



Skagit County Solid Waste Rate Study

June 2018



Bell & Associates, Inc.



Skagit County Solid Waste Rate Study Report

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Background

Skagit County’s Solid Waste Management Division (SWMD / Division) of the Public Works Department provides solid waste disposal, processing of household hazardous waste, recycling drop-off, litter / illegal dumping clean-up, closed landfill monitoring, and program administration for residents within Skagit County. The SWMD is segregated into 9 budgetary sections. Table 1 details the budgeted expenses, from greatest to least, for the current year.

Table 1: SWMD FY 2018 Budgeted Expenses

Budget Sections	Amount	Expense %
Transfer Station	\$7,542,872	72.2%
Admin	\$1,684,281	16.1%
HHW	\$334,807	3.2%
Sauk	\$275,740	2.6%
Environmental	\$223,048	2.1%
Clear Lake	\$123,180	1.2%
Education	\$116,304	1.1%
Litter	\$115,128	1.1%
Training	\$31,706	0.3%
Total Expense	\$10,447,065	100.0%

Revenues necessary to sustain the SWMD are generated from fees charged for waste disposal at the transfer station in Mt. Vernon and the transfer sites in Concrete and Clear Lake. Revenues from other sources such as grants and bond rebates contribute the remainder of the Division’s resources. Table 2 details the sources of revenue.

Table 2: SWMD FY 2018 Budgeted Revenues

Revenue Source	Amount	Revenue %
Disposal Fees	\$9,695,560	94.9%
Transfer Site	\$210,000	2.1%
Grant / Non-Service	\$194,321	1.9%
Material Sales	\$82,000	0.8%
Other	\$28,400	0.3%
MRW Fees	\$8,000	0.1%
Total Revenue	\$10,218,281	100%



Transfer Sites

Access to the Sauk Transfer Site and Clear Lake sites are controlled by on-site personnel. Fees charged at Sauk are on a per ton basis due to the scale system on site; whereas, the absence of a scale at the Clear Lake site requires a per can / bag fee to be charged. Recycling is also accepted at no cost at each site and is directly hauled to the processor.

There are two primary costs for the Sauk Transfer Site and the Clear Lake Compactor Site: the on-site expenses for personnel and operations and the cost of hauling waste from each site to the transfer station. Site expenses are segregated as separate sections within the Solid Waste Division’s accounting records, but the cost of hauling waste to the transfer station is included in the transfer station section. To calculate the cost of hauling, load counts from each site were queried from the scale house data for each site. Haul times from each site to the transfer station were estimated for each site and multiplied by an estimated hourly cost of \$85. For example, the estimated time to haul one box from Sauk to the transfer station was 2 hours and 12 minutes. In 2017, there were 274 hauls, that required 2.2 hours per haul multiplied by \$85 per hour. The estimated cost was calculated at \$51,238 (274 hauls x 2.2 hours x \$85). The sum of the operations and hauling is the total expense for each site. The following table details the cost for each site over previous two years plus the current year.

Table 3: Transfer Sites Cost of Service Calculation

	2018 Budget		2017 Actual		2016 Actual	
	Sauk	Clear Lake	Sauk	Clear Lake	Sauk	Clear Lake
	Tons	Visitors	Tons	Visitors	Tons	Visitors
Revenue	\$160,000	\$50,000	\$159,404	\$56,021	\$153,044	\$51,822
Site Expense	\$275,740	\$123,180	\$306,131	\$110,966	\$263,310	\$121,869
Haul Cost	\$50,864	\$3,009	\$51,238	\$3,009	\$46,750	\$3,343
Total Expense	\$326,604	\$126,189	\$357,369	\$113,975	\$310,060	\$125,212
Income / (Loss)	\$(166,604)	\$(76,189)	\$(197,964)	\$(57,954)	\$(157,016)	\$(73,390)
Cost per Ton	\$181.65	\$15.14	\$199.54	\$12.21	\$180.27	\$13.66
Current Fee	\$89.00	\$6.00	\$89.00	\$6.00	\$89.00	\$6.00
Loss per Ton	\$(92.65)	\$(9.14)	\$(110.54)	\$(6.21)	\$(91.27)	\$(7.66)
Combined Loss	\$(242,793)		\$(255,918)		\$(230,406)	
Incoming Tons	111,800		110,614			
Cost per Ton	\$(2.17)		\$(2.31)			

The combined loss is the sum of each site for the year of operation. Since the cost of each site is not covered in the fees, the loss is absorbed into the rates charged at the transfer station. The last two lines are the reported tons in 2017 and the estimated tons in 2018, not including the transfer site tons, with the combined loss allocated over the tons. In 2017, every ton at the transfer station incurred \$2.31 of cost to subsidize the operations of the transfer sites in Concrete and Clear Lake.



Transfer Operations

Incoming waste tons are delivered to the tipping floor in Mt. Vernon from four primary sources; waste collection routes, commercial waste generators, transfer sites / government, and self-haulers. Table 7 details the number of waste tons delivered, customer counts, and the average weight per visit, for the previous two years.

Table 7: Source of Inbound Tonnage to the Skagit County Transfer Station

Source	2017			2016		
	Tons	Tickets	Av. Wt.	Tons	Tickets	Av. Wt.
Collection Routes	70,920	13,162	5.39	69,177	12,725	5.44
Self-Haulers	27,781	119,107	0.23 ¹	25,394	111,654	0.23
Commercial Gen.	6,854	5,972	1.15	6,711	6,022	1.11
Trans. / Gov.	4,550	1,510	3.01	4,468	1,423	3.14
Totals	110,106	139,751		105,749	131,824	

Table 7 Note 1: .23 tons is 460 pounds

Incoming waste from collection routes include the municipal collection operations of Mt. Vernon, Anacortes, Sedro Woolley, and Waste Management. Commercial waste generators are businesses that have established an account with the County and are primarily comprised of contractors and roofers. Transfer sites and government include the two sites in the eastern part of the County as well as local government departments that have the capacity to haul waste to the transfer station. Self-haulers are the rest of the customers at the transfer station. Self-haul customers comprise 85% of the total incoming loads, but only account for approximately 25% of the total inbound tons. The average weight per self-haul customer was 466 pounds in 2017 and 455 in 2016.

Cost of Service

The 2018 budget is the starting point for the projection of operating expense to fiscal year 2023. Inflation assumptions in Table 8 were applied to the line item costs to estimate cost for the subsequent years (2019 to 2022). Detailed costs were aggregated by function in Table 9.

Table 8: Cost and Operational Assumptions

Annual CPI	2.50%
Landfill Disposal CPI	2.13% (Contract is increased by 85% of CPI)
Labor / Wages	2.50%
Health Insurance	7.50%
Fuel Expense	10.00%
Incoming Waste Tons	1.11% (Same as the projected County population growth)



Table 9: Skagit County Four Year Operational Cost Projection

Year	2019	2020	2021	2022	2023	Average 2019 - 2023
Incoming SW Tons	112,400	113,600	114,800	116,000	117,200	114,800
Admin, Ed. & Litter	2,027,990	2,063,370	2,099,800	2,137,460	2,182,170	2,102,158
Environmental	230,470	327,860 ¹	334,770	341,850	349,280	316,846
HHW & Training	376,800	387,550	398,620	409,990	421,720	398,936
Sauk & Clear Lake	411,599	424,006	436,894	450,386	464,299	437,437
Transfer Operations	7,850,914	8,102,342	8,361,818	8,629,902	8,906,798	8,370,355
Total Expense	10,897,773	11,305,128	11,631,902	11,969,588	12,324,267	11,625,732
Less Build America Bond Revenue	(162,321)	(162,321)	(162,321)	(162,321)	(162,321)	(162,321)
Less Landfill Disposal	(5,772,793)	(5,958,358)	(6,149,202)	(6,345,468)	(6,547,297)	(6,154,624)
Budgeted Expenses for Rates	4,962,659	5,184,449	5,320,379	5,461,799	5,614,649	5,308,787
Cost per Ton	\$44.15	\$45.64	\$46.34	\$47.08	\$47.91	\$46.23

Table 9 Note 1: Increase due to March Point Landfill post-closure costs.

Total SWMD expenses were calculated from 2019 to 2023. Revenue from the Build America bond rebate was subtracted out of the total expense rather than reducing the bond payment, which is recognized in the Administrative Cost. Landfill disposal expense is subtracted out; however, the disposal cost is incorporated into the rate in the next step.

Estimated landfill disposal cost is assumed to increase by 2.31% every year. There is a variance in the incoming waste tons compared to the tons landfilled. The variance is due to diversion of recoverable materials from the tipping floor and from the segregation of tires. In 2017, the diversion percentage was 4.8%, which is factored into the tipping fee in Table 10.

Table 10: Landfill Disposal Costs

	2019	2020	2021	2022	2023	Average 2019 - 23
Landfill Disposal Fee	\$53.90	\$55.04	\$56.21	\$57.41	\$58.63	\$56.24
Less Diversion Factor	\$(2.58)	\$(2.63)	\$(2.69)	\$(2.75)	\$(2.81)	\$(2.69)
Net Disposal Cost	\$51.32	\$52.41	\$53.52	\$54.66	\$55.82	\$53.55





March Point Landfill

The preferred alternative for remediating the site is \$9.2 million for cap and closure and \$2.8 million for post-closure cost over the next 30 years. John Long, the Senior Geologist who signed the report, calculated the post closure costs assuming most of the work would be completed in-house by Skagit County.

Four parties; Skagit County, WA Dept of Natural Resources, Chevron-Exaco, and Shell Oil are working on a consent decree to determine the allocation of the remediation costs. Mark Meyers, Skagit County attorney, is the point of contact for the final figures to be paid by the County.

The worst-case situation is the County is responsible for all costs of remediation. Assuming the County would finance the cost, two scenarios were calculated, one for a 10 year note at 3.5% and the other for a 20 year note at 4.5%. The cost per ton for the 10 year note is \$9.64 and the 20 year note is \$6.16. Costs were allocated over the estimated annual incoming waste volume over the next five years – 114,800 tons. Table 11 summarizes the closure calculations assuming the County is 100%, 75%, 50%, and 25% liable for the costs.

Table 11: Estimated Closure Liability Scenarios for Skagit County

County Cost Share	100%	75%	50%	25%
Closure Cost to Cap	\$9,200,000	\$6,900,000	\$4,600,000	\$2,300,000
Annual SW Tons	114,800	114,800	114,800	114,800
10 year bond cost	\$11,062,206	\$8,296,654	\$5,531,103	\$2,765,551
Annual Payment	\$1,106,221	\$829,665	\$553,110	\$276,555
Cost per Ton	\$9.64	\$7.23	\$4.82	\$2.41
20 year bond cost	\$14,145,211	\$10,608,908	\$7,072,605	\$3,536,303
Annual Payment	\$707,261	\$530,445	\$353,630¹	\$176,815
Cost per Ton	\$6.16	\$4.62	\$3.08	\$1.54

Post-closure costs are estimated at \$90,800 in the first five years. In years 6 through 30, the cost is expected to decrease to \$82,800 annually. The cost per ton for post-closure cost in years 1 to 5 is \$0.79 per ton and decreases to \$0.72 per ton in years 6 through 30 at 100% liability. Table 12 on the next page summarizes the four levels of post-closure liability.

¹ This is the amount used to calculate the tipping fee.



Table 12: Estimated Post Closure Liability Scenarios for Skagit County

County Cost Share	100%	75%	50%	25%
Post-Closure Cost	\$2,800,000	\$2,800,000	\$2,800,000	\$2,800,000
Annual SW Tons	114,800	114,800	114,800	114,800
Year 1 to 5 av. cost	\$90,800	\$68,100	\$45,400	\$22,700
Cost per Ton	\$0.79	\$0.59	\$0.40	\$0.20
Year 6 to 30 av. cost	\$82,800	\$62,100	\$41,400	\$20,700
Cost per Ton	\$0.72	\$0.54	\$0.36	\$0.18

The combined closure and post-closure cost per ton impacts are summarize in the following table.

Table 13: Combined Closure and Post Closure Liability Costs per Ton for Skagit County

County Cost Share	100%	75%	50%	25%
10 year bond				
Year 1 to 5	\$10.43	\$7.82	\$5.21	\$2.61
Year 6 to 30	\$10.36	\$7.77	\$5.18	\$2.59
20 year bond				
Year 1 to 5	\$6.95	\$5.21	\$3.48	\$1.74
Year 6 to 30	\$6.88	\$5.16	\$3.44	\$1.72

Compactor Repair & Replacement

The County utilizes an SSI 4500 compactor to load the waste into the intermodal containers for shipment to Klickitat County. The current cost to replace the SSI 4500 is \$1.65 million. The machine has a useful life of 20 years with the manufacturer’s recommended maintenance, which gives the compactor at the transfer station an estimated remaining life of 15 years². It is recommended that the County establish a sinking fund to encumber the resources necessary to



purchase a replacement when the current machine is no longer functioning. Table 14 on the following page details the recommended amount to encumber for the future replacement.

Table 14: Compactor Replacement Costs

² Compactor was installed in September 2012; however, operations at the transfer station commenced in in Spring 2013.



Description	Amount
Compactor Cost (2017)	\$1,650,000
Expected Life (20 yrs.)	15
Replacement Year	2033
Expected Replacement Cost (2.5% inflation)	\$2,390,000
Annual Accrual	\$159,333
Average Annual Waste Tons	114,800
Compactor Replacement Accrual per Ton	\$1.39

Under the current tonnage amounts, the County should replace the filter sets every 750 hours of operation, (every six months) and will incur approximately \$4,000 annually for parts and labor. The hydraulic cylinder should be rebuilt every two years at a cost of \$20,000 for parts and labor. The compactor knife and platen assembly should be regularly inspected, and if possible, sharpened every 4 years, preferably when the cylinder is rebuilt. If the knife and assembly can't be sharpened, the replacement cost is \$9,000. Combining these costs, the County should expect to incur an average of \$20,000 in routine maintenance costs per year or approximately \$0.20 per ton.

The remediation of March Point Landfill and the replacement of the SSI Compactor will require the County to accrue and encumber funds starting in 2019. Remediation cost for the County are assumed to be 50% of the closure cost (\$353,630) over a 20 year bonding period. Post-closure costs for March Point would be completed by SWMD personnel and are assumed at 100% of the estimated annual costs. These costs are recognized in the Environmental section starting in year 2020 (see Table 9). In addition to the future cost accruals, the County will maintain the \$1 per ton discount for municipal collection. The rate impacts of all three costs are detailed in Table 15.

Table 15: Future Costs and Municipal Discount and their Rate Impacts

Year	2019	2020	2021	2022	2023	Average 2019 - 23
Incoming SW Tons	112,400	113,600	114,800	116,000	117,200	114,800
March Point Remediation	\$353,630	\$353,630	\$353,630	\$353,630	\$353,630	\$353,630
Compactor Replacement	\$159,333	\$159,333	\$159,333	\$159,333	\$159,333	\$159,333
Municipal Discount	\$72,500	\$73,300	\$74,100	\$74,900	\$75,700	\$74,100
Total Cost	\$585,464	\$586,264	\$587,064	\$587,864	\$588,664	\$587,064
Net Cost per Ton	\$5.21	\$5.16	\$5.11	\$5.07	\$5.02	\$5.11



Revenue Offsets

Incoming funds and revenues not directly related to solid waste disposal will buy-down the overall cost per ton. These include grant funding from the Washington Department of Ecology, charges assessed to local businesses for the disposal of moderate risk waste, and fees charged to dispose of white goods. Cost associated with these revenues are included in the County budget and are incorporated into Table 9. Table 16 details the estimated revenues and the overall rate impacts.

Table 16: Incoming Revenue from Other Sources

Revenue Offsets	2019	2020	2021	2022	2023	Average 2019 - 23
Dept of Ecology Grants	\$32,000	\$32,000	\$32,000	\$32,000	\$32,000	\$32,000
HHW	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000
White Goods	\$91,310	\$91,310	\$91,310	\$91,310	\$91,310	\$91,310
Total Revenues	\$131,310	\$131,310	\$131,310	\$131,310	\$131,310	\$131,310
Revenue per Ton	\$1.17	\$1.16	\$1.14	\$1.13	\$1.12	\$1.14

Revenue from the sale of recyclable materials was not considered in the calculation of the rates due to the recent decrease in value and the projected volatility of the recyclable commodity markets.

Disposal Fee Calculation

Combining the amounts from the previous tables, the cost of waste disposal for each year is detailed along with the average over the next five years in Table 17.

Table 17: Cost of Solid Waste Disposal

Per Ton Cost	2019	2020	2021	2022	2023	Average 2019 - 23
Operational Cost (Table 9)	\$44.15	\$45.64	\$46.34	\$47.08	\$47.91	\$46.23
Disposal Cost (Table 10)	\$51.32	\$52.41	\$53.52	\$54.66	\$55.82	\$53.55
Compactor Replacement	\$1.42	\$1.40	\$1.39	\$1.37	\$1.36	\$1.39
Municipal Discount	\$0.65	\$0.65	\$0.65	\$0.65	\$0.65	\$0.65
Revenue Offsets (Table 16)	\$(1.17)	\$(1.16)	\$(1.14)	\$(1.13)	\$(1.12)	\$(1.14)
Disposal Cost per Ton	\$96.37	\$98.94	\$100.76	\$102.63	\$104.62	\$100.66
Annual % Increase	8.3%	2.7%	1.8%	1.9%	1.9%	3.5%
Proposed MSW Rate	\$97	\$99	\$101	\$103	\$105	\$101

Rounding to the nearest \$1, the cost of service over the next five years is \$101 per ton. A commensurate increase is recommended for Clear Lake; from the current rate from \$6 per can to \$7 per can over the next five year period.



Remediation costs for March Point are not included in the rate calculation at this time because the assignment of liability has not been completed. Once the decision has been rendered on liability, the County should amend the rates and add the addition cost to the disposal fee.



Self-Haul Wait Time

While the transfer station was designed to accommodate self-haul customers, it wasn't designed to handle the current amounts with efficiency. Wait times are significant during the weekend and holidays. Using data generated from the scalehouse over a 12 month period (September 2016 to August 2017³), an analysis of the self-haul counts and load weights was completed to determine the days and times with the heaviest volume as well as the range of weight delivered to the tipping floor.

Self-haul customers and commercial customers must weigh in and weight out on the scale to be assessed the correct disposal amount. The average time between these two points was queried from the scalehouse data and is summarized in Table 18. It must be noted that this doesn't include the time expended by customers waiting on Ovenell Road prior to driving across the scale, which can be considerably higher than the times in Table 18.

Table 18: Average Minutes from Weigh-In to Tare-Out – September 2016 to August 2017

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
6:00 AM	8.4	11.5	8.9	11.4	10.1	-	-
7:00 AM	8.8	9.2	9.3	9.6	8.4	-	-
8:00 AM	9.0	9.2	9.8	8.7	9.1	10.1	8.5
9:00 AM	9.5	9.8	9.6	9.5	9.5	10.7	9.4
10:00 AM	10.8	10.2	9.8	9.8	10.1	11.9	10.5
11:00 AM	11.0	10.4	10.3	9.7	10.8	13.1	12.0
12:00 PM	11.1	10.6	10.5	10.4	10.9	14.6	13.5
1:00 PM	11.2	10.3	10.2	10.5	10.8	14.2	13.4
2:00 PM	10.9	11.0	10.4	10.3	10.3	14.3	13.0
3:00 PM	10.7	9.9	10.7	10.2	11.1	13.6	12.5
4:00 PM	11.2	10.2	9.8	9.5	10.1	11.9	11.4
5:00 PM	9.2	9.4	8.8	8.8	9.2	9.3	9.1
6:00 PM	-	2.3	3.7	-	0.8	1.3	3.3
Average	10.3	10.0	9.9	9.7	10.0	11.2	10.3

³ Approximately 92% of the total cash customer data was converted for the analysis.



Daily Cash Customer Counts

Incoming volumes peak from 11:00 am to 3:00 pm with 49% of the self-haul customers driving over the scale during this period. Table 19 details the hourly incoming traffic.

Table 19: Daily Count of Cash Customers – September 2016 to August 2017

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Total	%
6:00 AM	27	48	40	32	32	-	-	179	0%
7:00 AM	189	208	187	170	185	-	-	939	1%
8:00 AM	760	679	636	612	756	1,026	780	5,249	5%
9:00 AM	1,240	1,159	989	1,045	1,257	1,997	1,525	9,212	8%
10:00 AM	1,637	1,495	1,366	1,363	1,612	2,554	2,140	12,167	11%
11:00 AM	1,874	1,622	1,523	1,509	1,822	2,969	2,665	13,984	13%
12:00 PM	1,802	1,508	1,536	1,559	1,699	2,958	2,663	13,725	13%
1:00 PM	1,761	1,495	1,417	1,443	1,657	2,837	2,624	13,234	12%
2:00 PM	1,724	1,533	1,415	1,471	1,701	2,657	2,397	12,898	12%
3:00 PM	1,644	1,411	1,462	1,315	1,703	2,289	2,062	11,886	11%
4:00 PM	1,426	1,269	1,217	1,137	1,369	1,680	1,648	9,746	9%
5:00 PM	927	791	740	745	801	937	896	5,837	5%
6:00 PM	-	4	4	1	2	1	2	14	0%
Total	15,011	13,222	12,532	12,402	14,596	21,905	19,402	109,070	

The minimum charge at the transfer station is \$9.65⁴, which pays up to 217 pounds of disposal ((\$9.65 / \$89) x 2,000). More than 1 in 3 self-haul customers dispose less than the minimum 217 pounds. Table 20 summarizes the number of minimum charges over the last two years.

Table 20: Minimum Charge Customer Activity

Year	2017	2016
Minimum Charge	40,527	41,076
% of Total Self-Haulers	34%	37%
Total Tons	2,738.05	2,659.94
Average Weight	135	130

⁴ The minimum fee is \$9.65 plus \$0.35 Washington State Refuse Tax for a total minimum fee of \$10.



Self-Haul Topics for Discussion

A significant number of self-haul customers are using the transfer station for small amounts of waste. Consider that the average weight of a residential 32 gallon can weighs 25 pounds⁵ and that the average family will generate approximately two cans of waste per week. Two, 32 gallon cans, or a 64 gallon cart set out weekly with an average weight of 50 pounds; therefore, the total monthly weight set out for collection is 217 pounds (25 pounds x 2 cans x 4.33⁶ pick-ups per month).

Coincidentally, 217 pounds is the current minimum charge at the transfer station and the average monthly set out weight for residential customers.

The current UTC regulated rates charged by Waste Management in the County for weekly waste collection are as follows:

Table 21: Current Residential Collection Rates in Skagit County

WM UTC Rate	Monthly Rate	Average Weight
32 can weekly	\$16.20	108
2 - 32 cans weekly	\$24.30	217
35 gallon roll cart	\$17.40	108
64 gallon roll cart	\$25.50	217
96 gallon roll cart	\$33.60	325

While the current minimum fee is less than the cost of weekly collection, not considered is the time expended by the self-haul customer to delivering the waste to the transfer station.

A recommendation to reduce the number of self-haul customers is to increase the minimum disposal amount to \$20 (\$19.30 disposal fee plus \$0.70 refuse tax). The increase would be close to the current rate for regular waste collection service and would reduce the incentive to deliver small loads of waste to the transfer station. Table 22 on the following page compares the proposed increase to the surrounding jurisdictions.

⁵ City of Portland 2008-09 Vessel Weight Study completed by Portland State University.

⁶ Monthly pick-ups is derived by dividing 52 weeks by 12 months.



Table 22: Neighboring Transfer Stations Minimum Charge

Jurisdiction	Snohomish	Island	King	Seattle
Disposal Fee per Ton	\$105.00	\$115.00	\$144.34	\$145.00
Minimum Charge	yes	yes	yes	yes
Minimum Weight	360	50	320	420
Minimum Charge	\$20.00	\$11.00 ¹	\$24.25	\$30.00

Table 22 Note 1: The minimum charge is \$11 on the first 50 pounds and rounded to the nearest \$0.50

Two changes will occur if the minimum rate is increased to \$20. First, the number of self-haul customers will decrease, which is the primary objective. Customers that use the transfer station for disposal of household waste will either reduce the frequency of their visits and bring in larger loads or they will subscribe to waste collection services. Subscribing to regular waste collection service is the desired outcome.

While some self-haulers will reduce the number of trips, a majority of the low weight self-haulers will continue to use the facility. The outcome will be an increase in revenue generated from the minimum charge. At the \$104 per ton rate, the \$20 minimum fee would allow for the disposal of 371 pounds ($\$19.30 \text{ cost without tax} / \$104 = .1855 \times 2,000$). However, the average self-haul customer who is paying the minimum fee is disposing of only 135 pounds. The difference between the cost of service to dispose of 135 pounds is \$7.02 ($135 / 2000 \times \104). The County would generate, on average, \$12.28 per minimum charge customer ($\$19.30 - \7.20). Table 23 details three possible outcomes for traffic reduction and the additional income that would be generated if the minimum fee was increased to \$20 per ton as well as the impact on the rates, assuming 114,800 of annual incoming waste tons.

Table 23: Estimated Revenue Generated from Increasing the Minimum Charge

Traffic Reduction	Inbound Customers	\$ ▲	Additional Revenue	Rate Impact
10%	36,474	\$12.24	\$446,374	\$(3.89)
15%	34,448	\$12.24	\$421,580	\$(3.67)
20%	32,422	\$12.24	\$396,785	\$(3.46)

The rate impact would “buy down” the overall cost per ton. The cost per ton from Table 17 is \$104.62 per ton; therefore, the additional revenue generated from the minimum fee would reduce the cost to \$101 per ton at the assumed 20% reduction in traffic.

If the increase to \$20 is considered too high, a second option is to increase the minimum fee incrementally over the next four years. Establishing the minimum weight to 250 pounds in 2019 would increase the minimum fee to \$14. Each year the rate would be increased by \$2 until it reached \$20 in fiscal year 2020. Assuming a 10% reduction in self-haul traffic and an average weight of 135 pounds, Table 24 on the next page details the expected revenue generated from the fee adjustment.



Table 24: Financial Impact of an Incremental Increase in the Minimum Fee

Incremental Calculation	2019	2020	2021	2022	2023	Average 2019 - 23
Minimum Fee	\$14.00	\$16.00	\$18.00	\$20.00	\$20.00	\$17.60
Additional Revenue per Customer	\$6.98	\$8.98	\$10.98	\$12.98	\$12.98	\$10.58
Annual Revenue	\$254,589	\$327,537	\$400,485	\$473,433	\$473,433	\$385,895
Rate Impact Ton	\$(2.27)	\$(2.88)	\$(3.49)	\$(4.08)	\$(4.04)	\$(3.36)

When rounded to the nearest \$1, the incremental increase has the same rate impact of buying down the rate by \$3 over the five year rate period as the prior alternative. However, the primary purpose of increasing the minimum fee is to reduce self-haul traffic and encourage customers to either minimize their trips to the transfer station by maximizing their payloads, or to subscribe to waste collection services.

Tire Rates

While there are other outlets for tire disposal around the County, the transfer station has become the de facto destination for tire disposal by self-haulers and local businesses. The per ton disposal fee charged for waste disposal does not cover the costs incurred by the County to correctly dispose of waste tires. To cover the cost of disposal and handling by transfer station personnel, the County should establish a rate schedule for tire disposal. The proposed rates, detailed in Table 25, are the current disposal rates charged to the County by L&S Tire, doubled, and rounded up to the \$1.

Table 25: Propose Fees for Tire Disposal

Tire Size	L&S Fee	Proposed County Rate
Motorcycle	\$1.35	\$3.00
Small - 4" to 10"	\$1.65	\$4.00
Passenger Car	\$1.65	\$4.00
Light Truck	\$2.50	\$5.00
Commercial Truck	\$12.00	\$24.00
Big Tires over 25"	\$120.00	\$150.00 ¹
With Rim	L&S Fee	Proposed County Rate
Motorcycle	\$2.00	\$4.00
Small - 4" to 10"	\$4.25	\$9.00
Passenger Car	\$4.25	\$9.00
Light Truck	\$5.00	\$10.00
Commercial Truck	\$20.00	\$40.00
Big Tires over 25"	\$200.00	\$250.00

Table 25 Note 1: Tires over 25" were increased by 1.25 times the L&S fee.



Construction and Demolition Processing Rates

Disposal discounts for the diversion of construction and demolition waste have been established by the County to provide intermediate service providers the financial incentive to sort and market recoverable materials. The current rate structure provides either a 17% or 28% discount, dependent on the contractor’s recycling rate, from the current \$89 per ton disposal fee charged by the County at the transfer station. Table 26 details the proposed rate changes to the intermediate handling facilities, at the current 17% and 28% discount, for the changes in the MSW tipping fee.

Table 26: Proposed Construction and Demolition Processing Rates

Description	Skagit County MSW Rate	C&D Rate if Recycling Rate 75% to 79%	C&D Rate if Recycling Rate over 80%
MSW / C&D Rate per Ton	\$89.00	\$74.00	\$64.00
C&D Rate Reduction		17%	28%
MSW / C&D Rate 2019	\$97.00	\$81.00	\$70.00
MSW / C&D Rate 2020	\$99.00	\$82.00	\$71.00
MSW / C&D Rate 2021	\$101.00	\$84.00	\$73.00
MSW / C&D Rate 2022	\$103.00	\$86.00	\$74.00
MSW / C&D Rate 2023	\$105.00	\$87.00	\$76.00
Average Rates	\$101.00	\$84.00	\$73.00