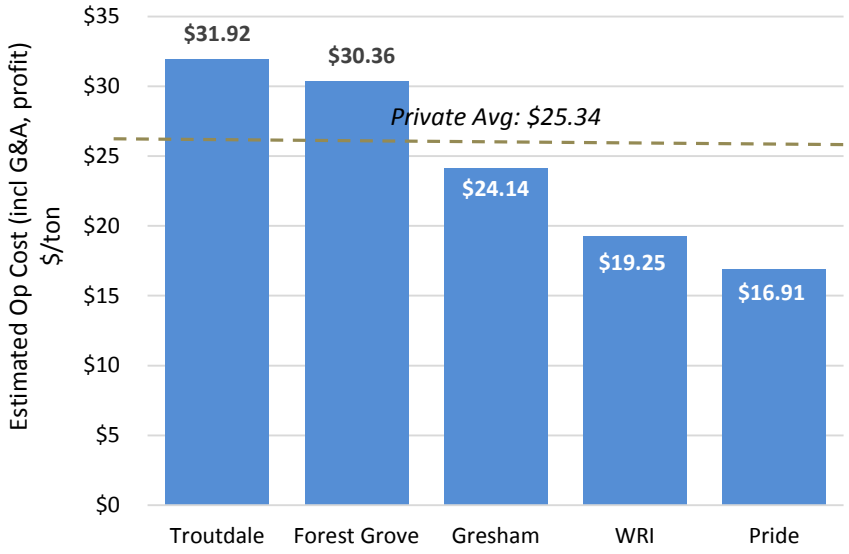
[4] Revenue is the per-ton tip fee charged to haulers plus any per-load transactions fees converted to a per-ton basis using haulers' average payload into the facility.

transfer station's overhead and profit, the per-ton operating cost estimates include overhead and profit.

Operating costs per ton (incl. G&A + profit) = Revenue per ton – Disposal costs per ton

The average operating costs for each transfer station are shown in **Figure 4**. Tonnage-weighted average operating costs (including G&A and profit) across the five facilities was estimated at $25.34 per ton. The estimated operating costs for two facilities, Troutdale Transfer Station and Forest Grove Transfer Station, were above this average. Pride Recycling Transfer Station's operating cost estimate was the lowest at $16.91 per ton. The facility with the highest estimated average cost was Troutdale Transfer Station at $31.92 per ton.

Figure 4. Regional average and facility-specific operating costs for wet waste in 2017



Privately owned transfer stations' operating costs

Transfer stations in the region vary with respect to a number of characteristics. Some are on a smaller parcel of land, have fewer employees, and focus primarily on the reload and transfer of wet waste for customers. Other stations serve more customers, provide a wider range of services, and have longer hours of operation. These and other attributes are documented and presented in the **Facility analyses** section for each transfer station. These attributes are included as context and are not used directly in estimating operating costs as this report estimates facility disposal costs and publicly available facility rates to estimate total operating costs.

Table 2 provides the tonnage throughput, two attributes along with the operating costs (including overhead and profit) estimated for each of the five privately owned transfer stations. Note that the 2017 accepted tonnage shown in **Table 2** is all the in-region and out-of-region wet tonnage delivered to each facility. A privately owned facility's total inbound wet waste tonnage for a year may be greater than the facility's limit as authorized by Metro because

facilities can receive waste from outside the Metro region and this waste does not count towards their Metro authorized limit. Among private facilities, estimated operating costs (including G&A and profit) for managing wet waste varied from a low of about $17 per ton at Pride Recycling to a high of about $32 per ton at Troutdale Transfer Station. Incoming wet tonnage varied from a high of over 125,000 at Forest Grove Transfer Station, to a low of about 23,000 tons at Gresham Sanitary Service Transfer Station. Among the private facilities, average incoming payloads from in or out-of-region sources were between 5.7 and 6.8 tons per load.

Table 2. Key factors at private transfer stations

	Private stations				
	Troutdale	Forest Grove	Gresham Sanitary	WRI	Pride
Number of loads*	11,925	21,952	4,024	13,031	14,228
2017 Accepted tonnage*	81,000	125,100	23,000	75,100	80,000
Avg. Tons per load*	7	7	6	6	6
Estimated operating costs (including G&A and profit)	$31.92	$30.36	$24.14	$19.25	$16.91

**From in or out of region sources; wet tons only.*
***From in or out of region sources; commercial wet tons only.*

Factors behind operating costs

The waste management industry in general, and transfer station operations in particular, exhibit strong economies of scale. All private transfer stations in the Metro region serve a range of customers, from the commercial haulers that deposit tons of wet waste in a few minutes to private residents with kitchen garbage bags that are dragged out of a car trunk and moved to a disposal bay. However, transfer stations with a larger customer base of commercial haulers will have a larger average load size than facilities that serve a higher percentage of vehicles with smaller loads. Each transfer station's customer base affects its average operating costs, as larger loads are less expensive to manage per ton. [5]

An analysis[6] of 23 transfer stations' operating costs found that two attributes in particular accounted for more than 80 percent of the variation in costs: incoming tonnage and the size of the incoming loads. As a transfer station's incoming amount of wet waste increases, average costs per ton to manage that waste *decreases*. The same relationship was true for average load sizes; as the average load size increases, the costs per ton to handle those vehicles *decreases.* However, these expected relationships were not found across the five private transfer stations reviewed in this report. For example, Troutdale and Forest Grove transfer stations accept more wet waste in larger payloads (tons per load) than Pride Recycling Transfer Station. While the

[5] Stevens, Barbara J. Metro Transfer System Ownership Study. CH2M, 2006. p.12.
[6] Ibid.,p.C-10.

former two facilities would be expected to have lower operating costs per ton than the latter, this report found the opposite (**Table 1**).

Report limitations

Two factors may explain why this report did not observe the expected relationships between tonnage throughput, load size, and average operating costs across all five of the private transfer stations.

First, this report worked with limited data. The rates and estimated costs in this report were determined from publicly available data and by using generic assumptions for each facility to model costs. Although the rates and cost model for each facility was reviewed by that facility's operators, Metro cannot guarantee that the estimates are accurate. The estimates are accurate to the extent that the inputs and assumptions used for constructing the cost estimates are accurately stated. This limited data set also meant that overhead and profit was not separated out from operating costs. Consequently, the variation in operating costs may reflect facilities' different overhead buffers or profit margins.

Second, this report relies on a model to estimate costs, and no model is 100 percent accurate. For example, this report assumes that facilities set tip fees (total revenue) to recover their operating and disposal costs, including their overhead and profit. By this logic, total revenue minus disposal costs would equal operating costs to run the transfer station. However, private transfer station operators that also operate collection and/or disposal have the opportunity to spread costs and revenue throughout their multiple lines of business. This means that vertically integrated companies could have an operating cost for transfer station operations that is not solely based on their stand-alone transfer station operation costs.

Next steps

The Metro Council has authority to determine whether additional steps are needed to make rates even more transparent. The staff report that accompanied the Transfer System Configuration Policy (2016) presented options to the Metro Council for ensuring rate transparency. These options include gathering actual operating cost information from private transfer stations in the Metro region. The Metro Council can seek to conduct a full detailed rate review at private transfer stations, which may include hiring an independent contractor to review private transfer station financial records to determine actual costs. The costs of each line of business conducted at a transfer station (e.g. recovery, disposal) facilitate a comparison of private transfer stations' costs with Metro's detailed report of its own costs. Metro is seeking information from local governments as to whether this information is useful and adequate for setting curbside garbage and recycling collection rates for residential, business, and institutional entities.

If the Metro Council finds that private tip fees appear to be substantially higher than costs can justify or local governments find this report to be inadequate for informing their rate-setting processes, then the Metro Council may consider further options to improve transparency and

provide useful information to local governments. Metro may propose guidelines to implement rate regulation. The Metro Council has broad legal authority over solid waste, including authority to set rates at private transfer stations operating within its jurisdiction.[7]

[7] ORS 268.317(5) and Metro's home rule charter.

FACILITY ANALYSES

Forest Grove Transfer Station

1525 B Street, Forest Grove

Overview

Forest Grove Transfer Station has been in operation since 1985 and is currently owned by Waste Management. This facility does not accept dry waste from commercial customers that are not subsidiaries of Waste Management. All self-hauled dry waste that is received at Forest Grove Transfer Station (Forest Grove) is reloaded to Tualatin Valley Waste Recovery for processing. Wet waste is transported to Republic Services' Coffin Butte Landfill in Benton County and Waste Management's Columbia Ridge Landfill in Gilliam County for disposal. Waste Management and its subsidiaries also provide franchised collection services in neighboring jurisdictions.

Land and buildings

The 2,400 square foot transfer building is located on five acres and is owned by Waste Management. Property taxes in 2016-17 were $21,507.15.

In 2017, the facility expanded its compressed natural gas filling station and reworked its bio-swale to receive and treat storm water on site.

Equipment

The facility has one scale that is not attached to an office or scalehouse. Heavy construction vehicles (known as "yellow stock") are not included in this report. This facility does have a grapple arm that is used to compress waste when loading transfer trailers.

Labor

Approximately five full-time equivalents (FTE) are employed in the operation of this transfer station.

Services and hours of operation

The following table summarizes the services provided by the facility:

Services to haulers	
Consolidation and transfer of waste	Putrescible waste: **Yes** (Mon. – Fri. 4:30 a.m. to 5 p.m.)
	Mixed-dry waste: No
	Residential food scraps: No
	Residential recyclables: **Yes** (Mon. – Fri. 4:30 a.m. to 5 p.m.)
	Commercial recyclables: **Yes** (Mon. – Fri. 4:30 a.m. to 5 p.m.)
	Commercial organics: No
CNG filling stations	**Yes** (48 stations)
Services to public	
Self-haul/Bulky waste	**Yes:** on-site drop box for self-haul of bulky waste (Mon. – Sat. 9 a.m. to 5 p.m.)
Recycling drop-off	**Yes** (Mon. – Fri. 8:30 a.m. to 4 p.m.)
HHW collection events	**Yes** (Generally, one event per year staffed by Metro, 9 a.m. to 2 p.m.)
Post-collection recovery	No

Tonnage amounts

Metro granted a tonnage authorization to the facility in the amount of 125,000 tons of in-district wet waste in calendar year 2017. The facility's realized total wet tonnage that year was 125,120 tons, 121,033 of which applied to its authorized limit because this wet waste was received from in-district sources. The remaining balance came from out-of-district sources. The

table below provides actual inbound and outbound tonnage to the facility over the last few years.

	Inbound						Outbound		
	From in-district*		From other		Total	Avg	Total		Avg
CY	Tons	Loads	Tons	Loads	Accounts	Payload	Tons	Loads	Payload
2014	108,377	17,580	2,406	534	16	6.1	112,165	4,411	25.4
2015	114,710	18,004	2,408	604	14	6.3	117,886	4,575	25.8
2016	119,452	18,775	2,870	765	18	6.3	122,683	4,679	26.2
2017	121,033	20,973	4,087	979	16	5.7	124,272	4,589	27.1

Note: *tonnage applies to franchise limit

Cost estimates

The facility's average revenue and disposal costs were estimated at $111.43 and $81.07 per ton, respectively, using the inputs and assumptions documented below. The resulting facility operating costs, G&A, and profit were estimated as the difference between these quantities, or $30.36 per ton.

Revenue ($/ton):	**$111.43**
Derivation:	
Fixed fee ($/load)[1]	$24.00
divided by: Average Load Size (tons/load)[2]	6.80
equals: Per Ton Fixed Fee ($/ton)	$3.53
plus: Tip Fee ($/ton)[3]	$107.90
equals: Avg. Revenue ($/ton)	$111.43
Disposal costs ($/ton)	**$81.07**
Derivation:	
Avg. Landfill tip fee ($/ton, calculated below)[4]	$33.97
plus: Avg. transport cost ($/ton, calculated below)[5]	$14.04
plus: SW Fees and taxes[6]	$33.06
o Metro: Regional System Fee ($/ton)	$18.48
o Metro: SW Excise Tax ($/ton)	$11.76
o Local: Host fee ($/ton)	$1.00
o State: DEQ fees ($/ton)	$1.82
equals: Disposal costs ($/ton)	$81.07
Operating cost, G&A and profit ($/ton)	**$30.36**

Landfill tip and transport cost detail	Coffin Butte	Col. Ridge	Riverbend	Weighted average
Landfill use (Tonnage share, %)[7]	81.4%	2.1%	16.5%	
Landfill tip fee ($/ton)[8]	$34.00	$18.45	$35.77	$33.97
Transport cost to landfill ($/ton):	$14.61	$30.25	$9.21	$14.04
Derivation:				
Round trip distance (miles)[9]	122.2	350	57.4	
divided by: Average speed (miles/hour)[10]	44	52	32.5	
equals: Transit time (hours)	2.8	6.7	1.8	
plus: Queuing and tipping time (hours)[11]	0.3	1.0	0.3	
equals: Total time per trip (hours)	3.1	7.7	2.1	
multiplied by: Operating cost ($/hour)[12]	$126	$119	$121	
equals: Cost per load ($)	$392.86	$921.12	$254.19	
divided by: Payload (tons)[13]	26.89	30.45	27.6	
equals: Transport cost ($/ton)	$14.61	$30.25	$9.21	

Methodology, data source and assumption footnotes:

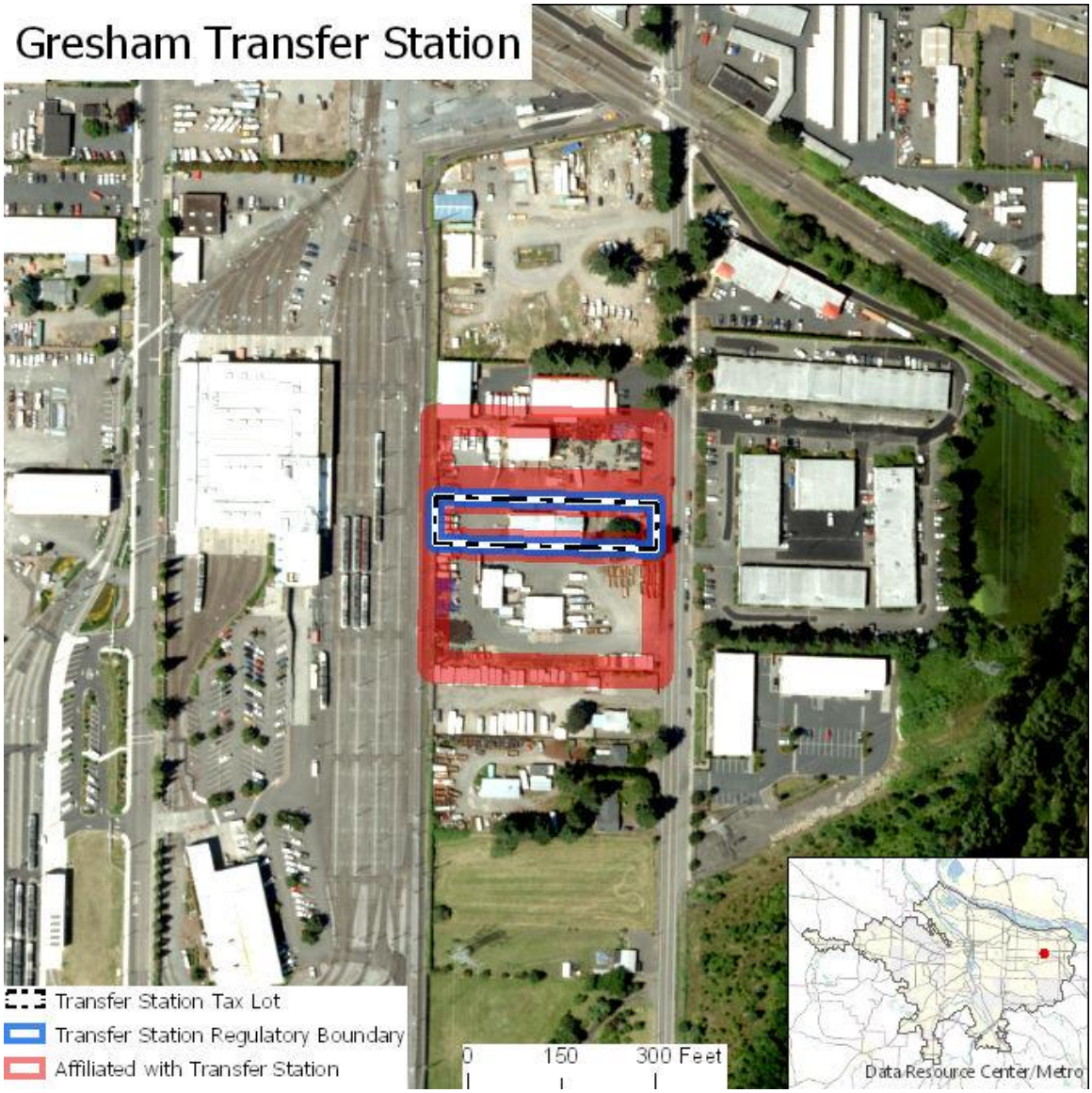
1. Facility-posted rates in CY 2017. May be called transaction fee, environmental charge, or similar.
2. Average size of incoming commercial loads of putrescible waste, in tons, observed in facility-reported CY 2017 transaction data.
3. Facility-posted rates in CY 2017. Also referred to as "gate" rates.
4. Tonnage-weighted average landfill tip fee.
5. Tonnage-weighted average transport costs.
6. Fees and tax rates shown were effective in CY 2017.
7. The percentage of the facility's wet waste tons transferred to each landfill in CY 2017.
8. Metro South/Central tip fees paid to these landfills in CY 2017.
9. Two times the Google Maps-derived distance from the facility to each landfill.
10. Google Maps derived distance divided by Google Maps derived travel time, adjusted to reasonable transfer trailer highway speeds.
11. Times are based on those from Metro's Wet Waste Allocation Study (September 2008).
12. Transport costs are based on the per hour fuel and hauling expenses as modeled in Metro's Wet Waste Allocation Study (September 2008), adjusted for approximate inflation through CY 2017. The inflation adjustment is 18.7 percent, based on Metro's increase in its own transport costs since 2008.
13. Average payload, in tons, of the facility's outbound wet waste to each landfill in CY 2017.

Gresham Sanitary Service Transfer Station

2131 NW Birdsdale Ave., Gresham

Overview

GSS Transfer LLC, in common ownership with Gresham Sanitary Service, Inc., was granted a Metro franchise in July 2016 for the Gresham Sanitary Service Transfer Station (Gresham). Wet waste is transported to Waste Connections' Wasco County Landfill in Wasco County for disposal. GSS Transfer LLC and Gresham Sanitary Service Inc. are co-located. GSS Transfer LLC is not affiliated with any landfill or disposal site. While the majority of the wet waste comes from its own hauler, this site does accept some limited amounts from other haulers.



Land and buildings

The 3,120 square foot transfer building is located on 3.5 acres and owned by Michael and Deborah Miller. Property taxes paid for 2016-17 were $4,237.53. In anticipation of accepting third-party haulers in 2017, a second scale was installed and new safety signage was posted. The facility also purchased a new yard goat, which is a terminal tractor used for moving trailers around the facility site.

Equipment

The facility has two scales that are not attached to an office or scalehouse. Heavy construction vehicles (known as "yellow stock") are not included in this report.

Labor

Approximately two FTE are employed in the operation of this transfer station.

Services and hours of operation

The following table summarizes the services provided by the facility:

Services to haulers	
Consolidation and transfer of waste	Putrescible waste: **Yes** (Mon. – Sat. 6 a.m. to 4 p.m.)
	Mixed-dry waste: No
	Residential food scraps: No
	Residential recyclables: No
	Commercial recyclables: No
	Commercial organics: No
CNG filling stations	**Yes** (10 stations)
Services to public	
Self-haul/Bulky waste	No
Recycling drop-off	**Yes** (Mon. – Fri. 8:30 a.m. to 4 p.m.)
HHW collection events	No
Post-collection recovery	No

Tonnage amounts

Gresham is a newly franchised facility that has historically been used as a waste consolidation and reload point for its own company. The facility obtained its Metro-issued franchise in 2016, however, it did not receive a full-year tonnage authorization that year. Metro granted the facility a 2017 tonnage authorization of 23,000 tons of in-district wet waste. The facility received 22,966 tons, 22,691 of which applied to its authorized limit as these tons were received from in-district sources. The remaining balance came from out-of-district sources. The table below provides actual inbound and outbound tonnage to the facility since operating under a Metro franchise in 2016.

	Inbound						Outbound		
	From in-district*		From other		Total	Avg	Total		Avg
CY	Tons	Loads	Tons	Loads	Accounts	Payload	Tons	Loads	Payload
2014	---	---	---	---	---	---	---	---	---
2015	---	---	---	---	---	---	---	---	---
2016	1,070	191	0	0	1	5.6	922	33	30.1
2017	22,691	3,971	275	53	4	5.7	22,848	757	30.2

Note: *tonnage applies to franchise limit

Cost estimates

The facility's average revenue and disposal costs per ton were estimated at $96.70 and $72.56, respectively, using the inputs and assumptions documented below. The resulting facility operating costs (including G&A and profit) were estimated as the difference between these quantities, or $24.14 per ton.

Revenue ($/ton):	**$96.70**
Derivation:	
Fixed fee ($/load)[1]	$10.00
divided by: Average Load Size (tons/load)[2]	5.71
equals: Per Ton Fixed Fee ($/ton)	$1.75
plus: Tip Fee ($/ton)[3]	$94.95
equals: Avg. Revenue ($/ton)	$96.70
Disposal costs ($/ton)	**$72.56**
Derivation:	
Avg. Landfill tip fee ($/ton, calculated below)[4]	$22.00
plus: Avg. transport cost ($/ton, calculated below)[5]	$17.50
plus: SW Fees and taxes[6]	$33.06
o Metro: Regional System Fee ($/ton)	$18.48
o Metro: SW Excise Tax ($/ton)	$11.76
o Local: Host fee ($/ton)	$1.00
o State: DEQ fees ($/ton)	$1.82
equals: Disposal costs ($/ton)	$72.56
Operating Cost, G&A and Profit ($/ton)	**$24.14**

Landfill tip and transport cost detail

	Wasco	Weighted average
Landfill use (Tonnage share, %)[7]	100%	
Landfill tip fee ($/ton)[8]	$18.83	$18.83
Transport cost to landfill ($/ton):	$17.50	$17.50
Derivation:		
Round trip distance (miles)[9]	156	
divided by: Average speed (miles/hour)[10]	52	
equals: Transit time (hours)	3.0	
plus: Queuing and tipping time (hours)[11]	0.3	
equals: Total time per trip (hours)	3.3	
multiplied by: Operating cost ($/hour)[12]	$158	
equals: Cost per load ($)	$528.15	
divided by: Payload (tons)[13]	30.2	
equals: Transport cost ($/ton)	$17.50	

Methodology, data source and assumption footnotes:

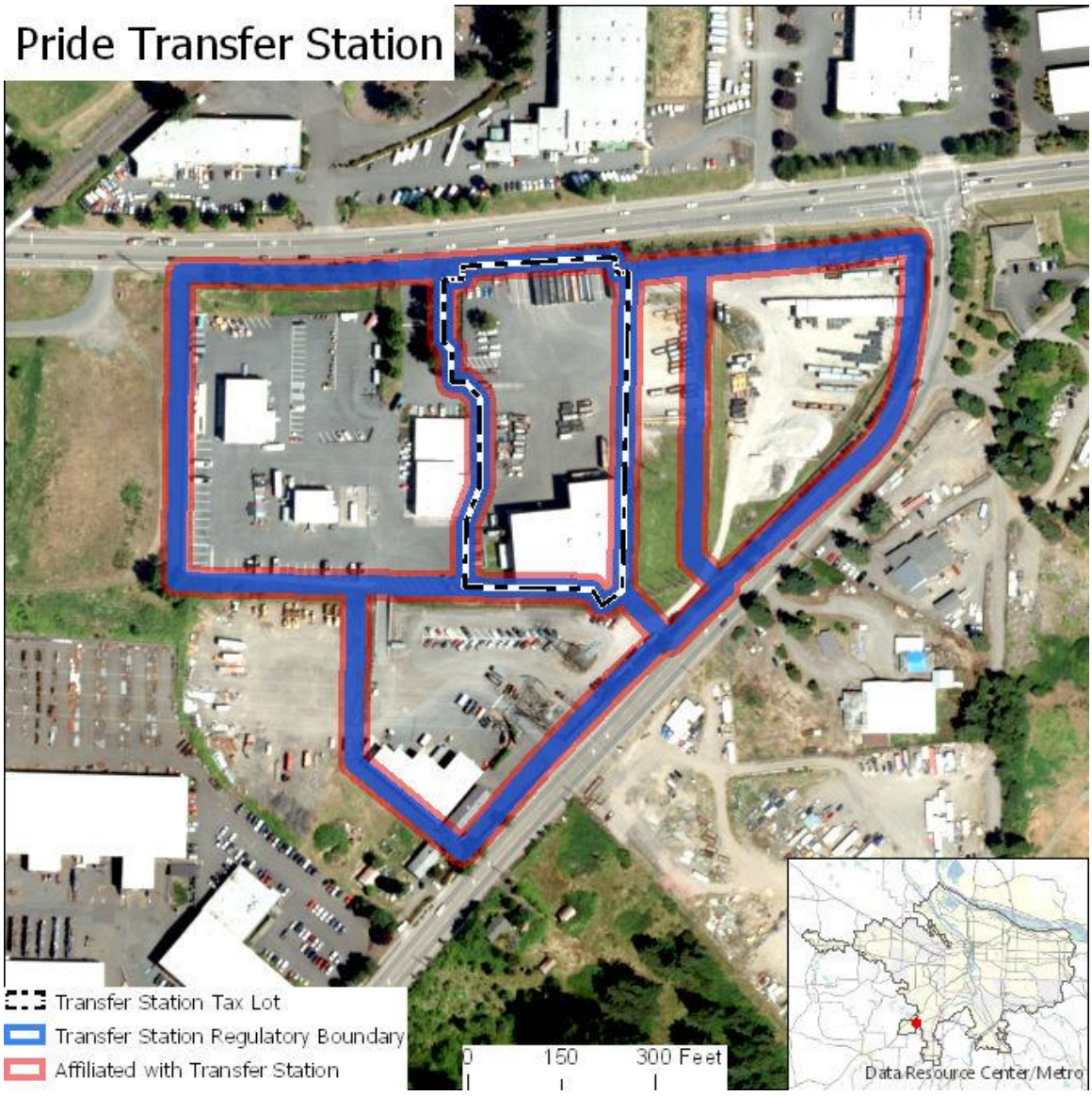
1. Facility-posted rates in CY 2017. May be called transaction fee, environmental charge, or similar.
2. Average size of incoming commercial loads of putrescible waste, in tons, observed in facility-reported CY 2017 transaction data.
3. Facility-posted rates in CY 2017. Also referred to as "gate" rates.
4. Tonnage-weighted average landfill tip fee.
5. Tonnage-weighted average transport costs.
6. Fees and tax rates shown were effective in CY 2017.
7. The percentage of the facility's wet waste tons transferred to each landfill in CY 2017.
8. Original value of $18.83 changed to $22.00 based on facility comments.
9. Two times the Google Maps-derived distance from the facility to each landfill.
10. Google Maps derived distance divided by Google Maps derived travel time, adjusted to reasonable transfer trailer highway speeds.
11. Times are based on those from Metro's Wet Waste Allocation Study (September 2008).
12. Original value of $119/hour (which were based on Metro's hourly transport costs to Columbia Ridge) adjusted to $158/hour in order to raise total transport costs by 33 percent, based on facility comments. The original value of $119/hour was based on the per hour fuel and hauling expenses as modeled in Metro's Wet Waste Allocation Study (September 2008), adjusted for approximate inflation through CY 2017. The inflation adjustment is 18.7 percent, based on Metro's increase in its own transport costs since 2008.
13. Average payload, in tons, of the facility's outbound wet waste to each landfill in CY 2017.

Pride Recycling Transfer Station

13910 SW Tualatin-Sherwood Road, Sherwood

Overview

Pride Recycling Company (Pride) opened in 1991 as a reload and material recovery facility and subsequently obtained authorization to operate as a transfer station in 1998. Pride processes mixed-dry waste for resource recovery and transports residual dry waste to Waste Management's Hillsboro Landfill for disposal. Wet waste is transported to Republic Services' Coffin Butte Landfill in Benton County for disposal. An affiliated solid waste collection company, Pride Disposal, is co-headquartered on site. Pride also provides franchised collection services in neighboring jurisdictions. Pride is not affiliated with any landfill.



Land and buildings

The approximately 25,000 square foot transfer building is located on a two-acre site. Both companies and the land upon which they are located are owned by the Leichner family. Discounted property taxes for 2016-17 were $22,835.16. Additional site access roads were recently constructed.

Equipment

The facility has two scales that are not attached to an office or scalehouse. The facility also has one compactor and one sorting line for mixed-dry waste processing operations. After the expansion of the MRF is complete, a second on-site compactor will become operational. Heavy construction vehicles (known as "yellow stock") are not included in this report.

Labor

Approximately 16 to 20 FTE are employed in the operation of this transfer station.

Services and hours of operation

The following table summarizes the services provided by the facility:

Services to haulers ***Note: Pride is open 24 hours to commercial haulers via gate code***	
Consolidation and transfer of waste	Putrescible waste: **Yes** (Mon. – Fri. all hours)
	Mixed-dry waste: **Yes**
	Residential food scraps: No
	Residential recyclables: **Yes** (Mon. – Fri. all hours)
	Commercial recyclables: **Yes** (Mon. – Fri. all hours)
	Commercial organics: No
CNG filling stations	**Yes** (19 stations)
Services to public	
Self-haul/Bulky waste	No
Recycling drop-off	**Yes** (Mon. – Fri. 7:30 a.m. to 4:30 p.m.)
HHW collection events	No
Post-collection recovery	**Yes**

Tonnage amounts

Metro granted a tonnage authorization to the facility in the amount of 77,435 tons of in-district wet waste in calendar year 2017. The facility's realized total wet tonnage that year was 80,014 tons, 75,904 of which applied to its authorized limit. The remaining balance came from out-of-district sources. The table below provides actual inbound and outbound tonnage to the facility over the last few years.

	Inbound						Outbound		
	From in-district*		From other		Total	Avg	Total		Avg
CY	Tons	Loads	Tons	Loads	Accounts	Payload	Tons	Loads	Payload
2014	69,951	12,020	4,062	701	5	5.8	73,659	2,475	29.8
2015	68,656	11,588	4,155	725	5	5.9	72,680	2,420	30.0
2016	71,783	12,533	4,484	718	6	5.8	76,205	2,563	29.7
2017	75,904	13,654	4,110	574	6	5.6	80,502	2,696	29.9

Note: *tonnage applies to franchise limit

Cost estimates

The facility's average revenue and disposal costs per ton were estimated at $99.50 and $82.59, respectively, using the inputs and assumptions documented below. The resulting facility operating costs (including G&A and profit) were estimated as the difference between these quantities, or $16.91 per ton.

Revenue ($/ton):	**$99.50**
Derivation:	
Fixed fee ($/load)[1]	$0.00
divided by: Average Load Size (tons/load)[2]	5.62
equals: Per Ton Fixed Fee ($/ton)	$0.00
plus: Tip Fee ($/ton)[3]	$99.50
equals: Avg. Revenue ($/ton)	$99.50
Disposal costs ($/ton)	**$82.59**
Derivation:	
Avg. Landfill tip fee ($/ton, calculated below)[4]	$32.79
plus: Avg. transport cost ($/ton, calculated below)[5]	$16.74
plus: SW Fees and taxes[6]	$33.06
o Metro: Regional System Fee ($/ton)	$18.48
o Metro: SW Excise Tax ($/ton)	$11.76
o Local: Host fee ($/ton)	$1.00
o State: DEQ fees ($/ton)	$1.82
equals: Disposal costs ($/ton)	$82.59
Operating cost, G&A and profit ($/ton)	**$16.91**

Landfill tip and transport cost detail	Coffin Butte	Col. Ridge	Riverbend	Weighted average
Landfill use (Tonnage share, %)[7]	83.7%	8.6%	7.7%	
Landfill tip fee ($/ton)[8]	$34.00	$18.45	$35.77	$32.79
Transport cost to landfill ($/ton):	$16.01	$31.25	$8.39	$16.74
Derivation:				
Round trip distance (miles)[9]	124	330	54	
divided by: Average speed (miles/hour)[10]	44	52	33	
equals: Transit time (hours)	2.8	6.3	1.7	
plus: Queuing and tipping time (hours)[11]	1.0	1.0	0.3	
equals: Total time per trip (hours)	3.8	7.3	2.0	
multiplied by: Operating cost ($/hour)[12]	$126	$119	$121	
equals: Cost per load ($)	$482.80	$875.29	$242.27	
divided by: Payload (tons)[13]	30.16	28.01	28.87	
equals: Transport cost ($/ton)	$16.01	$31.25	$8.39	

Methodology, data source and assumption footnotes:

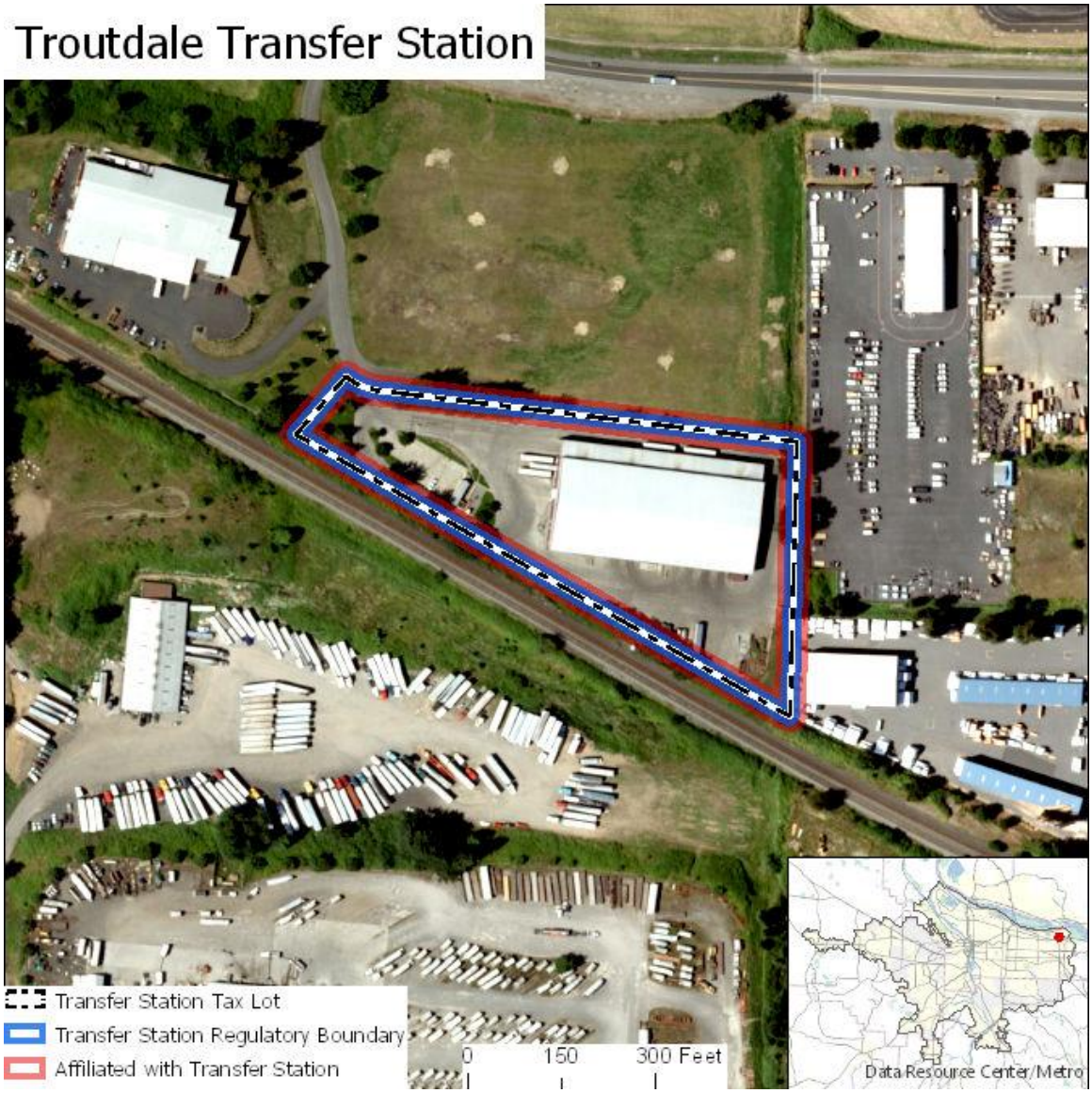
1. Facility-posted rates in CY 2017. May be called transaction fee, environmental charge, or similar.
2. Average size of incoming commercial loads of putrescible waste, in tons, observed in facility-reported CY 2017 transaction data.
3. Facility-posted rates in CY 2017. Also referred to as "gate" rates.
4. Tonnage-weighted average landfill tip fee.
5. Tonnage-weighted average transport costs.
6. Fees and tax rates shown were effective in CY 2017.
7. The percentage of the facility's wet waste tons transferred to each landfill in CY 2017.
8. Metro South/Central tip fees paid to these landfills in CY 2017.
9. Two times the Google Maps-derived distance from the facility to each landfill
10. Google Maps derived distance divided by Google Maps derived travel time, adjusted to reasonable transfer trailer highway speeds.
11. Times are based on those from Metro's Wet Waste Allocation Study (September 2008).
12. Transport costs are based on the per hour fuel and hauling expenses modeled in Metro's Wet Waste Allocation Study (September 2008), adjusted for approximate inflation through CY 2017. The inflation adjustment is 18.7 percent, based on Metro's increase in its own transport costs since 2008.
13. Average payload, in tons, of the facility's outbound wet waste to each landfill in CY 2017.

Troutdale Transfer Station

869 NW Eastwind Drive, Troutdale

Overview

Waste Management owns and operates this transfer station which began operations as a dry waste material recovery facility owned by Recycle America in 1996. Authorization to accept wet waste was granted in 1998. Currently all dry waste is reloaded for processing at Waste Management's Tualatin Valley Waste Recovery facility. Troutdale Transfer Station transports wet waste to Columbia Ridge Landfill in Gilliam County for disposal. Waste Management and its subsidiaries also provide franchised collection services in neighboring jurisdictions.



Land and buildings

The 60,125 square foot transfer building is located on 4.86 acres. The site is owned by TDK Corp. and operated by Waste Management. Discounted property taxes for 2016-17 were $58,196.07. There are no known recent or planned improvements to the facility at the time of this writing.

Equipment

The facility has two scales, one of which is attached to a scalehouse. Heavy construction vehicles (known as "yellow stock") are not included in this report.

Labor

Approximately seven FTE are employed in the operation of this transfer station.

Services and hours of operation

The following table summarizes the services provided by the facility:

Services to haulers	
Consolidation and transfer of waste	Putrescible waste: **Yes** (Mon. – Fri. 5:30 a.m. to 4 p.m.)
	Mixed-dry waste: **Ye**s (Mon. – Fri. 5:30 a.m. to 4 p.m.)
	Residential food scraps: **Yes** (Mon. – Fri. 5:30 a.m. to 4 p.m.)
	Residential recyclables: **Yes** (Mon. – Fri. 5:30 a.m. to 4 p.m.)
	Commercial recyclables: **Yes** (Mon. – Fri. 5:30 a.m. to 4 p.m.)
	Commercial organics: No
CNG filling stations	No
Services to public	
Self-haul/Bulky waste	No
Recycling drop-off	No
HHW collection events	No
Post-collection recovery	No

Tonnage amounts

Metro granted a tonnage authorization to the facility in the amount of 77,435 tons of in-district wet waste in calendar year 2017. The facility's realized total wet tonnage that year was about 80,975 tons, 71,762 of which applied to its authorized limit because these tons were received from in-district sources. The remaining balance came from out-of-district sources. The table below provides actual inbound and outbound tonnage to the facility over the last few years.

	Inbound						Outbound		
	From in-district*		From other		Total	Avg	Total		Avg
CY	Tons	Loads	Tons	Loads	Accounts	Payload	Tons	Loads	Payload
2014	69,564	10,038	4,538	1,115	13	6.6	73,826	2,516	29.3
2015	73,337	10,260	5,534	1,214	14	6.9	78,884	2,552	30.9
2016	74,371	10,881	7,332	1,422	12	6.6	81,765	2,696	30.3
2017	71,762	10,232	9,213	1,693	11	6.8	80,381	2,563	31.4

Note: *tonnage applies to franchise limit

Cost estimates

The facility's average revenue and disposal costs per ton were estimated at $107.27 and $75.35, respectively, using the inputs and assumptions documented below. The resulting facility operating costs, G&A, and profit were estimated as the difference between these quantities, or $31.92 per ton.

Revenue ($/ton):	**$107.27**
Derivation:	
Fixed fee ($/load)[1]	$22.00
divided by: Average Load Size (tons/load)[2]	6.73
equals: Per Ton Fixed Fee ($/ton)	$3.27
plus: Tip Fee ($/ton)[3]	$104.00
equals: Avg. Revenue ($/ton)	$107.27
Disposal costs ($/ton)	**$75.35**
Derivation:	
Avg. Landfill tip fee ($/ton, calculated below)[4]	$19.01
plus: Avg. transport cost ($/ton, calculated below)[5]	$22.63
plus: SW Fees and taxes[6]	$33.71
o Metro: Regional System Fee ($/ton)	$18.48
o Metro: SW Excise Tax ($/ton)	$11.76
o Local: Host fee ($/ton)	$1.00
o Local: Excise tax ($/ton)	$0.65
o State: DEQ fees ($/ton)	$1.82
equals: Disposal costs ($/ton)	$75.35
Operating cost, G&A and profit ($/ton)	**$31.92**

Landfill tip and transport cost detail	Columbia Ridge	Riverbend	Weighted average
Landfill use (Tonnage Share, %)[7]	96.8	3.2	
Landfill tip fee ($/ton)[8]	$18.45	$35.77	$19.01
Transport cost to landfill ($/ton):	$22.95	$13.15	$20.18
Derivation:			
Round trip distance (miles)[9]	262	139	
divided by: Average speed (miles/hour)[10]	52	45	
equals: Transit time (hours)	5.0	3.1	
plus: Queuing and tipping time (hours)[11]	1.0	0.3	
equals: Total time per trip (hours)	6.0	3.4	
multiplied by: Operating cost ($/hour)[12]	$119	$121	
equals: Cost per load ($)	$719.48	$413.27	
divided by: Payload (tons)[13]	31.35	31.42	
equals: Transport cost ($/ton)	$22.95	$13.15	

Methodology, data source and assumption footnotes:

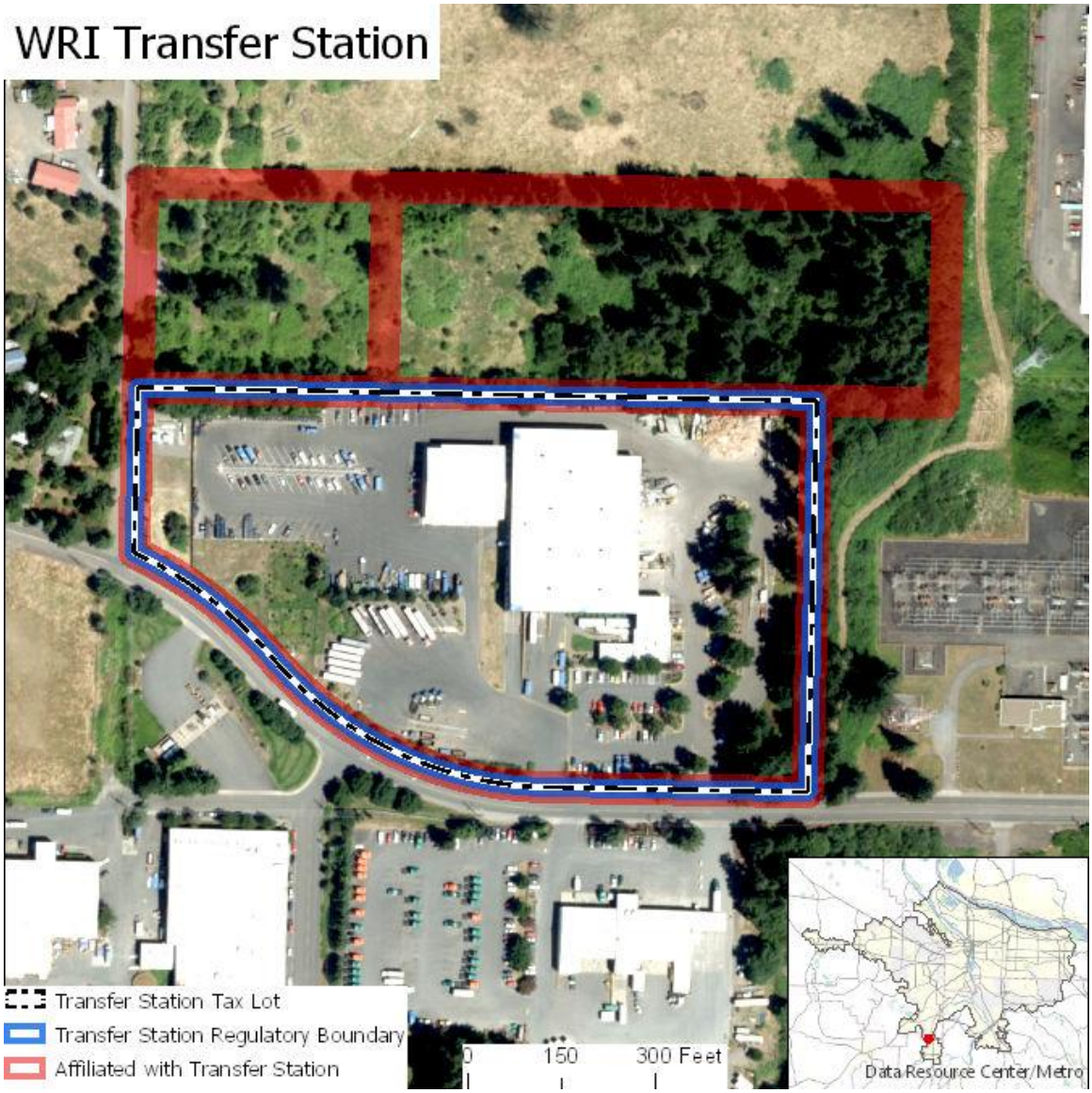
1. Facility-posted rates in CY 2017. May be called transaction fee, environmental charge, or similar.
2. Average size of incoming commercial loads of putrescible waste, in tons, observed in facility-reported CY 2017 transaction data.
3. Facility-posted rates in CY 2017. Also referred to as "gate" rates.
4. Tonnage-weighted average landfill tip fee.
5. Tonnage-weighted average transport costs.
6. Fees and tax rates shown were effective in CY 2017.
7. The percentage of the facility's wet waste tons transferred to each landfill in CY 2017.
8. Metro South/Central tip fees paid to these landfills in CY 2017.
9. Two times the Google Maps-derived distance from the facility to each landfill
10. Google Maps derived distance divided by Google Maps derived travel time, adjusted to reasonable transfer trailer highway speeds.
11. Original time of .3 hours based on Metro's Wet Waste Allocation Study (September 2008); time adjusted to 1.0 hour based on facility feedback.
12. Transport costs are based on the per hour fuel and hauling expenses modeled in Metro's Wet Waste Allocation Study (September 2008), adjusted for approximate inflation through CY 2017. The inflation adjustment is 18.7 percent, based on Metro's increase in its own transport costs since 2008.
13. Average payload, in tons, of the facility's outbound wet waste to each landfill in CY 2017.

Willamette Resources, Inc. Transfer Station

10295 SW Ridder Rd, Wilsonville

Overview

Willamette Resources Incorporated opened a material recovery facility in 1994 and was authorized to accept wet waste in 1998. Willamette Resources Incorporated is a subsidiary of Republic Services. The Willamette Resources, Inc. Transfer Station (WRI) processes mixed-dry waste for resource recovery. Wet waste and residual dry waste are transported to Republic Services' Coffin Butte Landfill in Benton County for disposal. WRI also serves as the headquarters for Republic Services' collection operations in the area.



Land and buildings

The 56,000 square foot transfer building is located on an approximately 15 acre site, 10 acres of which are not yet developed. The site is owned by Willamette Resources, Inc., a subsidiary of Republic Services. Discounted property tax for 2016-17 was $134,296.73.

Equipment

The facility has three scales, two of which are attached to a single scalehouse. The facility also has one baler, one compactor and a sorting line for mixed-dry waste processing. Heavy construction vehicles (known as "yellow stock") are not included in this report.

Labor

Approximately 10 FTE are employed in the operation of this transfer station.

Services and hours of operation

The following table summarizes the services provided by the facility:

Services to haulers ***Note: WRI is not open on Sat. and Sun. for use by non-Republic solid waste business and the public***	
Consolidation and transfer of waste	Putrescible waste: **Yes** (Mon. – Sun. 7:30 a.m. to 5 p.m.).
	Mixed-dry waste: **Ye**s (Mon. – Fri. 7:30 a.m. to 5 p.m.)
	Residential food scraps: **Yes** (Mon. – Fri. 7:30 a.m. to 5 p.m.)
	Residential recyclables: **Yes** (Mon. – Fri. 7:30 a.m. to 5 p.m.)
	Commercial recyclables: **Yes** (Mon. – Fri 7:30 a.m. to 5 p.m.)
	Commercial organics: **Yes** (Mon. – Sun. 7:30 a.m. to 5 p.m.)
CNG filling stations	No
Services to public	
Self-haul/Bulky waste	No
Recycling drop-off	**Yes** (Mon. – Sun. 7:30 a.m. to 5 p.m.)
HHW collection events	No
Post-collection recovery	**Yes**

Tonnage amounts

Metro granted a tonnage authorization to the facility in the amount of 77,435 tons of in-district wet waste in calendar year 2017. The facility's realized total wet tonnage that year was about 75,116 tons, all of which applied to its authorized limit as all tons were received from in-district sources. The remaining balance came from out-of-district sources. The table below provides actual inbound and outbound tonnage to the facility over the last few years.

	Inbound						Outbound		
	From in-district*		From other		Total	Avg	Total		Avg
CY	Tons	Loads	Tons	Loads	Accounts	Payload	Tons	Loads	Payload
2014	70,557	11,182	---	---	7	6.3	71,918	2,841	25.3
2015	70,985	11,515	---	---	8	6.2	72,111	2,516	28.7
2016	74,734	12,450	---	---	7	6.0	76,743	2,834	27.1
2017	75,116	13,031	---	---	10	5.8	75,362	2,816	26.8

Note: *tonnage applies to franchise limit

Cost estimates

The facility's average revenue and disposal costs per ton were estimated at $100.54 and $81.29, respectively, using the inputs and assumptions documented below. The resulting facility operating costs (including G&A and profit) were estimated as the difference between these quantities, or $19.25 per ton.

Revenue ($/ton):	**$100.54**
Derivation:	
Fixed fee ($/load)[1]	$3.00
divided by: Average Load Size (tons/load)[2]	5.56
equals: Per Ton Fixed Fee ($/ton)	$0.54
plus: Tip Fee ($/ton)[3]	$100.00
equals: Avg. Revenue ($/ton)	$100.54
Disposal costs ($/ton)	**$81.29**
Derivation:	
Avg. Landfill tip fee ($/ton, calculated below)[4]	$34.00
plus: Avg. transport cost ($/ton, calculated below)[5]	$14.23
plus: SW Fees and taxes[6]	$33.06
o Metro: Regional System Fee ($/ton)	$18.48
o Metro: SW Excise Tax ($/ton)	$11.76
o Local: Host fee ($/ton)	$1.00
o State: DEQ fees ($/ton)	$1.82
equals: Disposal Costs ($/ton)	$81.29
Operating cost, G&A and profit ($/ton)	**$19.25**

Landfill tip and transport cost Detail	Coffin Butte	Riverbend	Weighted average
Landfill use (Tonnage share, %)[7]	99.9	0.1%	
Landfill tip fee ($/ton)[8]	$34.00	$35.77	$34.00
Transport cost to landfill ($/ton):	$14.23	$9.50	$14.23
Derivation:			
Round trip distance (miles)[9]	113	64.8	
divided by: Average speed (miles/hour)[10]	44	33	
equals: Transit time (hours)	2.7	2.0	
plus: Queuing and tipping time (hours)[11]	0.3	0.3	
equals: Total time per trip (hours)	3.0	2.3	
multiplied by: Operating cost ($/hour)[12]	$126	$121	
equals: Cost per load ($)	$380.81	$281.76	
divided by: Payload (tons)[13]	26.76	29.65	
equals: Transport cost ($/ton)	$14.23	$9.50	

Methodology, data source and assumption footnotes:

1. Facility-posted rates in CY 2017. May be called transaction fee, environmental charge, or similar.
2. Average size of incoming commercial loads of putrescible waste, in tons, observed in facility-reported CY 2017 transaction data.
3. Facility-posted rates in CY 2017. Also referred to as "gate" rates.
4. Tonnage-weighted average landfill tip fee.
5. Tonnage-weighted average transport costs.
6. Fees and tax rates shown were effective in CY 2017.
7. The percentage of the facility's wet waste tons transferred to each landfill in CY 2017.
8. Metro South/Central tip fees paid to these landfills in CY 2017.
9. Two times the Google Maps-derived distance from the facility to each landfill
10. Google Maps derived distance divided by Google Maps derived travel time, adjusted to reasonable transfer trailer highway speeds.
11. Times are based on those from Metro's Wet Waste Allocation Study (September 2008).
12. Uses $/hour costs from Metro's Wet Waste Allocation Study (September 2008), adjusted for approximate inflation through CY 2017. The inflation adjustment is 18.7 percent based on Metro's increase in its own transport costs since 2008.
13. Average payload, in tons, of the facility's outbound wet waste to each landfill in CY 2017.

APPENDIX A: METRO RESOLUTION NO. 16-4716 AND STAFF REPORT

BEFORE THE METRO COUNCIL

FOR THE PURPOSE OF ADOPTING A TRANSFER SYSTEM CONFIGURATION POLICY	)))	RESOLUTION NO. 16-4716 Introduced by Chief Operating Officer Martha Bennett in concurrence with Council President Tom Hughes

WHEREAS, Metro, as the solid waste system planning authority for the region, regulates solid waste facilities and disposal sites within the region and the disposal of solid waste generated in the region, pursuant to Metro's constitutional, statutory, and charter authority, consistent with the policies included in the Regional Solid Waste Management Plan, and as set forth in Metro Code Title V; and

WHEREAS, solid waste regulation, disposal, and planning are traditional local government functions within Metro's authority; and

WHEREAS, Metro owns and operates two transfer stations located in the Metro region, and

WHEREAS, Metro Code Chapter 5.01 requires a legislative grant of authority by Metro, through issuance of a solid waste franchise, before a private transfer station located in the region is allocated solid waste that would otherwise flow to a public transfer station; and

WHEREAS, the Chief Operating Officer has developed options regarding the configuration of the public and private transfer station system in the Metro region; and

WHEREAS, the Chief Operating Officer recommends, to ensure that the transfer system provides maximum public benefit, that Metro maintain the current configuration of public and private transfer stations and (1) allocate tonnage on a percentage basis to ensure flow to public stations; (2) limit the amount of putrescible solid waste any one private company may transfer; and (3) ensure transparency of rates; and

WHEREAS, the Metro Council finds that maintaining two public transfer stations and ensuring flow to those stations results in significant health and environmental public benefits because the public stations provide enhanced services, including longer hours, self-haul capacity, and acceptance of hazardous waste and recyclables; and

WHEREAS, the Metro Council finds that maintaining a consistent flow of solid waste to public transfer stations serves the public benefit of promoting innovative solid waste programs; for example, the Council has identified the recovery of food scraps as a priority policy and flow of solid waste to public transfer stations is key to the success of that policy; now therefore

BE IT RESOLVED that the Metro Council (1) adopts the Transfer System Configuration Policy, attached as Exhibit A; (2) directs the Chief Operating Officer to proceed with implementation of the Policy.

ADOPTED by the Metro Council this 21st day of July 2016.

Page 1 Resolution No. 16-4716

Tom Hughes, Council President

Approved as to Form:

Alison R. Kean, Metro Attorney

Page 2 Resolution No. 16-4716

Exhibit A:

Transfer System Configuration Policy:

1. **Tonnage Allocation based on Percentage**. Allocating putrescible waste tons on a percentage basis with a minimum percentage reserved for the public facilities will ensure that rising regional tonnage will increase all allocations proportionally. Conversely, if, for example, food waste collection or economic recession reduces wet waste regionally, then flow to **all** transfer stations will be reduced proportionally, and not just reduce flow to the public stations.
2. **Tonnage Allocation Appeals Process**. Emphasize predictability and transparency so that all operators can plan accordingly. Minimize ongoing tonnage allocation "negotiations" and try to prevent continually re-adjusting allocations. However, the collection and transfer system is dynamic, and it may be unreasonable to keep allocations fixed indefinitely. At a minimum, staff should seek to develop a consistent process and framework for adjusting allocations that could be adopted by Council as a matter of policy and the details implemented by the COO.
3. **Flexibility to Pursue Additional or New Services, or Technology.** Ensure that any changes to the transfer system can accommodate future decisions related to important new services with public benefits, such as organics recovery, or pursuing new technology, such as advanced materials recovery (AMR), or waste-to-energy.
4. **Small Business Opportunities**. Support smaller locally-based businesses remaining in the collection system and other small businesses that use the system.
5. **Promote Efficient Off-Route Travel**. For reduction of greenhouse gas and other public benefits, encourage haulers to minimize off-route travel (i.e., trip between collection route and transfer station or base yard).
6. **Improve Transparency about the Cost of Services Provided at the Public Stations**. Provide a separate accounting of the cost of various discrete public services provided at the public stations i.e., separate out the cost of services such as wet waste consolidation and transfer, dry waste recovery, self-haul, and organics consolidation and transfer to provide a more detailed and direct comparison of the cost of services offered at private stations.
7. **Rate Transparency at Private Stations**. Local government staff have stated they would benefit from additional transfer station rate transparency in their collection franchise rate review processes. A number of approaches are described in the implementation details.
8. **Wet Waste Generated in Region Should Utilize the Regional Transfer System.** In order to minimize inefficiencies, all landfill-bound waste should utilize the regions transfer system, or some alternative disposal system (Waste to Energy, Alternative Materials Recovery, etc.).

STAFF REPORT

IN CONSIDERATION OF RESOLUTION NO. 16-4716, FOR THE PURPOSE OF ADOPTING A TRANSFER SYSTEM CONFIGURATION POLICY

Date: July 21, 2016 Prepared by: Tim Collier X1913

BACKGROUND

The RSWMP and Resolution no. 06-3729 (adopting the Transfer Station Ownership study, aka Disposal System Planning "DSP1") state that Metro should continue to operate two public stations, but that policy direction did not elaborate to what degree, in what role, or with what footprint. At a work session on March 1, 2016, Metro Council confirmed that the transfer system should be managed to provide the following public benefits:

1. Protect people's health
2. Protect the environment
3. Maintain our commitment to the solid waste hierarchy as set forth in state law
4. Maintain a system that is flexible and adaptable to changing needs and circumstances
5. Ensure adequate and reliable services are available to all customers
6. Recognize prior and future public and private investment
7. Ensure sustainable finance
8. Minimize long-term life cycle cost of providing transfer services

The Metro Council also confirmed the role of the public stations as follows:

Metro should continue its public transfer station operations to achieve multiple objectives:

- Provide a rate benchmark for local government regulators of collection;
- Provide enhanced services, such as household hazardous waste collection,, long operating hours and days, enhanced employee benefits, etc.;
- Provide a public disposal option for any and all haulers (keeps level playing field for small businesses and the public, facilities open to all); and
- Provide flexibility to pursue new services or technologies, consistent with the waste management hierarchy.

At the work session, staff presented the following findings about the transfer system:

- Metro's public/private system works well: its basic functions, geographic locations of facilities and service responsibilities should be retained.
- There is adequate access to self-haul disposal and no need for substantial new service.
- For household hazardous waste, if additional service is desired (beyond what is being provided at MCS and MSS), additional mobile services, such as round-ups, are the preferred delivery method.
- The public/private putrescible waste tonnage split is currently about right to balance the following competing goals:
  - Minimizing off-route collection cost and related traffic and emissions impacts.

- Ensuring adequate private station throughput and tip fees to allow for continued operations at current service levels.
- Ensuring adequate public station throughput to allow the provision of enhanced public services at reasonable cost, and to provide the opportunity to pursue new, innovative solutions.

Guiding Principles for Transfer System Management Options
When considering management options for the transfer system, the following principles will shape how those options are developed:

1. Metro has the broad legal authority to require all waste to be delivered to its public transfer stations and may choose to allocate waste tonnage to private facilities to achieve desired regional outcomes and public benefits.
2. Metro will continue to move all solid waste to higher and better forms of management, as guided by the state waste management hierarchy, while also considering technical and economic feasibility.
3. During the 2017-2019 interim period, franchises should be viewed as transitional prior to full-term franchises (5 years) taking effect in 2020.
4. Metro will continue to utilize franchises to authorize in-region transfer stations, and non-system licenses to authorize haulers seeking to deliver solid waste to out-of-region non-system facilities.

The following staff proposals are for Council to consider to improve governance and operation of the Metro region transfer system. It is the culmination of a lengthy study of issues facing the transfer system by Metro staff and key stakeholders such as the Transfer System Task Force (consisting of representatives from each transfer station in the region), the Solid Waste Alternatives Advisory Committee, local government solid waste directors, and others. More specifically, it responds to questions and comments from Council members at a Work Session held on March 1, 2016 and additional feedback from stakeholders since that time.

The proposals seek to ensure that the transfer system provides maximum Public Benefits (as defined by the Metro Council) today and in the future. The key recommendations for the transfer system are as follows:

A. **Percentage Tonnage Allocation**: Allocations would be made on a pre-established *percentage* basis. Individual facility tonnage allocations would then be set on this percentage. That way tonnage allocations for each year will increase (or decrease) according to the change in total tons available.
   - A tonnage "floor" is recommended to ensure that public stations continue to provide the high quality service for which they are known. Staff proposes that a minimum of 40% of the region's putrescible waste be delivered to Metro transfer stations leaving up to 60% available for allocation to private transfer stations. (Figure 1 illustrates which portion of the region's waste is subject to allocation, i.e., approximately 690,000 putrescible tons in 2015).
   - Percentage allocations to private facilities would recognize private investment and provide greater certainty for future business planning.
   - Flexibility would be built in to respond to system changes, such as to accommodate new facilities, lower than anticipated deliveries, and shifting tons from one station to another.

B. **Small Business Opportunities.** To enable small, local business to thrive, Metro should limit to 40% the amount of putrescible waste that any single company can transfer.

C. **Rate Transparency**. Three options have been identified for Council consideration that would improve the transparency of tip fees at private putrescible waste transfer stations and to assist local government collection rate review.

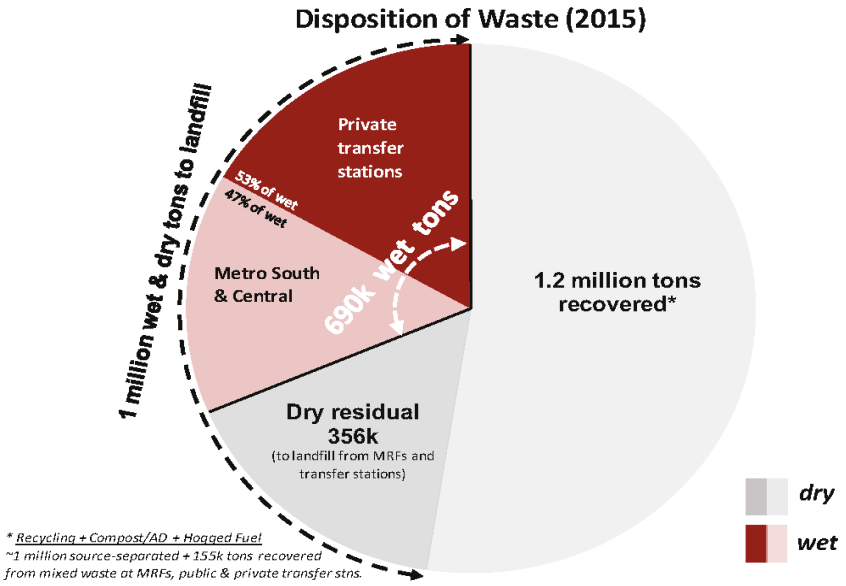


Figure 1. Disposition of Metro region waste in 2015. Metro authorized private transfer facilities to accept a little over half of the 690,000 tons of putrescible waste generated in the region.

Further detail on the specific policy proposals is provided below.

Policy Proposals:

1. **Tonnage Allocation based on Percentage**. Allocating putrescible waste tons on a percentage basis with a minimum percentage reserved for the public facilities will ensure that rising regional tonnage will increase all allocations proportionally. Conversely, if, for example, food waste collection or economic recession reduces putrescible waste regionally, then flow to **all** transfer stations will be reduced proportionally, and not just reduce flow to the public stations.
2. **Tonnage Allocation Appeals Process**. Emphasize predictability and transparency so that all operators can plan accordingly. Minimize ongoing tonnage allocation "negotiations" and try to prevent continually re-adjusting allocations. However, the collection and transfer system is dynamic, and it may be unreasonable to keep allocations fixed indefinitely. At a minimum, staff should seek to develop a consistent process and framework for adjusting allocations that could be adopted by Council as a matter of policy and the details implemented by the COO.
3. **Flexibility to Pursue Additional or New Services, or Technology.** Ensure that any changes to the transfer system can accommodate future decisions related to important new services with public benefits, such as organics recovery, or pursuing new technology, such as advanced materials recovery (AMR), or waste-to-energy.

4. **Small Business Opportunities**. Support smaller locally-based businesses remaining in the collection system and other small businesses that use the system.
5. **Promote Efficient Off-Route Travel**. For reduction of greenhouse gas and other public benefits, encourage haulers to minimize off-route travel (i.e., trip between collection route and transfer station or base yard).
6. **Improve Transparency about the Cost of Services Provided at the Public Stations**. Provide a separate accounting of the cost of various discrete public services provided at the public stations i.e., separate out the cost of services such as putrescible waste consolidation and transfer, dry waste recovery, self-haul, and organics consolidation and transfer to provide a more detailed and direct comparison of the cost of services offered at private stations.
7. **Rate Transparency at Private Stations**. Local government staff have stated they would benefit from additional transfer station rate transparency in their collection franchise rate review processes. A number of approaches are described in the implementation details.
8. **Putrescible Waste Generated in Region Should Utilize the Regional Transfer System.** In order to minimize inefficiencies, all landfill-bound waste should utilize the regions transfer system, or some alternative disposal system (Waste to Energy, Alternative Materials Recovery, etc.).

ANALYSIS/INFORMATION

1. **Known Opposition:** There is no known opposition to this resolution.

2. **Legal Antecedents:** Oregon Constitution, ORS Chapter 268, Metro Charter, Metro Code, Regional Solid Waste Management Plan

3. **Anticipated Effects:** Metro staff will initiate planning activities to address policy issues identified by the Council and move forward with rules to implement that policy direction.

4. **Budget Impacts:** The budget impacts in this resolution have been accounted for in the 2016-17 budget adopted by the Metro Council.

RECOMMENDED ACTION

The Chief Operating Officer recommends adoption of Resolution No. 16-4716.

APPENDIX B: METRO ORDINANCE NO. 18-1417

BEFORE THE METRO COUNCIL

FOR THE PURPOSE OF ADOPTING SOLID WASTE CHARGES AND USER FEES FOR FY 2018-19.	) ORDINANCE NO. 18-1417)) Introduced by Chief Operating Officer) Martha Bennett with the concurrence of) Council President Tom Hughes

WHEREAS, Metro Code Chapter 5.02 establishes charges for the acceptance of solid waste at Metro Central and Metro South transfer stations; and,

WHEREAS, Metro Code chapters 5.01 and 5.02 establish user fees on solid waste accepted at all disposal sites in the system; and,

WHEREAS, Metro Code Section 5.06.030 establishes a community enhancement fee in an amount not to exceed $1.00 on solid waste delivered to eligible solid waste facilities in the Metro region; and,

WHEREAS, Metro's costs for solid waste services and programs have changed; now therefore,

THE METRO COUNCIL ORDAINS AS FOLLOWS:

Section 1. Solid Waste Fees and Charges. The schedule of solid waste fees and charges attached hereto as Exhibit "A" is approved, and shall be implemented on the Effective Date of this ordinance.

Section 2. Effective Date. This ordinance shall become effective on July 1, 2018.

ADOPTED by the Metro Council this _____ day of ____, 2018.

Tom Hughes, Council President

Attest:

Approved as to Form:

Nellie Papsdorf, Recording Secretary

Alison R. Kean, Metro Attorney

Page 1 - Ordinance No. 18-1417

APPENDIX C: METRO LETTER TO LOCAL GOVERNMENTS, MARCH 23, 2017

Metro

600 NE Grand Ave.
Portland, OR 97232-2736
oregonmetro.gov

March 23, 2017

Dear Local Governments:

This letter, and the accompanying attachments, represent the first of potentially several actions to enhance the transparency of public and private solid waste tip fees and costs at transfer stations that accept waste generated from within the Metro region.

In July 2016, to improve overall system function, Metro Council adopted the Transfer System Configuration Policy and directed the Chief Operating Officer to proceed with its implementation (Resolution 16-4716). The resolution included a number of new policies related to the public-private system of transfer stations that serve the citizens of the Metro region. One of those policies seeks to improve rate transparency at all transfer stations. This new policy lays out a progressive set of options that Metro may take to provide local governments with better information for informing their solid waste collection rate setting. Additional options may be triggered based on the feedback and response to Metro from the local governments. The options identified in the resolution's staff report are listed below. These options may be triggered in sequence or together as needed:

- Option 1: Estimate the costs of service offered at the public stations, by waste stream. Publish these unit costs to provide a clear, cost-based benchmark for local governments' reference in rate setting.
- Option 2: Option 1 may not yield sufficient transparency and adequate information to understand the relationship between rates charged and costs. If Option 1 is determined to be inadequate, Metro will conduct an assessment of private wet waste transfer station costs to estimate the various components (*e.g.,* transfer, transport, and disposal) of each station's tip fee. To estimate these components, Metro may make site visits to observe typical operating practices and interview key operations staff, but will not typically access an operator's comprehensive financial records at a detailed level.
- Option 3: If Option 1 and 2 do not yield sufficient transparency and adequate information to understand the relationship between rates charged and costs, Metro will conduct a full detailed rate review at private waste transfer stations, including a detailed review of financial records, to determine costs relative to rates charged. Metro may employ an expert third party contractor to conduct such a review.

After implementing one or more options to improve transparency and provide useful information to local governments, if private tip fees appear to be substantially higher than costs can justify, staff may propose to the Metro Council guidelines to implement rate regulation. Metro has broad legal authority over solid waste, including authority to set rates[1] at private facilities.

[1] ORS 268.317(5) and Metro's Home Rule Charter authority.

1

The attached two tables represent Metro's estimate of its own costs of providing various specific services at Metro Central and Metro South transfer stations. Table 1 represents the unit costs for FY16-17 and Table 2 for FY17-18. This breakdown of costs is approximate because a number of assumptions were required to allocate Metro's indirect costs to the appropriate services. At the bottom of each table you will see the per ton tip fee, either the adopted, for FY 16-17, or the proposed for FY17-18. Metro uses a particular waste stream's cost to help establish the tip fee, however this may be adjusted to support or encourage certain Council policy or recovery goals. For example, the commercial organic (food waste) tip fee is less than its estimated unit cost to encourage participation in commercial organic recycling. The Metro rates for FY17-18 are scheduled to go to Council for first reading and public hearing on March 16 and for a vote on March 23.

We hope that you find this information a helpful guide when considering allowable costs for your haulers during rate setting but realize it may have limited use for local haulers that do not use Metro facilities. Metro recognizes that costs vary among the regional facilities, depending on services offered, hours of operation, staffing, throughput, and other factors. Metro welcomes your feedback on whether or not this step toward rate transparency results in rates "sufficiently transparent to allow regulators to judge whether such charges are fair, acceptable, and reasonably related to the costs of services received," as specified in the Regional Solid Waste Management Plan. Metro Council will determine if further options are necessary, based upon feedback from your jurisdiction.

Sincerely,

Tim Collier
Director of Finance

Paul Slyman
Director of Property and Environmental Services

KS/TC/PS:bjl
Attachments

Estimated Unit Costs at Metro Transfer Stations*

Based On FY16-17 Tonnage Forecast and Contract Pricing

Description	Wet Mixed Solid Waste	Dry Mixed Solid Waste **	MSW Blended Rate	Clean Wood	Yard Debris	Residential Organics	Commercial Organics
Tons:	329,513	184,446	513,959	1,358	14,065	54,091	15,564
Transaction Fee (Per Load)							
Staffed Scalehouse Equivalent	$ 10.31	$ 10.31	$ 10.31	$ 10.31	$ 10.31	$ 10.31	$ 10.31
Automated Scalehouse Equivalent	$ 2.02	$ 2.02	$ 2.02	$ 2.02	$ 2.02	$ 2.02	$ 2.02
Tip Fee							
Tip Fee Components:							
Tonnage Charge Equivalent	$ 57.87	$ 72.66	$ 63.18	$ 65.51	$ 47.79	$ 63.62	$ 69.85
Covers the cost of Metro's disposal and recovery operations.							
Tonnage Charge Components (Per Ton):							
Fuels - Waste Transport	$5.50	$5.20	$5.39	$0.00	$0.00	$0.00	$0.00
Disposal Fees - Landfill	$18.20	$17.18	$17.83	$0.00	$0.00	$0.00	$0.00
Waste Transport	$18.72	$17.68	$18.35	$0.00	$0.00	$0.00	$0.00
Transfer Station Operations	$10.46	$26.43	$16.19	$62.29	$45.25	$7.43	$10.28
Organics Processing Fees	$0.00	$0.00	$0.00	$0.00	$0.00	$53.05	$56.18
General & Administrative Cost	$4.99	$6.17	$5.41	$3.22	$2.54	$3.15	$3.39
Fees and Taxes							
Add-on and pass-through charges.							
Regional System Fee	$ 18.49	$ 18.49	$ 18.49	$ -	$ -	$ -	$ -
Covers costs of regional solid waste programs and services.							
Metro Excise Tax	$ 11.76	$ 11.76	$ 11.76	$ -	$ -	$ -	$ -
Contributes toward Metro general government revenue.							
DEQ Fees	$ 1.82	$ 1.82	$ 1.82	$ -	$ -	$ -	$ -
Fees collected on behalf of DEQ.							
Enhancement Fee	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.00
Fee collected on behalf of host communities.							
Total Tip Fee (Per Ton):	$ 90.94	$ 105.73	$ 96.24	$ 66.51	$ 48.79	$ 64.62	$ 70.85
Adopted Tip Fee (Per Ton):	$ 96.25	$ 48.78	$ 48.78	$ 64.61	$ 66.23		
Adopted Transaction Fee (Per Staffed Load):	$ 10.00	$ 10.00	$ 10.00	$ 10.00	$ 10.00		
Adopted Transaction Fee (Per Auto Load):	$ 2.00	$ 2.00	$ 2.00	$ 2.00	$ 2.00		

Explanation and Notes on the Table

Disposal Charges: Per Metro Code 5.02.040 Metro charges the same tip fee for loads of mixed waste, whether wet or dry, at both Metro transfer stations.

Adopted Tip Fee: Metro uses a particular waste stream's cost to help establish the tip fee, however this may be adjusted to support or encourage certain Council policy or recovery goals.

Transaction Fees: Users of staffed scales pay the higher fee; users of automated scales pay the lower fee.

Disposal and recovery operations: Include transfer station operations, recovery, oversight, management, maintenance, and capital costs; and the cost of transport, organics processing, and waste disposal.

Regional programs and services: Revenue from the Regional System Fee is dedicated to Metro's regional solid waste programs and services: household hazardous waste, latex paint recovery, waste reduction planning and programs (including waste reduction education), St. Johns Landfill post-closure activities, solid waste facility regulation, and illegal dumpsite monitoring and cleanup. The Regional System Fee is charged on solid waste generated in the region and ultimately disposed. The fee is collected at all landfills and waste-to-energy serving the region, and the Metro stations. Revenue from this fee does not cover any of Metro's direct costs for disposal, transport, and processing operations.

Metro general government. The excise tax is a source of revenue for Metro's general government activities including the Metro Council. Excise taxes are levied on Metro's enterprise activities (including the Oregon Convention Center, Expo, Metro parks, and other activities), and solid waste disposal. As with the Regional System Fee, the solid waste excise tax is charged on solid waste generated in the region and ultimately disposed. It is collected at the same disposal sites as the Regional System Fee.

* The breakdown of cost is approximate because a number of assumptions are required to allocate Metro's indirect costs to the appropriate services.
** Dry Mixed tip fee equivalent includes the costs for handling commercial and self-haul customers.

3/23/2017

Estimated Unit Costs at Metro Transfer Stations*

Based On FY17-18 Tonnage Forecast and Contract Pricing

Description	Wet Mixed Solid Waste	Dry Mixed Solid Waste **	MSW Blended Rate	Clean Wood	Yard Debris	Residential Organics	Commercial Organics
Tons:	353,127	191,930	545,056	1,503	13,225	55,187	16,200
Transaction Fee (Per Load)							
Staffed Scalehouse Equivalent	$ 10.44	$ 10.44	$ 10.44	$ 10.44	$ 10.44	$ 10.44	$ 10.44
Automated Scalehouse Equivalent	$ 2.10	$ 2.10	$ 2.10	$ 2.10	$ 2.10	$ 2.10	$ 2.10
Tip Fee							
Tip Fee Components:							
Tonnage Charge Equivalent	$ 57.85	$ 73.03	$ 63.20	$ 65.21	$ 48.69	$ 65.67	$ 71.63
Covers the cost of Metro's disposal and recovery operations.							
Tonnage Charge Components (Per Ton):							
Fuels - Waste Transport	$4.48	$4.25	$4.40	$0.00	$0.00	$0.00	$0.00
Disposal Fees - Landfill	$17.66	$16.75	$17.34	$0.00	$0.00	$0.00	$0.00
Waste Transport	$19.34	$18.34	$18.99	$0.00	$0.00	$0.00	$0.00
Transfer Station Operations	$9.69	$25.75	$15.34	$61.61	$45.83	$7.36	$10.08
Organics Processing Fees	$0.00	$0.00	$0.00	$0.00	$0.00	$54.59	$57.66
General & Administrative Cost	$6.69	$7.95	$7.13	$3.60	$2.86	$3.72	$3.89
Fees and Taxes							
Add-on and pass-through charges.							
Regional System Fee	$ 18.12	$ 18.12	$ 18.12	$ -	$ -	$ -	$ -
Covers costs of regional solid waste programs and services.							
Metro Excise Tax	$ 10.81	$ 10.81	$ 10.81	$ -	$ -	$ -	$ -
Contributes toward Metro general government revenue.							
DEQ Fees	$ 1.82	$ 1.82	$ 1.82	$ -	$ -	$ -	$ -
Fees collected on behalf of DEQ.							
Enhancement Fee	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.00
Fee collected on behalf of host communities.							
Total Tip Fee (Per Ton):	$ 89.60	$ 104.78	$ 94.95	$ 66.21	$ 49.69	$ 66.67	$ 72.63
Proposed Tip Fee (Per Ton):			$ 94.95	$ 49.69	$ 49.69	$ 66.67	$ 66.23
Proposed Transaction Fee (Per Staffed Load):			$ 10.00	$ 10.00	$ 10.00	$ 10.00	$ 10.00
Proposed Transaction Fee (Per Auto Load):			$ 2.00	$ 2.00	$ 2.00	$ 2.00	$ 2.00

Explanation and Notes on the Table

Disposal Charges: Per Metro Code 5.02.040 Metro charges the same tip fee for loads of mixed waste, whether wet or dry, at both Metro transfer stations.

Adopted Tip Fee: Metro uses a particular waste stream's cost to help establish the tip fee, however this may be adjusted to support or encourage certain Council policy or recovery goals.

Transaction Fees: Users of staffed scales pay the higher fee; users of automated scales pay the lower fee.

Disposal and recovery operations: Include transfer station operations, recovery, oversight, management, maintenance, and capital costs; and the cost of transport, organics processing, and waste disposal.

Regional programs and services: Revenue from the Regional System Fee is dedicated to Metro's regional solid waste programs and services: household hazardous waste, latex paint recovery, waste reduction planning and programs (including waste reduction education), St. Johns Landfill post-closure activities, solid waste facility regulation, and illegal dumpsite monitoring and cleanup. The Regional System Fee is charged on solid waste generated in the region and ultimately disposed. The fee is collected at all landfills and waste-to-energy serving the region, and the Metro stations. Revenue from this fee does not cover any of Metro's direct costs for disposal, transport, and processing operations.

Metro general government. The excise tax is a source of revenue for Metro's general government activities including the Metro Council. Excise taxes are levied on Metro's enterprise activities (including the Oregon Convention Center, Expo, Metro parks, and other activities), and solid waste disposal. As with the Regional System Fee, the solid waste excise tax is charged on solid waste generated in the region and ultimately disposed. It is collected at the same disposal sites as the Regional System Fee.

* The breakdown of cost is approximate because a number of assumptions are required to allocate Metro's indirect costs to the appropriate services.
** Dry Mixed tip fee equivalent includes the costs for handling commercial and self-haul customers.

3/23/2017

APPENDIX D: OVERVIEW OF METRO CENTRAL AND METRO SOUTH TRANSFER STATIONS

Introduction

Metro Central and Metro South Transfer Stations provided a wide range of services to a combined total of more than 340,000 customers in 2017. The average load size at Metro Central (MCS) and Metro South Transfer Stations (MSS) is half the size of the average load received at private stations because these publicly owned facilities serve more small vehicles that have to be manually unloaded (self-haul). MSS and MSC's increase in self-haul clientele is expected to substantially increase the per-ton cost of transferring wet waste at its stations.[8] Metro South and Central both perform recovery on incoming loads, are open seven days a week for all private commercial haulers and self-haul customers. The publicly owned station's service to small local firms is expected to help these firms compete against national firms on a relatively level playing field.[9] A profile of operational attributes and the cost estimates for Metro Central and Metro South Transfer Stations are presented on the following pages.

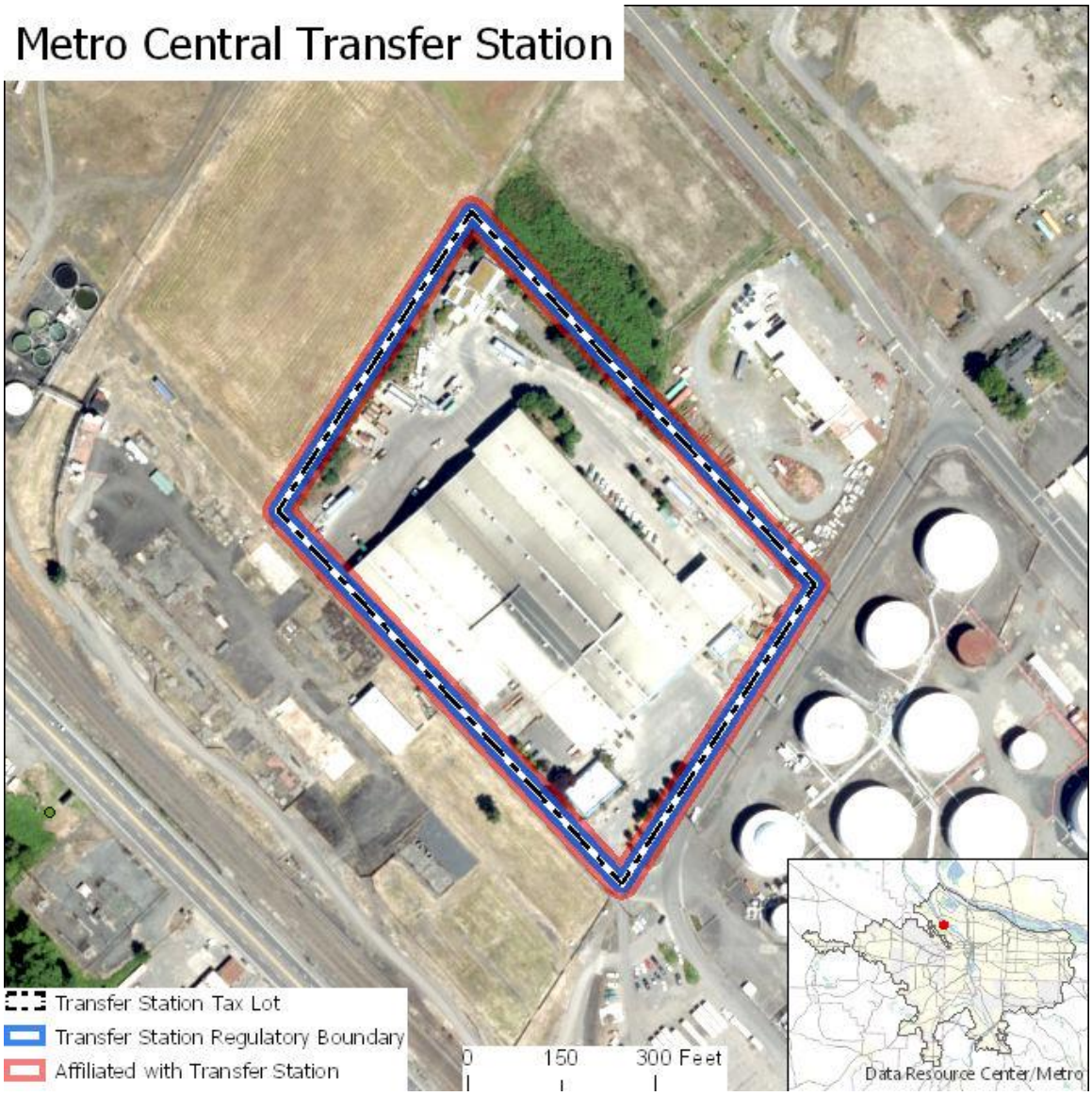
[8] Metro Transfer Station Configuration Economics 2015, CH2M.
[9] Ibid.

Metro Central

6161 NW 61st Avenue, Portland

Overview

Metro Central began transfer station operations in 1991. Metro Central currently operates as a full service transfer station. Currently, Metro Central regularly recovers materials from dry waste and performs limited recovery on wet waste, depending on the quality of the materials. Residual wet and dry waste are transported to Columbia Ridge Landfill for disposal. Recology is the current contracted operator. Metro operates the scalehouses and adjoining HHW facility.



Land and buildings

This transfer station is the region's largest solid waste facility with more than 180,000 square feet of tipping area under its roof. The site is 10.4 acres. The site is owned by Metro which does not pay property taxes on this site. There is currently an effort to replace this site's three compactors and improve the appearance of the site. The operating contracts are up for renewal within five years.

Equipment

The facility has five scales. Four of the scales are attached to scalehouses. The facility also has three compactors and one sorting line for mixed dry waste recovery. Heavy construction vehicles (known as "yellow stock") are not included in this report.

Labor

Approximately 51 FTE are employed in the operation of the transfer station (47 Recology, Inc. employees engaged in contracted transfer station operations, and 4 Metro scalehouse and supervisory employees). These estimates do not include the adjoining HHW facility staff, whose costs are assessed on garbage received at all seven transfer stations through Metro's Regional System fee, and not on this facility's tonnage charge.

Services and hours of operation

The following table summarizes the services provided by the facility:

Services to haulers	
Consolidation and transfer of waste	Putrescible waste: **Yes** (Mon. – Sat. 2 a.m. to 5 p.m., Sun. 8 a.m. to 5 p.m.)
	Mixed-dry waste: **Yes** (Mon. – Sat. 2 a.m. to 5 p.m., Sun. 8 a.m. to 5 p.m.)
	Residential food scraps: **Yes** (Mon. – Sat. 2 a.m. to 5 p.m., Sun. 8 a.m. to 5 p.m.)
	Residential recyclables: **Yes** (Mon. – Sat. 2 a.m. to 5 p.m., Sun. 8 a.m. to 5 p.m.)
	Commercial recyclables: **Yes** (Mon. – Sat. 2 a.m. to 5 p.m., Sun. 8 a.m. to 5 p.m.)
	Commercial organics: **Yes** (Mon. – Sat. 2 a.m. to 5 p.m., Sun. 8 a.m. to 5 p.m.)
CNG filling stations	No
Services to public	
Self-haul/Bulky waste	**Yes** (7 days per week 8 a.m. to 5 p.m.)
Recycling drop-off	**Yes** (7 days per week 8 a.m. to 5 p.m.)
HHW collection events	**Yes** (Permanent HHW service, Mon. – Sat. 9 a.m. to 4 p.m.)
Post-collection recovery	**Yes**

Tonnage Amounts

The facility's realized total MSW tonnage in 2017 was 241,937 tons. The table below provides actual inbound and outbound tonnage to the facility over the last few years.

	Inbound*						Outbound		
	From in-district**		From other		Total	Avg	Total		Avg
CY	Tons	Loads	Tons	Loads	Accounts	Payload	Tons	Loads	Payload
2014	209,333	111,994	---	---	272	1.9	192,971	5,656	34.1
2015	223,016	118,964	---	---	272	1.9	206,718	6,056	34.1
2016	244,232	124,546	---	---	257	1.9	233,321	6,885	33.9
2017	241,937	127,923	---	---	243	1.9	232,735	6,979	33.3

Notes: *Data is for all MSW loads, since Metro does not assess separate wet and dry tonnage charges; **Metro does not distinguish between in vs. out of district loads

Cost Estimates

The facility's average revenue and disposal costs per ton were estimated at $100.00 and $74.84, respectively, using the inputs and assumptions documented below. The resulting facility operating costs (including G&A and profit) were estimated as the difference between these quantities, or $25.17 per ton.

Revenue ($/ton):	**$100.00**
Derivation:	
Fixed fee ($/load)[1]	$7.09
divided by: Average Load Size (tons/load)[2]	1.89
equals: Per Ton Fixed Fee ($/ton)	$3.75
plus: Tip Fee ($/ton)[3]	$96.25
equals: Avg. Revenue ($/ton)	$100.00
Disposal costs ($/ton)	**$74.84**
Derivation:	
Avg. Landfill tip fee ($/ton, calculated below)[4]	$18.74
plus: Avg. transport cost ($/ton, calculated below)[5]	$23.04
plus: SW Fees and taxes[6]	$33.06
o Metro: Regional System Fee ($/ton)	$18.48
o Metro: SW Excise Tax ($/ton)	$11.76
o Local: Host fee ($/ton)	$1.00
o State: DEQ fees ($/ton)	$1.82
equals: Disposal costs ($/ton)	$74.84
Operating cost, G&A and profit* ($/ton)	**$25.17**

*In this case, profit refers to the fixed percentage of profit guaranteed to the private contractors in their contract to operate the publicly owned Metro facilities.

Landfill tip and transport cost detail	Coffin Butte	Col. Ridge	Cowlitz	River-bend	Weighted average
Landfill use (Tonnage share, %)[7]	0.0%	97.4%	1.9%	0.7%	
Landfill tip fee ($/ton)[8]	$34.00	$18.45	$27.00	$35.77	$18.74
Transport cost to landfill ($/ton):	$12.68	$23.39	$9.91	$9.65	$23.04
Derivation:					
Round trip distance (miles)[9]	156	305	125	94	
divided by: Average speed (miles/hour)[10]	52	55	55	40	
equals: Transit time (hours)	3.0	5.5	2.3	2.4	
plus: Queuing and tipping time (hours)[11]	0.3	1.0	0.3	0.3	
equals: Total time per trip (hours)	3.3	6.5	2.6	2.7	
multiplied by: Operating cost ($/hour)[12]	$126	$119	$126	$121	
equals: Cost per load ($)	$420.99	$779.89	$329.14	$324.88	
divided by: Payload (tons)[13]	33.2	33.3	33.2	33.7	
equals: Transport cost ($/ton)	$12.68	$23.39	$9.91	$9.65	

Methodology, Data Source and Assumption Footnotes:

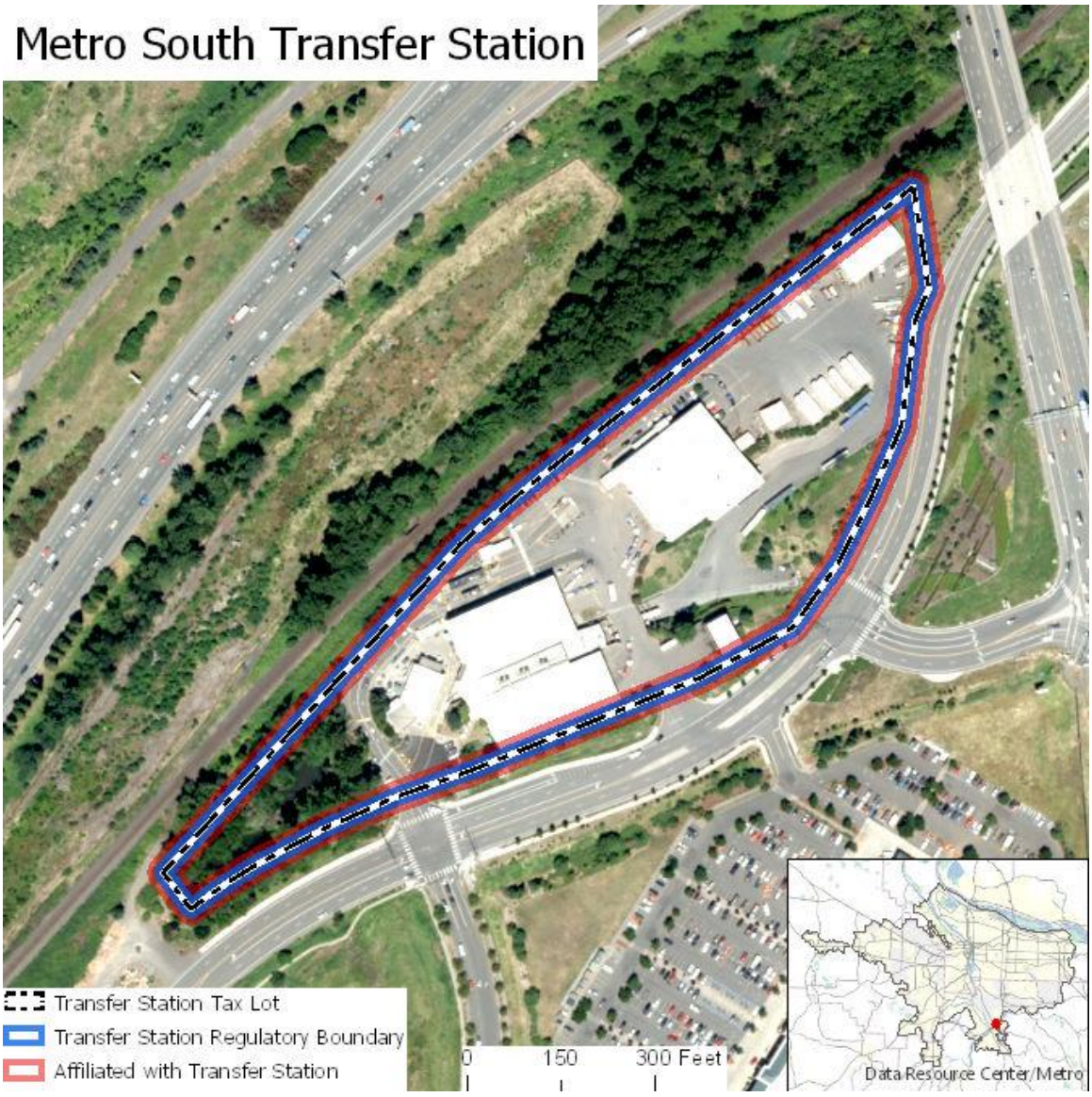
1. Load-weighted average of automated scale ($2/load) and staffed scale ($10/load) transaction fees at facility for CY 2017
2. Average size of incoming MSW loads, in tons, observed in facility-reported CY 2017 transaction data.
3. Facility-posted rates in CY 2017. Also referred to as "gate" rates.
4. Tonnage-weighted average landfill tip fee.
5. Tonnage-weighted average transport costs.
6. Fees and tax rates shown were effective in CY 2017.
7. The percentage of the facility's wet waste tons transferred to each landfill in CY 2017.
8. Actual average per-ton rates paid to landfills in CY 2017.
9. Two times the Google Maps-derived distance from the facility to each landfill.
10. Google Maps derived distance divided by Google Maps derived travel time, adjusted to reasonable transfer trailer highway speeds.
11. Times are based on those from Metro's Wet Waste Allocation Study (September 2008).
12. Transport costs are based on the per hour fuel and hauling expenses modeled in Metro's Wet Waste Allocation Study (September 2008), adjusted for approximate inflation through CY 2017. The inflation adjustment is 18.7 percent, based on Metro's increase in its own transport costs since 2008.
13. Average payload, in tons, of the facility's outbound wet waste to each landfill in CY 2017.

Metro South

2001 Washington St., Oregon City

Overview

Metro South opened originally as the publicly owned Clackamas Transfer and Recycling Center in 1983. Metro South performs post-collection recovery on its incoming mixed-dry waste and transfers all residual dry waste, along with wet waste, to Columbia Ridge Landfill in Gilliam County. The current contracted operator of the facility is Republic Services, which, along with its subsidiaries, also provides franchised collection services and operates disposal sites. Metro South is not affiliated with any hauling or landfill operation. Metro operates the scalehouses and adjoining HHW facility.



Land and buildings

This transfer station's two primary structures span a combined total of 56,000 square feet on an approximately 9.6 acre site. The site is owned by Metro which does not pay property taxes on this site. This facility will replace two compactors and improve the appearance of the site.

Equipment

The facility has five scales, four of which are attached to scalehouses. This facility also has two compactors and one sorting line for mixed dry waste recovery. Heavy construction vehicles (known as "yellow stock") are not included in this report.

Labor

Approximately 49 FTE are employed in the operation of the transfer station (42 Republic employees engaged in contracted transfer station operations, and 8 Metro scalehouse and supervisory employees). These estimates do not include the adjoining HHW facility staff, whose costs are assessed on garbage received at all seven transfer stations through Metro's Regional System fee, and not on this facility's tonnage charge.

Services and hours of operation

The following table summarizes the services provided by the facility.

Services to haulers	
Consolidation and transfer of waste	Putrescible waste: **Yes** (Spring/Summer: Mon. – Sat. 3 a.m. to 7 p.m., Sun. 7 a.m. to 7 p.m. Fall/Winter: Mon. – Sat. 3 a.m. to 6 p.m., Sun. 7 a.m. to 6 p.m.)
	Mixed-dry waste: **Yes** (Spring/Summer: Mon. – Sat. 3 a.m. to 7 p.m., Sun. 7 a.m. to 7 p.m. Fall/Winter: Mon. – Sat. 3 a.m. to 6 p.m., Sun. 7 a.m. to 6 p.m.)
	Residential food scraps: **Yes** (Spring/Summer: Mon. – Sat. 3 a.m. to 7 p.m., Sun. 7 a.m. to 7 p.m. Fall/Winter: Mon. – Sat. 3 a.m. to 6 p.m., Sun. 7 a.m. to 6 p.m.)
	Residential recyclables: **Yes** (Spring/Summer: Mon. – Sat. 3 a.m. to 7 p.m., Sun. 7 a.m. to 7 p.m. Fall/Winter: Mon. – Sat. 3 a.m. to 6 p.m., Sun. 7 a.m. to 6 p.m.)
	Commercial recyclables: No
	Commercial organics: No
CNG filling stations	No
Services to public	
Self-haul/Bulky waste	**Yes** (Spring/Summer: 7 days a week 7 a.m. to 7 p.m. Fall/Winter: 7 days a week 7 a.m. to 6 p.m.)
Recycling drop-off	**Yes** (Spring/Summer: 7 days a week 7 a.m. to 7 p.m. Fall/Winter: 7 days a week 7 a.m. to 6 p.m.)
HHW collection events	**Yes** (Permanent HHW service, Mon. – Sat. 9 a.m. to 4 p.m.)
Post-collection recovery	**Yes**

Tonnage Amounts

The facility's inbound total MSW tonnage in 2017 was about 282,874. The table below provides actual inbound and outbound tonnage to the facility over the last few years.

	Inbound*						Outbound		
	From in-district**		From other		Total	Avg	Total		Avg
CY	Tons	Loads	Tons	Loads	Accounts	Payload	Tons**	Loads	Payload
2014	239,109	177,726	---	---	416	1.3	227,992	6,723	33.9
2015	262,987	196,462	---	---	423	1.3	250,496	7,352	34.1
2016	275,414	216,598	---	---	433	1.3	265,932	7,821	34.0
2017	282,874	220,660	---	---	437	1.3	271,395	8,045	33.7

Notes: *Data is for all MSW loads, since Metro does not assess separate wet and dry tonnage charges; **Metro does not distinguish between in vs. out of district loads

Cost Estimates

The facility's average revenue and disposal costs per ton were estimated at $102.91 and $74.89, respectively, using the inputs and assumptions documented below. The resulting facility operating costs (including G&A and profit) were estimated as the difference between these quantities, or $28.02 per ton.

Revenue ($/ton):	**$102.91**
Derivation:	
Fixed fee ($/load)[1]	$8.53
divided by: Average Load Size (tons/load)[2]	1.28
equals: Per Ton Fixed Fee ($/ton)	$6.66
plus: Tip Fee ($/ton)[3]	$96.25
equals: Avg. Revenue ($/ton)	$102.91
Disposal costs ($/ton)	**$74.89**
Derivation:	
Avg. Landfill tip fee ($/ton, calculated below)[4]	$18.93
plus: Avg. transport cost ($/ton, calculated below)[5]	$22.91
plus: SW Fees and taxes[6]	$33.06
o Metro: Regional System Fee ($/ton)	$18.48
o Metro: SW Excise Tax ($/ton)	$11.76
o Local: Host fee ($/ton)	$1.00
o State: DEQ fees ($/ton)	$1.82
equals: Disposal costs ($/ton)	$74.89
Operating cost, G&A and profit* ($/ton)	**$28.02**

*In this case, profit refers to the fixed percentage of profit guaranteed to the private contractors in their contract to operate the publicly owned Metro facilities.

Landfill tip and transport cost detail	Coffin Butte	Col. Ridge	Cowlitz	River bend	Weighted average
Landfill use (Tonnage share, %)[7]	2.1%	97.0%	0.0%	0.8%	
Landfill tip fee ($/ton)[8]	$34.00	$18.45	$27.00	$35.77	$18.93
Transport cost to landfill ($/ton):	$11.39	$23.37	$10.99	$10.12	$22.91
Derivation:					
Round trip distance (miles)[9]	140	308	145	97	
divided by: Average speed (miles/hour)[10]	52	55	55	48	
equals: Transit time (hours)	2.7	5.6	2.6	2.0	
plus: Queuing and tipping time (hours)[11]	0.3	1.0	0.3	0.3	
equals: Total time per trip (hours)	3.0	6.6	3.0	2.4	
multiplied by: Operating cost ($/hour)[12]	$126	$119	$126	$121	
equals: Cost per load ($)	$382.13	$786.39	$375.06	$285.03	
divided by: Payload (tons)[13]	33.56	33.8	34.1	28.2	
equals: Transport cost ($/ton)	$11.39	$23.27	$10.99	$10.12	

Methodology, Data Source and Assumption Footnotes:

1. Load-weighted average of automated scale ($2/load) and staffed scale ($10/load) transaction fees at facility for CY 2017
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13. Average payload, in tons, of the facility's outbound wet waste to each landfill in CY 2017.