



# Chapter 3

## Operational Efficiencies and Impacts from Traffic and Self-Haul

### 3.1 Introduction

As part of completing the Regional Study, the County wishes to evaluate the current collection services and transfer station system to assess overall efficiencies and impacts that self-haul traffic has at the transfer stations. The number of self-haul and cash customers using the transfer station system has increased to a point where capital investments are necessary to properly manage both the traffic and the additional waste received. This is a key issue particularly at CTR, where self-haul traffic exceeds 800 vehicles per day on weekend days.

This chapter discusses the current collection services and related policies and practices that pertain to the current level of services. The assessment examines policy options or changes to services that may positively influence the effective use of resources and facilities.

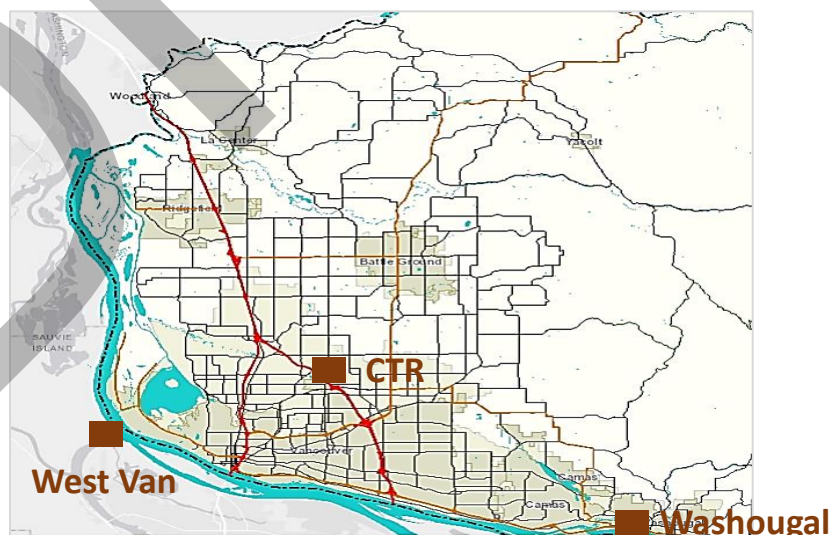
### 3.2 Current Services and Transfer Station Operations

#### 3.2.1 – Background

Clark County and its incorporated cities currently offer a wide range of garbage and recycling collection services through a contract with WCW, a private waste management company. The City of Camas provides waste collection to its residential and commercial customers. WCW also owns and operates three transfer stations and one MRF in Clark County. These facilities are operated under an agreement between Clark County and CRC, a wholly owned subsidiary of WCW.

A map of the facility locations in the County is shown below in Figure 3.1 .

**Figure 3.1: Map of Clark County Recycling and Transfer Stations**





All three facilities accept waste from private commercial haulers, route collection trucks, and public (including commercial) self-haulers. Two of the facilities, CTR and West Van, use preload compactors to transfer waste into intermodal containers. The containers are transported by semi-tractor to the Tidewater barge terminal west of the Port of Vancouver. Tidewater transports the containers up the Columbia River to the Finley Buttes Landfill near Boardman, Oregon. Waste from the Washougal Transfer Station is transported via semi-tractor-trailer to the Wasco County Landfill near The Dalles, Oregon. Both Finley Buttes and Wasco County landfills are owned and operated by Waste Connections.

### 3.2.2 – Existing Collection Services

The transfer stations provide a convenient location for residents and businesses, including those that elect not to subscribe to readily available and affordable garbage or recyclable collection services, to dispose of waste and/or recycled materials. Although Waste Connections provides the collection of yard debris and bulky waste items, many households and businesses choose to haul their waste to the transfer stations. Self-haul and cash customers that do not have a preapproved account deliver waste using a variety of vehicles, including cars, pickups, and vehicles with trailers. Bulky items include used furniture, appliances, tires, and mattresses. Table 3.1 provides a high-level summary of residential service offerings throughout the County.

**Table 3.1: Residential Collection Services Matrix**

Jurisdiction	Service Provider	Garbage Mandatory		Recycling Services		Yard Debris / Organics Service		Bulky Item Service	
		Yes	No	Bundled	Subscription	Bundled	Subscription	Bundled	On- Call Fee
Vancouver	WCW	X		X <sup>1</sup>			X		X
Camas	City - garbage, WCW - recycling and YW	X			X <sup>1,2</sup>		X		X
Washougal	WCW	X		X <sup>1</sup>			X		X
Ridgefield	WCW	X			X		X		X
La Center	WCW		X	X <sup>1</sup>			X		X
Woodland vicinity (NW Clark County)	Waste Control		X		X		X		X
Urban Growth Boundary (Battleground and Yacolt)	WCW		X		X <sup>2,3</sup>		X		X
Rural	WCW		X		X	Not available			X

<sup>1</sup> A separate fee is charged for recyclable material processing.

<sup>2</sup> Garbage and recycling are included in the base services, but the rates are not bundled.

<sup>3</sup> Recycling collection is mandated within the Clark County urban growth boundary for customers with weekly waste collection service or greater.

Collection services offered by WCW, under contract with the cities, provide access for residents and businesses to manage waste and recyclable materials effectively. In the cities of Vancouver,



Camas, La Center, Washougal, and Ridgefield, collection services are universal, meaning all residences and businesses must subscribe to the service. Recyclables services are bundled or included with solid waste collection services in Vancouver, Washougal, and La Center. Throughout the unincorporated county and in the Cities of Battleground and La Center as well as the Town of Yacolt, waste collection services are voluntary, or subscription based. However, if a resident receives waste collection service weekly or more often, recycling is mandated for customers within the urban growth area.

For the unincorporated portions of the County, the monthly rate for garbage service, regulated by the Washington Utilities and Transportation Commission (UTC), is \$13.68 for a 32-gallon can and \$19.93 for 64-gallons (two 32-gallon cans) for weekly pickup. Weekly collection of recyclables adds another \$7.85 per month to the cost of collection service. A full listing of waste, recycling, and yard debris collection rates are detailed on the local WCW website: <https://wcnorthwest.com/residential-rates>.

In contrast, yard waste collection services are offered on a subscription basis throughout the County, except in rural areas. Table 3.2 on the next page provides a list of yard waste collection services and rates currently offered by WCW.

**Table 3.2: Voluntary Subscription Services — Yard Waste Service**

Jurisdiction	Service Provider	Yard Waste / Organic Service	
		Monthly Charge	Optional or On-Call Service
Vancouver	Waste Connections (WCW)	\$7.80 96 gal	Every other week optional service. Other service levels available. \$6.75 per 64-gallon, \$5.70 32-gallon, \$4.65 20-gallon.
Camas <sup>1</sup>	City — garbage, WCW — recycling and yard debris	\$8.24 96 gal	Every other week optional service March – December. No on-call service. \$2.92 per extra pickup.
Washougal <sup>2</sup>	WCW	\$7.70 96 gal	Every other week optional service March – December. No on-call service. \$2.70 per extra pickup.
Ridgefield	WCW	\$8.80 96 gal	Every other week optional service. No on-call service. \$3.52 per extra pickup.
La Center	WCW		
Woodland vicinity (NW Clark County)	WCW		
Other Urban	WCW	\$6.84	Every other week optional service. Or on-call \$1.48 per month cart rental fee and \$4.91 for each pickup. \$2.86 per extra pickup
Rural	WCW		N/A

<sup>1</sup> Price For 10 Months: \$78.42 if prepaid  
<sup>2</sup> Price For 10 Months: \$73.35 if prepaid

Similarly, on-call bulky-item collection service is on a voluntary basis throughout the County and residents typically must pre-schedule the service on designated days of the month.



Table 3.3 on the next page summarizes on-call collection services and fees offered for bulky waste (i.e., appliances and bulky items).

Besides the transfer stations and voluntary subscription services for yard waste, residents and businesses can utilize other privately owned facilities throughout the County to discard and divert their materials. Examples of such facilities include but are not limited to:

1. H&H Wood Recyclers
2. McFarlane's Bark
3. Triangle Resources
4. City Bark

These facilities typically charge prices competitive with transfer station pricing.



**Table 3.3: On-Call Services — Bulky Item**

Jurisdiction	Service Provider	Appliance	Per Unit Charge	Bulky Item	Per Unit Charge
Vancouver <sup>1</sup>	Waste Connections (WCW)	Washer	\$18.24	Sofa or Loveseat	\$15.10
		Dryer	\$15.10	Chair	\$12.05
		Stove	\$16.67	Mattress/Box Spring	\$13.64
		Fridge/Freezer/AC Unit	\$30.15	Car/Pickup Truck Tire	\$7.18
		Water Heater	\$18.54	Car/Pickup Truck Tire w/ rim	\$11.11
				Truck Tire	\$22.52
				Truck Tire with rim	\$37.15
				Other Bulky Items	\$15.88
Camas	City — garbage, WCW — recycling and yard waste	N/A		N/A	
Washougal	WCW	Fridge/Freezer/AC Unit	\$50.29	Sofa or Loveseat	\$25.16
		Stove or Range	\$25.16	Chair	\$12.58
		Washing Machine	\$25.16	Table	\$25.16
		Dryer	\$25.16	Mattress or Box Spring	\$18.86
		Water Heater	\$25.16	Car/Light Pickup Truck Tire	\$6.76
				Car/Light Pickup Truck Tire w/ rim	\$10.16
				Truck Tire	\$20.29
				Truck Tire with rim	\$33.82
				Tire larger than truck	\$67.67
				Lawnmower	\$13.52
		Wheelbarrow	\$6.76		
		Bicycle	\$6.76		
		Other Bulky Items	\$25.16		
Ridgefield <sup>2</sup>	WCW	Washer	\$20.10	Sofa or Loveseat	\$20.10
		Dryer	\$20.10	Chair	\$20.10
		Stove	\$20.10	Mattress or Box Spring	\$20.10
		Fridge/Freezer/AC Unit	\$40.13	Small Tire	\$5.39
		Water Heater	\$20.10	Small Tire with rim	\$10.78
		Dishwasher	\$20.10	Truck Tire	\$12.18
				Truck Tire with rim	\$24.37
				Other Bulky Items	\$20.10
La Center	WCW				
Woodland vicinity (NW Clark County)	WCW				
Other Urban <sup>2</sup>	WCW	Washer	\$5.75	Sofa or Loveseat	\$16.12
		Dryer	\$5.75	Chair	\$16.12
		Stove	\$5.75	Mattress or Box Spring	\$16.12
		Fridge/Freezer/AC Unit	\$20.00	Car/Light Pickup Truck Tire	\$2.35
		Water Heater	\$5.75	Car/Light Pickup Truck Tire w/ rim	\$4.69
		Dishwasher	\$5.75	Truck Tire	\$9.38
				Truck Tire with rim	\$18.77
				Other Bulky Items	\$16.12
Rural	WCW			N/A	
<b>Electronic Waste:</b> Televisions, computers, monitors, and laptops can be picked up curbside for a price of \$15.88 each in Vancouver, \$19.52 per unit in Ridgefield, \$25.16 per unit in Washougal, \$16.12 per in Other Urban, and \$16.12 in Rural.					
<sup>1</sup> One free appliance pickup per year. Per-unit charges after that.					
<sup>2</sup> In addition to the prices above for, a trip fee of \$60.00/hour is charged (half-hour minimum). The clock starts from the beginning of the driver's trip (from 9411 N.E. 94th Ave., Vancouver) and ends once the appliance is picked up from the curb.					



### **3.2.3 – Summary of Countywide Collection Practices**

The current collection system provides a high level of services to cities, towns, and the unincorporated areas of the County. Universal services for garbage and recyclables are provided to the cities of Vancouver, Camas, Washougal, and Ridgefield. In urban areas, yard waste collection is provided on a voluntary subscription basis either weekly or every other week and pickup of bulky waste items is offered on an on-call basis.

For the unincorporated areas of the County and the jurisdictions of Battleground, La Center, and Yacolt, collection services are solely offered by WCW on a voluntary subscription basis. The base rates offered for this service are comparable to the base rates offered to customers where universal services are provided. However, some jurisdictions do charge a “Utility Tax” that is added to the base rates to help pay for general governmental services.

Growth in the County has had a significant impact on the density of the urbanized portion of the County. As projected in the regional growth management plan, this trend will continue and many areas contiguous to the incorporated cities are expected to be annexed. These areas may be subject to the universal service levels required by these cities. Population growth will impact the number of customers using the transfer station system. Consideration of providing universal services and/or changes to the service levels and rates may provide a more efficient and comprehensive collection system for waste generated either by residences or businesses.

### **3.2.4 – Description of Transfer Stations and Customer Traffic**

The County transfer station system was developed to first provide cost-effective collection services to residences and businesses. Collection trucks can unload quickly and return to collection routes. CRC can then reload waste into larger trailers capable of transporting almost four times the payload of a collection truck, thereby reducing overall transportation costs and impacts on local roads. Transfer stations also supplement collection services by providing a convenient location for residents and businesses that do not have collection services to take waste or items not collected by regular services to a facility. Even though contracted collection companies offer services to all areas of the County, many residents in less dense areas that do not require universal services often elect to transport their waste to a transfer station.

Transfer stations also provide a facility for residences and businesses to take waste materials that are not regularly picked up at the curb. This can include items from households that periodically clean out attics or garages and may also include used appliances, large bulky items such as used furniture, tires, and mattresses; construction debris; and yard waste. The County system also offers facilities for customers to drop off materials for recycling and to dispose of household hazardous waste (HHW).

As discussed in Chapter 2, due to population growth in the County, the number of customers using transfer stations continues to increase. Changes in the system and improvements at facilities need to be evaluated.



### 3.3 Future Traffic Impacts from Growth

The transfer stations were designed to handle a certain amount of self-haul customers given that that portions of the County do not require all households to subscribe to regular collection services and that certain items are not collected regularly. However, with the growth the County has experienced over the past 10 years, the number of self-haul and cash customers has increased. CRC provides the resources and space required to manage traffic and additional waste received from these customers at each of its transfer stations. But with the County expecting to grow by an additional 132,000 more people by 2035, capital investments at each of the transfer stations will be necessary to handle the number of customers using the existing three transfer stations.

An evaluation of the transfer stations and the capacity to handle future waste volumes and customers is discussed in Chapter Four of this Study. In this chapter, the Study discusses options that might be considered to modify or expand collection services, to make it more convenient for households to dispose of unwanted items, enhance efficiency, reduce unintended litter along roads, and reduce system cost. Since self-haul traffic at CTR is most impactful, with vehicles queueing onto State Route 503 at times, this facility is the focus of the analysis. However, the options being discussed in this section are intended to be applicable on a County-wide basis.

#### 3.3.1 – Background Information; Population and Self-Haul Customer Trends

As mentioned, population in Clark County is expected to increase by about 28% over the next 15 years. Much of this growth is expected to occur within the areas served by CTR. Estimated population growth within the northern incorporated cities and the unincorporated areas of the County has increased by 20.8% from 2010 to 2019, as detailed in Table 3.4<sup>1</sup>.

**Table 3.4: Population Growth from 2010–2035 for North County**

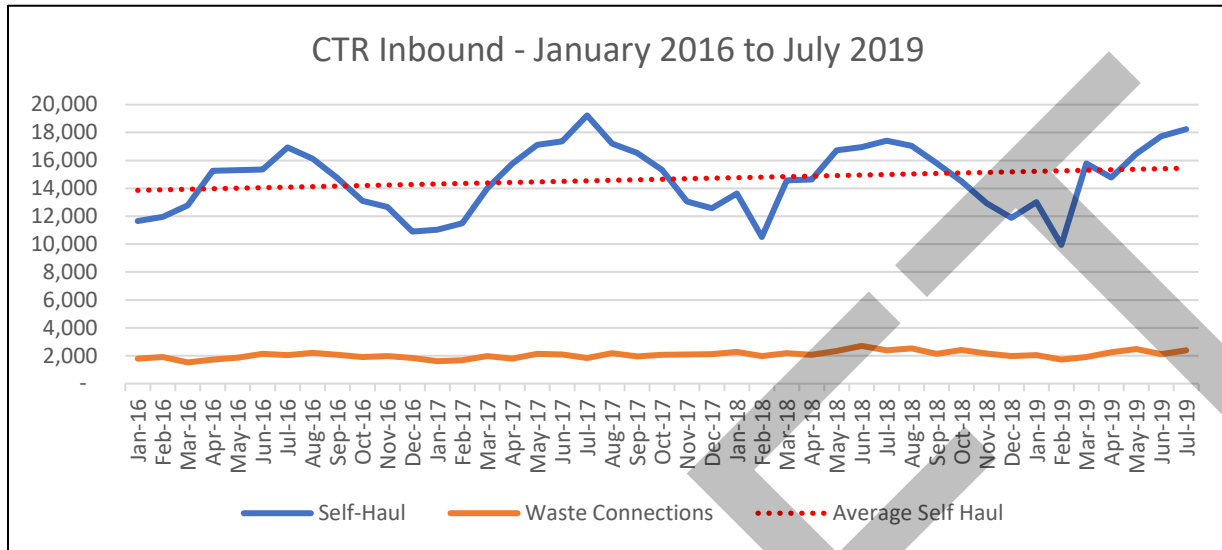
Jurisdiction/Area	Year					
	2010	2015	2019	2025	2030	2035
Battle Ground	17,571	19,250	21,520	28,219	33,860	38,443
La Center	2,800	3,100	3,405	5,082	6,494	7,642
Ridgefield	4,763	6,400	8,895	15,465	20,998	25,494
Yacolt	1,566	1,620	1,805	1,868	1,921	1,964
Clark UGA	61,855	69,610	71,333	72,903	67,088	61,403
<b>Total</b>	<b>88,555</b>	<b>99,980</b>	<b>106,958</b>	<b>123,537</b>	<b>130,362</b>	<b>134,946</b>
% ▲ from 2010		12.9%	20.8%	39.5%	47.2%	52.4%
<b>Total Increase from 2010</b>		<b>11,425</b>	<b>18,403</b>	<b>34,982</b>	<b>41,807</b>	<b>46,391</b>

With the growth the County has experienced in the past decade, an increasing number of customers are using the CTR transfer station for waste and bulky items. Graph 3.1 on the next page details the monthly transactions, or trips, by all customers (i.e., self-haul, commercial, and collection trucks) at CTR. The red dashed line shows the trend of incoming self-haul/commercial customers from January 2016–July 2019, which reveals an upward trajectory that correlates closely to the increased population growth.

<sup>1</sup> Source: Washington State Office of Financial Management, Forecasting and Research Division (<https://www.ofm.wa.gov/washington-data-research/population-demographics/population-estimates/april-1-official-population-estimates>)

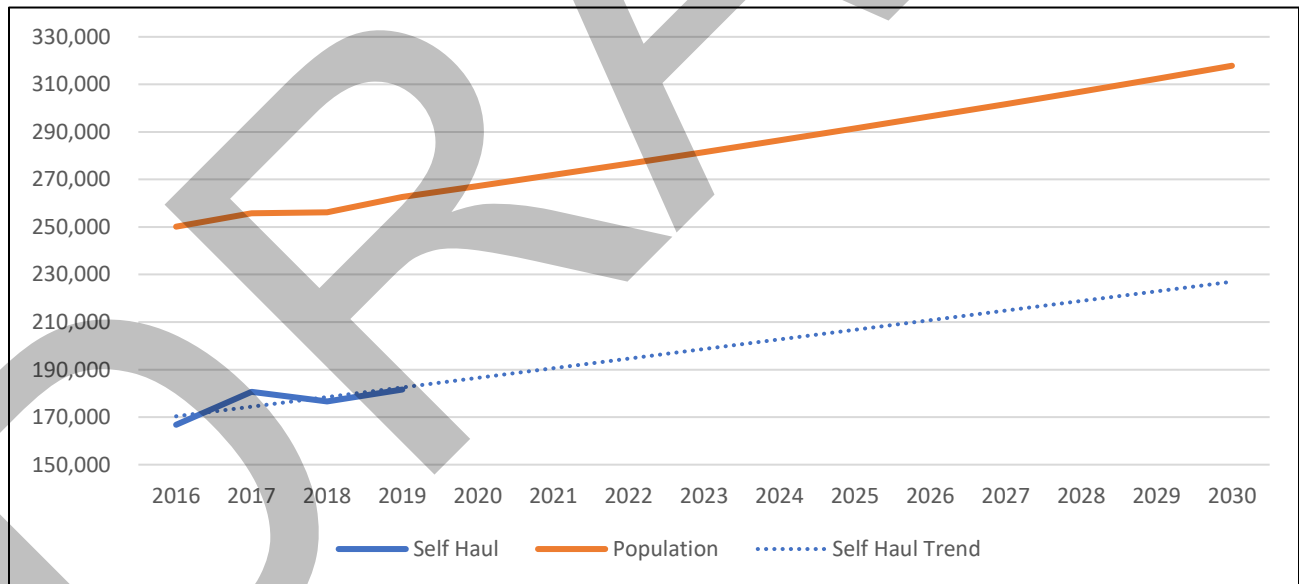


**Graph 3.1: Monthly Inbound Trips at CTR from January 2016–July 2019**



Graph 3.2 compares the expected increase in north county population of 1.75% annually from Table 3.4 on the previous page to the annual inbound self-haul trips from Graph 3.1 above.

**Graph 3.2: Comparison of Annual Self-Haul Trips to Population Growth**



The blue dashed line is the expected increase in self-haul customers based on the four years of incoming customers and the correlation of the increase in the population of the north county area.

While some jurisdictions such as Vancouver, Camas, Ridgefield, and Washougal require residential waste collection, services in the north part of the County are voluntary subscription. Because of this, CTR experiences a higher percentage of inbound tons from self-haul when compared with the West Van and Washougal transfer stations, as summarized in Table 3.5.





**Table 3.5: Self-Haul Metrics by Facility**

Facility	2016	2017	2018	2019
<b>CTR</b>				
Self-Haul % of Tons	21.0%	22.6%	20.6%	22.3%
Average Pounds Per Customer	635	794	704	725
<b>West Van</b>				
Self-Haul % of Tons	14.5%	17.5%	18.1%	16.4%
Average Pounds Per Customer	804	922	817	783
<b>Washougal</b>				
Self-Haul % of Tons	10.6%	12.8%	14.0%	16.4%
Average Pounds Per Customer	446	486	451	476

The original R&R Transfer Station (now the CTR recycling building) was opened in the mid-1980s, but when the Leichner Landfill closed in 1992, the facility was expanded to what is now CTR. However, the facility was not designed to serve the increase in customer traffic or the amount of waste that it now receives.

### 3.4 Strategies to Reduce Traffic Impacts at Facilities

This section of the Study examines how changes in policies and/or collection services could potentially reduce traffic at the transfer stations, primarily at CTR. However, the program options described are expected to apply to all transfer stations.

#### 3.4.1 – Background

The location and design of the existing transfer station system has not been fully assessed for over 15 years. Since 2010, Clark County has experienced an increase in the population of 14%<sup>2</sup>. The last major investment in the system was the construction of the Washougal Transfer Station in 2008–2009. At CTR, where the number of customers has increased significantly, there have been no expansions or improvements made to meet the demand. As a result, traffic on weekends typically backs onto State Route 503. This condition presents safety issues. Thus, there is an immediate need to remedy this situation. CRC is working with the County and the Washington Department of Transportation (WSDOT) to modify the entrance and make other improvements, as necessary, to address this which are discussed in Chapter 4 of this Study.

While each transfer station has experienced increases in traffic and waste flow, the issue is most critical at CTR. The West Van and Washougal Transfer Stations are adequately sized to handle self-haul customer traffic for the immediate future. A review of the capacity of these facilities to handle future growth will also be conducted as part of this regional study and improvements to address future traffic and waste volumes may be required is presented in Chapter 4.

To address current and future traffic issues at CTR as well as the other stations in the future, the Study evaluates operational and policy strategies and options that may reduce unnecessary traffic

<sup>2</sup> Source: Washington State Office of Financial Management, Forecasting and Research Division (<https://www.ofm.wa.gov/washington-data-research/population-demographics/population-estimates/april-1-official-population-estimates>)



and queuing problems. These strategies are focused on changes to rates, policies, and collection service standards. A crucial policy issue is how much money will need to be invested to upgrade and/or expand CTR.

One approach is to evaluate current operational parameters to determine what policy or administrative procedures might be implemented to improve safety, traffic, and overall customer services. This includes examining how other jurisdictions or facility operators have dealt with similar issues in consideration of the following strategies:

1. **Modify level of collection services** — Modifications to collection services standards including mandatory or universal service and/or bundling more services (e.g., curbside yard waste and bulky item collection as part of a universal service package).
2. **Modify facility fee structures** — Minimum load requirements and fees to encourage customers to use collection services or make fewer trips to the transfer stations.
3. **Modify the hours or days transfer stations are open to self-haulers** — Extending hours and/or days the facilities are open to self-haul may result in reducing traffic at peak times.

The analysis examined the impacts of the current minimum load requirements in conjunction with minimum fees for services. From the research completed, options the County can consider for customers to consolidate waste into larger loads or to utilize weekly waste collection services to reduce traffic and costs were evaluated.

Given the current breadth of curbside collection services offered to customers countywide (see Table 3.1 on page 20), there remains a relatively large number of self-haul customers using CTR as their primary waste disposal option (see Graph 3.2 on page 26 and Table 3.5 on page 27); such high usage is causing backups and related traffic issues at CTR.

### **3.4.2 – Strategy 1: Modify Level of Collection Services**

One approach that may result in reducing the number of self-haul and cash customers is to modify the current services by requiring all households to subscribe to weekly collection and/or provide options to pick up bulky items at the curb, i.e. universal services. This would not only impact traffic at the transfer stations but would also reduce traffic and litter on roadways, improve services to individual households, and improve overall efficiency in the waste management system.

A 2018 survey of CTR self-haulers found that the two ZIP codes with highest self-haul customer counts were predominantly in the unincorporated areas of the County where weekly collection is provided, but not mandated, under the regulation of the UTC. Table 3.6 on the next page shows the distribution of self-haul or cash customers using CTR by the amount of trash received by weight (from CTR scale house data) for 2019.



**Table 3.6: Summary of CTR Cash Customers by Weight (2018)**

<b>Weight Range (lbs.)</b>	<b>Self-Haul / Cash Customers Total #</b>	<b>Self-Haul / Cash Customers Total %</b>
10–110	12,927	10.9%
110–210	22,933	19.3%
210–310	20,775	17.5%
310–410	16,540	13.9%
<b>Subtotal under 410 lbs.</b>	<b>73,175</b>	<b>61.7%</b>
<b>Over 410 lbs.</b>	<b>45,477</b>	<b>38.3%</b>
<b>Total</b>	<b>118,652</b>	<b>100%</b>

According to the self-haul tonnage data from Table 3.6 above, approximately 30% of the incoming loads from self-haul and cash customers were 210 lbs. or less. The average residential weekly garbage set-out weight is about 30 lbs. and for recycling 55 lbs. per month; Therefore, a month of garbage set out for collection will weigh approximately 185 lbs. (30 lbs. x 4.3 pickups per month) + 55 lbs. of recycling. It is assumed most of these visits are customers that do not subscribe to weekly garbage, recycling, and yard waste (if offered) or bulky waste collection service. Areas that had the lowest number of self-haulers were from Washougal, Camas, Ridgefield, and Vancouver, where service is universal.

Under the current rate structure, the cost to dispose of 200 pounds at CTR is \$9.58 for disposal plus \$10 for the transaction fee (see Table 3.8 on page 34) for a total cost of \$19.58. In contrast, the cost for curbside waste collection in the County is \$19.93 for two garbage cans (64 gallons of service capacity) collected weekly and only \$13.68 for a 32-gallon can. The system’s cost to provide services at the transfer station for self-haulers should be evaluated to determine if these customers are being charged properly for the services. Depending on the actual cost per trip, the minimum charge could be revised.

#### **3.4.2.1 – Service Option to Expand Universal Subscription Collection Services**

Under this option, the County would expand universal services to the urban areas of the County. In order to implement this alternative, the County is required under Revised Code of Washington (RCW) 36.58A.010 to establish a Solid Waste Collection District. Administrative rules enacted by the District could specify that areas meeting minimum household densities be required to subscribe to collection services. The level of services must be uniform to all service areas and must comply with requirements established by the UTC.

All cities in the County, except the jurisdictions of Battleground, La Center, and Yacolt, have universal collection services for garbage. These jurisdictions have the authority to adopt universal services if they wish. As areas of the County become denser and more urban, requiring universal service to the urbanized County as well as these cities benefit the system and potentially reduce traffic at transfer stations.

#### **Analysis of Expanding Universal Service**

Jurisdictions that provide universal services to all households can have an impact on the number of customers that self-haul waste. Requiring households to subscribe to collection services is a standard practice for many jurisdictions throughout the country. For most urban areas, it is required as a general practice, for health and safety reasons, to prevent households from



inappropriately storing putrescible waste that may cause sanitation problems, attract vectors, and/or impact the aesthetics of the neighborhood.

Another advantage of universal services is to reduce unnecessary traffic on public roads, and thus reduce air-quality impacts. Collection trucks are already traveling in neighborhoods to pick up from households that do subscribe to services. Picking up additional households along the route will reduce trips to the transfer station and provide routing efficiencies for the waste hauler. When garbage or yard waste are collected, it is placed in fully enclosed containers and emptied into a fully enclosed compaction chamber in the truck, thus eliminating fugitive litter. The above factors all result in benefits to the local community.

A comparison of the self-haul traffic at CTR and West Van appears to lend some support to the impacts of instituting universal collection services. The self-haul traffic at CTR averages about 450-500 vehicles per day and in peak periods can range as high as 700-800 vehicles. At the West Van transfer station, self-haul traffic averages from 200-250 vehicles per day and in peak periods ranges from 350-400 vehicles per day. This is about half as many as CTR. West Van primarily serves the City of Vancouver, the largest city in the County, which provides universal collection services. CTR not only serves a larger area but is also the largest concentration of customers that use a voluntary subscription service. There is no data that substantiates the difference in self-haul customers at West Van that can be fully attributed to the impact of universal service, but it is likely that it does contribute to fewer customers using that facility.

Data also shows that over 80% of households in urbanized areas of the unincorporated County subscribe to recycling services. If this is an indication of the total households that also subscribe to collection of waste, which is logical, then perhaps the adoption of universal services would have limited impacts on the number of vehicles using CTR.

Related to the cost of weekly solid waste collection services in Clark County, a single household in the non-universal service areas (i.e., UTC regulated area) can subscribe to weekly collection of garbage for as low as \$10.68 per month (20-gallon service) to as high as \$29.54 per month (96-gallon service). A typical customer is likely to subscribe to 32-gallon service, which is \$13.68 per month.

In comparison, a single trip to the transfer station is likely to cost a minimum of \$19.58 (assumes 200-lb. load) and as much as \$34 for a 500-lb. load. This cost does not include roundtrip travel time to the station or time at the station to unload. It appears it would cost households much less to use the curbside collection service based on the current transfer station rates.

Although there are obvious cost benefits for households to subscribe to collection service, it is not clear how much impact universal service, if offered, would have on the self-haul traffic at transfer stations. More study is needed to determine the benefits of adopting this policy. Also, the reasons to institute universal services go beyond the need to reduce self-haul traffic as it provides greater benefits to the individual community or local jurisdiction that may adopt this policy and it improves the overall efficiency of the solid waste system.



### 3.4.2.2 – Service Option to Bundle Regular Collection of Bulky Items with Garbage Collection Services

Unlike curbside garbage and yard waste collection services, on-call services for appliances is more expensive than the rates charged at the transfer stations. As shown in Table 3.3 on page 23, curbside pickup of bulky waste varies depending on item being discarded. In the urbanized County, a sofa or chair picked at the curb is \$16.12 plus a trip fee of \$60 per hour. This fee is charged from the time the truck leaves the yard on 94th Avenue to the pickup address. If it takes 20 minutes to arrive at the location, the total cost would be \$36.12 for one item. For a self-haul trip to a transfer station, that same item may cost less than \$20 if it weighs less than 100 pounds.

Also, each of the Clark County facilities charges special handling fees as shown in Table 3.7 for appliances, electronic waste, and tires.

**Table 3.7: Clark County Transfer Station Special Charges**

Item/ Material	Per Unit Charge
Refrigerator, Freezer or Air Conditioner	\$20.25
TVs, Monitors	\$0.00 <sup>1</sup>
Car Tire	\$2.55 <sup>2</sup>
Car Tire w/rim	\$4.85 <sup>2</sup>
Truck Tire	\$9.45 <sup>2</sup>
Truck Tire w/rim	\$18.65 <sup>2</sup>
<sup>1</sup> TVs and monitors not shown on rate sheet at West Van. <sup>2</sup> A transaction fee will not be charged on the first four tires brought in separately. A \$5.25 minimum applies. As required by Washington State, a 3.6% GRT tax will be charged on every disposal transaction at each facility.	

At the transfer station, tires and appliances are charged a fee, but bulky items such as used furniture, mattresses, and other items are charged on per ton basis. Also, self-hauling bulky materials to the transfer station might be more convenient since households can dispose of the item on their schedule.

There are other possible service options for collecting appliances, bulky items, and electronic waste items including:

- Special Collection Events** – One approach is to offer periodic community-wide collection events in the spring or fall. Such events would likely increase the total amount of items collected compared with subscription services. The City of Camas holds an annual spring clean-up where residents bring large materials and household hazardous waste to the public works yard for disposal. In the City of Vancouver neighborhoods are provided on one Saturday per year to have WCW trucks and staff in their area to collect bulky items or other materials for disposal/diversion.

In Oregon, the cities of Troutdale and Milwaukie have annual spring clean-up events where residents can set out up to one yard of waste on their curb for pick-up by the



franchised haulers. The cost of these services is less than \$1 per customer per month and is included in the monthly collection rate.

Resourceful Portland sponsors a series of local springtime clean-up events with a variety of community groups that provide convenient drop-off services for a reasonable donation or fee. Each group can offer a combination of bulky waste collection, an onsite reuse section, and litter pickup.

Clark County's Green Neighbor Program has offered "Recycle Days" in the past where a variety of recyclable or HHW materials or services (paper shredding) and sometimes disposal of bulky items (with local funding support) were incorporated into centralized community events. As a policy shift over the past two to four years, these events have been discontinued as it is challenging to plan, staff, and fund these one-day events (there had been up to seven or eight per year). There is much greater interest in making these opportunities available throughout the year in fixed locations.

### **Bulky Waste Collection as Part of Franchise/contracted Service (a.k.a. Bundled Services)**

Some jurisdictions provide on-call curbside collection services for bulky waste one to three times per year. These services are included in the standard garbage rates charged to residential customers. Such service is commonplace throughout California and has proven popular with customers and more cost-effective than periodic collection events. In the South Bayside Waste Management Authority (San Mateo County, California), 34% of all residential accounts scheduled bulky item pickup services as part of their twice-per-year on-call bulky item service. The service is bundled with weekly garbage collection rates. Items can include furniture (sofas, chairs, desks, bookshelves, etc.), mattresses, electronics scrap, appliances, and tires. Often the amount of items set out by household is limited to a certain number or size. However, each jurisdiction may choose what items are acceptable to be placed on the curb for collection.

Another example in California is San Benito County, where such bulky item service was on an on-call basis with separate charges and less than 1% of the residential accounts scheduled bulky item pickups.

There are many variations of the options to provide collection of bulky waste items, and jurisdictions can design the services to best fit their community. Based on some of the examples, these services can be added, for a rather small incremental cost, to standard curbside services. If implemented in Clark County there is no current data available to determine if such a program would impact the number of self-haul customers using the transfer station system. More data is needed, and it would also be desirable to have feedback from residences of their interest in such services.

### **Yard Waste/Debris Collection**

Similar to curbside garbage collection, it would be less expensive for residents with smaller loads (i.e., less than 500 lbs.) of yard waste/debris to use the curbside services as opposed to driving to one of the County's transfer stations. Subscription services for curbside collection of yard waste range from \$6.84/month (Other Urban) to \$8.80/month. If a customer takes 500 lbs. to CTR or Washougal Transfer Station, it will cost \$16.58 ((500/2,000) x \$66.32). Yard waste collection service is only offered on a subscription basis throughout the urban areas of the County. Including



yard waste collection service as part of a universal collection service package will appear to save residents money if they generate measurable volumes of organic waste while having the added benefit of reduced self-haul traffic and increasing diversion rates for local communities.

Currently, in cities and the County curbside collection of yard waste is offered by subscription. Also, there are several private companies throughout the County that accept and process yard waste meaning there are alternatives to taking this material to transfer stations. For this reason and because most residences do not generate much yard waste during winter months, the benefits of adding this to the universal services appears unnecessary at this time.

### **Analysis of Service Options for Collection of Bulky Items**

The purpose of expanding collection services to offer standard universal collection services for bulky waste items and/or yard waste would be to provide a higher level of collection services potentially and reduce self-haul customer traffic at transfer stations. There would be an incremental increase on the monthly rate to all residences to provide this service. However, without more information it is not known how many households would take advantage of this service or may not even require it.

In order to implement any of the collection service option the County would need to comply with certain requirements established by UTC. The first requirement is to ensure that the services are offered universally, that is available equally to all customers throughout the regulated areas. For items covered under the bulky waste services the rates would need to be equally applied for all sizes and weight. If the rates are different then there is a level of unpredictability in setting rates which is not acceptable to UTC. Assuming the program can be designed to address UTC concerns, the County would need to amend the Solid Waste Management Plan and adopt this program.

This would establish the program to permit the collection company to include in their cost of services and apply to the UTC for a fixed rate. Because it is difficult for collection companies to predict the cost and revenues in conjunction with requirements for such services from the UTC, there are few if any jurisdictions in the State that offer this service. Jurisdictions, like the City of Vancouver, that regulate collection rates have the authority to implement these programs, if they desire. These same conditions apply to bundling yard waste collection services. Currently, it is offered as a subscription service but is not a universal service in any part of Clark County.

Based on the limited data available to properly evaluate these service options including the impacts on self-haul traffic at transfer stations, it is not a high priority to pursue these options. However, in light of the expected population growth and the increase in density of development in the County, consideration for further evaluation of collection programs for bulky waste items might have some benefits when updating the Solid Waste Management Plan in 2021.

### **3.4.3 – Strategy 2 - Modify Facility Tipping Fee Structures**

#### **3.4.3.1 – Background**

Currently, self-haul customers using transfer stations are charged a fee based on the weight of the discarded items plus a flat transaction fee of \$10. The current tip fee is \$95.77 per ton. All vehicles are required to weigh in and out to determine their fee. If a self-haul cash customer brings



in 100 lbs., their fee would be \$14.79 — \$4.79 for the prorated tip fee plus \$10 for the transaction fee. For a load of 200 lbs., the fee would be \$19.58 — \$9.58 for the prorated tip fee plus the \$10 transaction fee. As shown on Table 3.6 on page 29, about 30% of customers entering CTR dispose of 200 lbs. or less. Another 30% of CTR cash customers discard of between 200 lbs. and 400 lbs. of waste.

The County is interested in determining the actual system or facility cost to provide the level of services currently provided at the transfer stations and whether alternatives to the fee structure could result in reducing traffic or incentivizing customers to consider other service options.

### Comparable Fees at Transfer Stations

All of the transfer station facilities shown in Table 3.8 below, except Clark County, have a set minimum rate for garbage by dollar amount instead of adding a transaction fee. This is because there is a fixed cost to provide the services at transfer station that must be recovered. In contrast, Clark County solid waste facilities have a transaction fee of \$10 that contributes to recover the fixed cost. Nearly all facilities shown also have a minimum rate/charge for yard waste and some have a minimum for wood waste.

The policies for establishing the minimum fees may differ for each facility. However, in our research many have set this fee to require customers to pay for the actual cost of the services provided.

**Table 3.8: Local and Regional Transfer Station Rates**

Jurisdiction	Garbage			Yard/ Wood Waste			
	Minimum Rate	Garbage Minimum Weight	Garbage Rate / Ton	Yard Waste Minimum Charge	Yard Waste Rate / Ton	Wood Waste Rate Minimum Charge	Wood Waste Rate / Ton
Clark County – CTR, WTS	\$10 Transaction Fee + Weight x \$95.77 Example: Weight @ 200 lbs. = \$10 + \$9.58 = <b>\$19.58</b>	None	\$95.77		\$66.74 <sup>1</sup>		\$66.74 <sup>1</sup>
Clark County – West Van	See above	None	\$95.77		\$66.32 <sup>1</sup>		\$66.32 <sup>1</sup>
Portland Metro _ Central and South	\$28 plus Transaction Fee of \$2 Using scales or \$10 w/o Scales	360 lbs.	\$122.45	\$24	\$81	\$26	\$90.23
King County – all Transfer Stations	\$25.25	320 lbs.	\$151.06	\$12	\$75	\$12	\$75
City Seattle – North and South Transfer Stations	\$30	420 lbs.	\$145	\$20	\$110	\$20	\$110
Lewis County	\$10	200 lbs.	\$90	\$5	\$60	\$5	\$60
City of Tacoma Recovery and Transfer Station	\$20	400 lbs.		\$20			





**Table 3.8: Local and Regional Transfer Station Rates**

Jurisdiction	Garbage			Yard/ Wood Waste			
	Minimum Rate	Garbage Minimum Weight	Garbage Rate / Ton	Yard Waste Minimum Charge	Yard Waste Rate / Ton	Wood Waste Rate Minimum Charge	Wood Waste Rate / Ton
Deschutes County – Knot Landfill Recycling and TS	\$22 + \$3 for each 100 lbs.	400 lbs.					
Marion County – North Marion Recycling TS + SKRTS	\$25 + \$.053725/lb. after 460 lbs.	460 lbs.	\$107.45	\$15.00 (\$0.0297/lb. after 500 lbs.)	\$59.49		
Thurston County - WARC	\$18	300 lbs.	\$119	\$9	\$45		

<sup>1</sup> Transaction fee does not apply.

**3.4.3.2 – Option to Modify Fee Structure to Impact Traffic**

The actual cost to operate the facility is comprised of two elements. First, is the fixed cost to provide the infrastructure as well as the primary personnel to operate equipment along with laborers/spotters and the gatehouse staff. This baseline cost is incurred by each vehicle that arrives to unload waste no matter how much waste is discarded. Second, are the primary variable expenses, which includes the cost of transporting and disposing of waste.

Based on the cost of service analysis the fixed cost or cost for handling each vehicle or transaction is estimated to be \$21.60<sup>3</sup> at CTR for the 12-month period beginning in April 2018 to March 2019. It does not include the cost to provide recycling and household hazardous waste (HHW) drop-off services at the transfer stations. The facility cost or fixed cost for each transaction, no matter how much waste is received, was calculated by dividing the operating expenses of CTR by the total incoming vehicles as summarized in Table 3.9.

**Table 3.9: CTR Cost Per Transaction (April 2018–March 2019)**

Description	Detail	%	Totals
Annual Facility Cost			\$4,386,389
Incoming Self-Haul / Commercial Vehicles	176,614	87%	
Incoming Regulated Route Vehicles	26,460	13%	
Total Incoming Vehicles (Transactions)			203,074
<b>Cost per Transaction</b>			<b>\$21.60</b>

Facility expenses between the regulated route trucks and cash/commercial haulers were allocated based on a combination of onsite labor, equipment use, waste tons, and scale house transactions to calculate the cost of each customer class. Transport, disposal, HHW, and County administration fees are assessed on a prorated weight per ton basis and are the same for all

<sup>3</sup> Study period was from April 2018 through March 2019



customers. Table 3.10 summarizes the incoming waste tons by source and the cost per ton for CTR.

**Table 3.10: CTR Cost Per Ton by Source (April 2018–March 2019)**

Description - Tonnage	Total	Regulated Route Trucks	Self-Haul / Commercial
Incoming Tonnage	230,595	156,631	73,965
Incoming Vehicles	203,074	26,460	176,614
Average Tons per Vehicle Type	1.14	5.92	0.42
Description – Cost/Ton			
Facility Cost	\$22.16	\$12.85	\$41.87
Transport & Disposal	\$45.45	\$45.45	\$45.45
HHW / County Admin Fee	\$9.12	\$9.12	\$9.12
<b>Total Cost per Ton</b>	<b>\$76.72</b>	<b>\$67.41</b>	<b>\$96.43</b>

The fixed cost for the services provided at CTR is \$21.60 for any vehicle; however, the current transaction fee assessed to all vehicles is \$10. The total cost for not only operating the station but also transporting and disposing of the waste is \$95.77 per ton. What is not clear under the current rate structure is what expenses the transaction fee is covering and what expense is the tonnage fee covering. Both of these costs are combined when assessing the tip fee for disposal.

Costs from Tables 3.9 and 3.10 are combined to compare the current rate method to a transaction-based fee of 100 pounds in Table 3.11.

**Table 3.11: Comparison of Current Fee to Transaction Fee Structure**

Rate Structure Items	Current Rate Structure	Transaction Fee Structure
Transaction Fee	\$10.00	
Disposal Fee per Ton ((100 pounds / 2,000) x \$95.77))	\$4.79	
<b>Total Fee</b>	<b>\$14.79</b>	
Transaction Fee (Based on Fixed Cost) from Table 3.9		\$21.60
Disposal / HHW / County Fee per Ton from Table 3.10 (100 pounds / 2,000) x (\$45.45 + \$9.12)		\$2.73
<b>Total Fee</b>		<b>\$24.33</b>

The current \$10 transaction fee offsets some of the facility costs for light weight customers but is approximately 40% below the cost of providing the service. Not only does this rate fall short of paying for the service it is less than the current monthly for subscription curbside pickup service. Under the current rate structure, a 300-pound load is very close to the transaction fee structure in Table 3.11.

<b>Disposal Fee ((300 pounds / 2,000) x \$95.77))</b>	<b>\$14.37</b>
<b>Transaction Fee @ \$10</b>	<b><u>\$10.00</u></b>
<b>Total Fee:</b>	<b>\$24.37</b>



Although this total fee is about equivalent to what the actual cost of the service is CTR it does not recover the variable cost to transport and dispose of the waste received.

The current transaction plus the cost of the waste delivered if less than 300 pounds is less than the monthly charge to subscribe for weekly curbside service. It would therefore appear to create some incentive for households to transport their own waste.

**Minimum Tip Fee Option – Minimum Weight/Tip Fee Structure (Transaction Fee + Weight)**

The cost of service study for the transfer station concluded the combined cost per ton for all three transfer stations (facility cost) was \$23.48, but the per-ton cost between regulated waste collection and self-haul/commercial customers was \$14.06 and \$36.62 per ton, respectively. The difference between the two customer classes is the effort necessary to provide the services. The time, floor space, and manpower necessary to drive across the scale, dump on the tipping floor, and leave for a route truck is lower compared with self-haulers.

A financial incentive for customers to reduce the frequency of vehicles with small weight loads is to set a minimum rate. Portland Metro has a minimum fee of \$28 for loads under 360 pounds. Any load greater than 360 pounds is assessed a per-ton fee of \$97.45 plus a \$10 transaction fee.

If a minimum gate rate were set at 410 lbs., the amount that would be charged at the current tipping fee is \$29.63 (\$95.77 tipping fee x (410 / 2,000) + \$ 10 transaction fee). The fee would be applied to approximately 62% of cash/commercial customers.

**Minimum Tip Fee for County Transfer Stations**

Establishing minimum fees to reduce the number of customers that deliver small volumes of waste could reduce traffic to CTR. In calendar year 2018, CTR reported 176,253 self-haul and commercial customer transactions. Most of these customers (85.5%) were weighed. As detailed on Table 3.12 below, over half of the incoming vehicles weigh under 300 pounds; the table summarizes the range of weights and the type of vehicle used to deliver the waste.

**Table 3.12: CTR Incoming Waste Volume by Vehicle**

	<b>Car</b>	<b>Truck</b>	<b>Van</b>	<b>Total</b>	<b>% of Transactions</b>
0 to 100	754	11,067	870	12,691	13%
101 to 200	505	19,990	1,368	21,863	22%
201 to 300	199	17,342	1,186	18,727	19%
301 to 400	90	13,056	926	14,072	14%
401 to 500	60	8,545	715	9,320	9%
500 +	66	19,794	2,324	22,184	22%
<b>Totals</b>	1,674	89,794	7,389	98,857	
<b>0 to 300</b>	<b>1,458</b>	<b>48,399</b>	<b>3,424</b>	<b>53,281</b>	<b>54%</b>

Another consideration is that the cost of service varies between collection route trucks and self-haulers/commercial companies. The primary reasons for the cost difference are the additional staff, floor area, and the increased time to dump. The current disposal fee per ton is \$95.77. In



In addition to the cost per ton, a \$10 transaction fee is assessed on all incoming loads. Therefore, the effective cost per ton varies with the amount of waste disposed. Table 3.13 compares the total disposal fee and the effective disposal fee for various waste payloads.

**Table 3.13: Effective Disposal Fee for Variable Incoming Tonnage Volumes**

	<b>Weight</b>				
	<b>100 pounds</b>	<b>200 pounds</b>	<b>300 pounds</b>	<b>1 Ton</b>	<b>8 Tons</b>
Disposal Fee <sup>1</sup>	\$4.79	\$9.58	\$14.37	\$95.77	\$766.16
Transaction Fee	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00
<b>Total Disposal Fee</b>	<b>\$14.79</b>	<b>\$19.58</b>	<b>\$24.37</b>	<b>\$105.77</b>	<b>\$776.16</b>
Effective Cost per Ton <sup>2</sup>	\$295.77	\$195.77	\$162.44	\$105.77	\$97.02
<sup>1</sup> Calculation (weight / 2,000) x \$95.77 disposal fee per ton					
<sup>2</sup> Calculation (Total Disposal Fee / (Weight / 2,000))					

It could be argued the transaction fee provides a financial incentive to consolidate waste and reduce trips to the transfer station; however, the amount of incoming loads under 300 pounds proves otherwise. One suggestion would be to set a minimum fee of \$25 for a minimum load of 300 lbs.

### **Analysis of Options to Modify Facility Fee Structure**

Adopting a minimum charge of \$25 per ton with the current \$10 transaction fee is the equivalent to disposing of 313 pounds of waste. Metro currently has a minimum fee of \$28 for 360 pounds of waste. Metro also has a \$10 transaction fee that is assessed on loads greater than 360 pounds.

If a minimum charge of \$25 for cars and pickups were adopted, scale operators could accept \$25, or a ticket would be printed based on total weight. The vehicle would proceed to unload at the station. Upon exiting across the scale, the customer would insert the ticket and obtain a weight total. The customer would either pay the attendant or use a credit card terminal to complete the transaction if the weight were more than the minimum of 300 pounds. The vehicle would exit upon payment. A similar system is operating at the Seattle North transfer station that has resulted in reducing the transaction times at the scale house and thus has prevented traffic congestion.

The current rate for residential waste and recycling service outside the Urban Growth Area is \$22.12 per month for a 32-gallon can collected weekly. Setting the minimum fee for self-haul service at a few dollars above the current rate provides residents an additional incentive to subscribe to regular collection service. The County and WCW could initiate a promotion program to inform customers about the increased disposal fee at the transfer stations and the advantages to subscribing to regular waste and recycling collection service.

The financial impact of a \$25 minimum rate is expected to generate between \$300,000 to \$350,000 annually of additional revenue at CTR and reduce the subsidy by one customer category for the self-haul/cash customers with small loads.



### 3.4.4 – Strategies to Modifying Hours & Days of Operation

#### 3.4.4.1 – Background

One strategy to reduce peak traffic events at transfer stations is to expand the time the facility is open to customer traffic. Each transfer station is open to receive customers based on the needs of the service area. For both CTR and West Van, the stations are open every day whereas Washougal is only open a few days per week. Below is a summary of the current operating hours:

#### West Van Material Recovery Facility and Transfer Station

6601 N.W. Old Lower River Road, Port of Vancouver

Monday–Friday 6 a.m.–6 p.m.

Saturday 8 a.m.–4 p.m.

- Recyclables are accepted for free during business hours.
- Household hazardous waste is accepted for free from county residents on Fri. and Sat. 8 a.m.–4 p.m. There is a 25-gallon or 200-lb. limit.
- Closed: Sundays, Thanksgiving, Christmas, and New Year's Day. May close early on Christmas Eve and New Year's Eve

#### Central Transfer and Recycling Center

11034 N.E. 117th Avenue, Vancouver

Monday–Friday 6 a.m.–6 p.m.

Saturday–Sunday 8 a.m.–4 p.m.

- Recyclables are accepted for free during business hours.
- Household hazardous waste is accepted for free from county residents on Fri.–Sun. 8 a.m.–4 p.m. There is a 25-gallon or 200-lb. limit.
- Closed: Memorial Day, Fourth of July, Labor Day, Thanksgiving, Christmas, and New Year's Day. May close early on Christmas Eve and New Year's Eve.

#### Washougal Transfer Station

4020 S. Grant Street, Washougal

Household garbage is accepted ONLY on Wednesdays from 7 a.m.–5 p.m., Fridays from 7 a.m.–5 p.m., and Saturdays from 8 a.m.–4 p.m.

- Recyclables are accepted for free every day during business hours (Monday–Friday from 7 a.m.–5 p.m., Saturday from 8 a.m.–4 p.m.) except Sunday.
- Household hazardous waste is accepted for free from county residents on the third Saturday of the month from 8 a.m.–4 p.m. There is a 25-gallon or 200-lb. limit.
- Closed Sundays. Transfer Station may close on holidays and may close early on Christmas Eve and New Year's Eve.

Similar to most jurisdictions that operate transfer stations, the County system provides a fairly high level of service for self-haul and cash customers. To keep up with the increased traffic, capital investments will be needed to expand the infrastructure to continue to provide safe and efficient services. Options to restrict or increase the hours and/or days that are open to the public may result in reducing the overall number of self-haul customers. If this approach is effective, it may offset some need for these investments in the near term.



As previously discussed, approximately 16% of customers using CTR unload less than 150 pounds. A typical household might generate on average 150 pounds and will pay about \$21 per month for waste collection. Every household or business in the County can subscribe to waste and recycling collection services. Since customers have alternatives for waste disposal, reducing hours or days the transfer stations are open may reduce traffic assuming more households subscribe to regular services.

#### **3.4.4.2 – Options for Modifying Hours and Days of Operation**

Transfer station operating hours are primarily set to receive waste from collection route trucks. These collection trucks, typically from residential routes, make two trips per day to the transfer station to unload. Upon examination of the delivery schedule at all stations, most of the collected waste is received before 3:30 p.m. each day. However, the stations remain in operation until all waste received is loaded into trailers and transported to the barge facility at the Port of Vancouver or transferred to the landfill, as is the case at the Washougal Transfer Station.

Both West Van and CTR are open 12 hours per day, from 6 a.m.–6 p.m. Monday–Friday. Therefore, the transfer stations are open to accept self-haul/cash customers until 4:00 p.m. each day. One approach to reducing overall traffic might be to decrease the time the facility accepts self-haul traffic from 12 hours to eight hours per day from 8 a.m.–4 p.m. In reviewing the data of a peak week in 2017 at CTR, the number of customers arriving outside those hours was about 16%, or 96 out of an average of 600 customers per weekday. Reducing hours may incentivize some customers to either subscribe to collection service or they may elect to arrive during the eight hours the facility is open. In either case, the peak traffic hours will either increase or stay the same. The challenge at the station is managing the peak traffic arriving between 9 a.m. and 3 p.m. Adding traffic during peak hours only exacerbates the problem.

The exception to this is Washougal that receives self-haul customers only three days per week (Wednesday, Friday, and Saturday). The reduced operating days is because of the limited number of stalls to unload and marginal space available to handle the amount of waste from collection trucks during the week. Reducing the hours of operations does not appear necessary at this facility

#### **Modify Times by Changing the Number of Days of Operation**

The CTR transfer station is open seven days per week; West Van is open every day except Sunday; and Washougal is open only Wednesday, Friday, and Saturday for residential self-haulers. The option of opening both Washougal and West Van to self-haulers customers on Sundays is another approach that may reduce weekend traffic at CTR. CTR receives almost 800 vehicles on a given Sunday during the peak months of May through September. If 25% of the traffic at CTR were to travel to one or the other stations, that could result in a reduction of a reduction of 200 per day on weekends. This could reduce the traffic and potential for off-site queueing at CTR.



In addition, and perhaps even more important, is by opening on Sundays offers an increase in services by the County at those locations. The Washougal station does experience some off-site queue issues at certain times. The station has limited spots to unload and by opening the facility to self-haul traffic on Sundays may relieve some of the peak traffic experienced on Saturdays. At West Van, there are no known queue issues, but opening on Sundays will not only provide a higher level of service to the City of Vancouver residences and businesses, but it may have an impact on traffic at CTR.

**Analysis of Increasing Days of Operation**

Opening both West Van and Washougal on Sunday will increase the cost of the services. The operational cost per hour at the West Vancouver and Washougal Transfer Station is \$794 and \$321, respectively. These cost however, represent the average cost per day assuming all commercial and self-haul traffic and waste flows. If the facility were to open to just receive waste from self-haul customers, the cost per hour to operate the facility would require less labor and operators. This is because 80% of the waste delivered at West Van during weekdays is from collection trucks that do not collect on weekends. With less staff needed and less waste to load into trailers, the cost to operate on weekends is less than on a typical weekday.

For this analysis, the staffing would include gatehouse personnel, laborers or spotters, and a few operators. Since the waste delivered is expected to be less than 100 tons the amount of waste to be loaded for transfer would be 3 to 4 trailers or containers over the eight-hour period. These costs do not include the HHW facility or waste transport and disposal. Therefore, for this analysis it is assumed the cost to operate would be about 75% of the cost to operate a typical day. This is shown in Table 3.14 below.

The table displays two scenarios. The first is to open both the West Van and Washougal every Sunday of the year. The second option suggests opening the transfer stations only during the peak season (about six months of the year). Extending the hours of operation to Sundays at West Van and Washougal for eight hours (8 a.m. to 4 p.m.) would cost \$595 and \$241 per hour of operations, respectively. The added cost to operate West Van on Sundays could range from \$124,000 to \$248,000 per year depending on the number of weeks it is open. The Washougal transfer station would range from \$50,000 to \$100,000 per year.

**Table 3.14: Cost of Sunday Operation Hours**

Costs Items	West Van	Washougal
<b>Average Facility Cost/Hr. /Full Operations</b>	<b>\$794</b>	<b>\$321</b>
<b>Cost /Hr. to Operate Sundays (75%) of full operations</b>	<b>\$595</b>	<b>\$241</b>
Sunday Cost (8-hour day)	\$4,760	\$1,928
<b>Cost per Year (Rounded \$000)</b>	<b>\$248,000</b>	<b>\$100,000</b>
Ave. Saturday Customer Traffic	289	208
Cost per Customer	\$16.50 + Disposal	\$9.25+ Disposal
<b>Total Cost for Peak Season (6 months)</b>	<b>\$124,000</b>	<b>\$50,000</b>



Assuming these costs are paid by the customers, the fixed cost to operate would be \$16.50 per vehicle at West Van and \$9.25 per vehicle at Washougal. This assumes that the number of vehicles would be similar to what these facilities receive on a typical Saturday. Most likely the number of vehicles would be less especially in the near term but most likely would increase over time.

Expanding the days of operations at the West Van and Washougal Transfer Stations may result in decreasing the traffic at CTR. But more importantly, it provides a higher level of service to the communities they serve. There will be an increase in the total cost to operate the facilities. This can be offset by the current fee structure or by adopting a fee structure that included a minimum charge for a minimum weight approach. The approach was discussed to charge \$25 per vehicle with a minimum load of 300 pounds of trash. Loads with more than 300 pounds would be charged on a weight basis.

### **Analysis for Modifying Operating Hours or Days of Services at Transfer Stations**

In completing a preliminary review of the options to reduce or expand the hours of operations and/or reduce the number of days available for self-haul or cash customers, it appears there would be little impact on overall operations. Certainly, regular users of these services would be inclined to arrive when the facilities are open. In most cases, this will cause increased customer traffic during fewer hours, exacerbating traffic during peak hours. A potential unintended consequence of reducing hours and days for disposal is an increase in illegal dumping.

If the hours are reduced, it should be in conjunction with changes to collection services, such as bulky waste pickup, to provide residents with a reasonable alternative to self-hauling.

The option of expanding the days of operations at both West Van and Washougal appears to be more practical and provides increased services to those communities. It will increase the cost of these operations but, with further analysis of the actual added cost to be provided by CRC, it is expected the tip fees and revenues generated by these new customers may be sufficient to offset costs.

## **3.5 Summary and Recommendations of Service Options**

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This section of the regional study considers the current services offered in cities and the County for collecting solid waste and for transferring waste to a processing and final disposal facility. The primary focus is to determine if modifications to these services would have an impact on the number of self-haul customers that use the transfer stations and possibly improve operations and impact the need to make large capital investments in the stations. The report includes a discussion of the options for the County, its partner jurisdictions and CRC to consider. A summary matrix was prepared that discusses the advantages and disadvantages of these options. (Appendix A)





## Suggested Recommendations

### **Modify Level of Collection Services**

There were two options presented and evaluated that considered changes to the current collection services and the impact they may have on traffic and operations at transfer stations.

#### **Option 1 – Expand Universal Services to the Urbanized County and the Cities of Battleground, La Center, and Yacolt.**

The reasons to expand universal services for all in the County goes beyond the purpose of this study. Universal services can improve overall efficiency in the system, reduce traffic and litter on roads, and reduce air quality impacts on local communities. Based on the Study, the direct benefits to reducing traffic at the transfer stations could not be established. More data and feedback from the public is needed. In addition, such changes should be based on policies adopted by each local jurisdiction and would also require coordination with the UTC.

#### **Option 2 – Establish Bulky Waste Collection Programs**

Similar to universal collection services, there was not sufficient data to determine how much an impact these collection programs may have on the traffic at transfer stations. On-call services are provided, and the transfer stations provide a convenient place for households and businesses to take unwanted bulky items. Having this service reduces the potential for illegal dumping.

**Recommendation 1** – The County should further evaluate the options of expanding these services in conjunction with updating the Solid Waste Management Plan. This would allow the County to execute a process to obtain feedback from the general public and local officials to consider the broader policy implications of adopting changes to the collection services.

**Modify facility fee structures** – Minimum load requirements and fees to encourage customers to use collection services. The Study determined that the current rate structure does not offer a deterrent for individuals to haul their own waste. More significant is that those who self-haul with small loads are not paying for the actual cost of the services. These customers are being subsidized.

**Recommendation 2** – The County should adopt a policy that customers pay for the actual cost of the services provided and minimize the potential for unintended subsidies of other user classifications. Setting a suggested minimum rate of \$25 per customer with a minimum load of 300 pounds appears to be fair based on the information analysis presented in this Study. It is also expected to encourage households to either subscribe to collection services and/or reduce the number of trips by incentivizing them to make fewer trips with larger loads.

**Modify the hours or days transfer stations are open to self-haulers** – Each transfer station is open to the public on various days and times. CTR is the only facility open on Sundays and as a result often experiences high traffic on weekends particularly during the peak season. This does contribute to times where vehicles will queue onto public right of way. The Study could not establish a definite correlation if the weekend traffic would be impacted if both West Van and Washougal were open on Sundays. Nor is it logical that modifying the hours at CTR would impact



the peak traffic and reduce traffic issues. But by opening all stations on Sundays may result in more efficient and uniform services.

**Recommendation 3** – The County should work with CRC to expand operating hours at the Washougal and West Van on Sundays. One approach would be to initially open these facilities on Sundays during the peak season (six months). This would minimize the increase in the added expense of operating an extra day plus it would provide data and feedback as to the benefits and impacts of adding this service.

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**Summary Matrix - Service Options for Collection and Transfer Stations**

	<u>Description</u>	<u>System Impacts</u>	<u>Cost Impacts</u>	<u>Pros</u>	<u>Cons</u>
<b>Strategies to Modify Collection Service</b>					
<b>1. Expand Universal Services</b>	Expands universal services to urbanized areas of county based on density or other standard	Increase participation in collection services. <ul style="list-style-type: none"> <li>• Increase recycling</li> <li>• May reduce traffic at transfer stations</li> <li>• May reduce fugitive litter and less traffic on roads</li> <li>• Improve overall efficiency of collection services</li> </ul>	May decrease cost of services if more households subscribe	Most efficient for residences to use collection system  Less traffic on roads  May impact neighbor clutter	Some residents may resist requirements to subscribe particularly in rural areas.
<b>2. Bundle Bulky Waste w/ Standard Collection</b>	Add to regular collection services provision to pick up bulky items. Program can be designed to pick up seasonally or alternative schedule	Residences have convenient alternative for disposal of unwanted items i.e. Bulky items furniture.  May reduce traffic at transfer stations.	Expected to increase monthly rate to residences and/or businesses	Provides convenient collection of used bulky items. May help clean up of neighborhoods  May reduce illegal dumping May reduce traffic at TS	May impact drop off at reuse stores i.e. Goodwill etc.  May cause clutter in neighborhoods if system is abused
<b>3. Conduct Bulky Waste Collection Events</b>	At least annually or seasonally provide special events for collector of bulky waste. Program can be designed for different areas throughout year.	Provides an alternative for residences to dispose of bulky items vs transport to transfer stations	Will increase rates to residences unless program includes a drop off fee	Provides alternative for residences to dispose of bulky waste items.  May reduce clutter in neighborhoods  May reduce traffic at transfer stations	May impact drop off at reuse stores i.e. Goodwill, etc.  May cause clutter in neighborhoods if system is abused Events not as convenient as going to transfer station

<b>Strategies to Modify Rates</b>					
<b>1. Maintain Current Rate Policy at TS</b>	TS will continue to charge \$10 Fee + Weight of waste disposed at TS	No expected changes No impact of transfer station operations	As traffic increases the cost of services at transfer stations will increase  Added capital to increase space to handle self-haul traffic	No change in rate system that has been in place for several years	Self-haul / cash customers will not pay cost of service  Collection services subsidize self-haul at TS
<b>2. Establish Rates Based on Cost of Services</b>	Establish fees based on policy to have self-haul/ cash customer pay actual cost of services to use transfer stations.	May reduce traffic or those customers as potentially more residences subscribe to collection services.  Could cause increase in illegal dumping	Impacts cost and revenue at transfer stations.	Expected to reduce some traffic at transfer stations  Customers will each pay for level of services provided  May incentivize residences to subscribe to collection vs self haul	May increase illegal dumping due to increase in self haul rates
<b>3. Set Minimum Rate</b>	Establish a minimum rate to offset actual cost of services and to provide some incentive to self-haul customers to subscribe to collection.	May result in less traffic @ transfer stations <ul style="list-style-type: none"> <li>Some customers might subscribe to collection</li> <li>Self-haul customers will increase loads and reduce number of trips</li> </ul> May Increase in Illegal Dumping	Projected to increase revenue and possibly cover cost of services  May reduce cost to operate with less traffic	Expected to reduce some traffic at transfer stations marginally  Customers will each pay for level of services  May incentivize residences to subscribe to collection vs self haul  Less traffic on roads and less litter on roads	May increase illegal dumping

<b>Revise Hours and Day of Operations</b>					
<b>1. Maintain Current Hours of Operation</b>	No change in the hours of operations at TS	No Impacts			
<b>2. Modify Hours @CTR And Other Transfer stations as necessary</b>	Reduce hours for SH and Cash customers to use TS	<p>May reduce some traffic at TS</p> <p>May increase traffic at peak times causing more congestion</p>	<p>May reduce cost of TS operations by shorter hours</p> <p>If customer traffic is reduced this option may reduce need for TS improvements in immediate future</p>	<p>Could reduce cost of operations and reduce overall traffic</p> <p>May increase subscriptions by households using collection system</p>	May cause increase in illegal dumping
<b>3. Modify days of Operations at Transfer Stations</b>	Propose opening both West Van and Washougal to self-haul customers on Sundays	<p>Provides higher level of service to customers.in service areas</p> <p>May impact /reduce peak traffic at CTR</p>	<p>Increase cost of operations at transfer stations</p> <p>Revenues generated may offset most of the cost</p>	<p>Additional days of operations provides more options for customers.</p> <p>May reduce peak traffic during weekdays and on Saturdays</p>	<p>May deter some households from subscribing to collection services</p> <p>Adds costs to operate</p>