

Skagit County

SOLID WASTE COST OF SERVICE AND RATE STUDY

FINAL REPORT
April 2024

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FCS GROUP
Solutions-Oriented Consulting

April 5, 2024

Margo Gillaspy, Solid Waste Division Manager
Skagit County Public Works
1800 Continental Place
Mount Vernon, WA 98273

Subject: Final Report for Solid Waste Cost of Service and Rate Study

Dear Margo,

FCS GROUP is pleased to submit the final report of the Solid Waste Cost of Service and Rate Study. The report summarizes the methodology, findings, and recommendations for each of the core elements of the study.

It has been a pleasure working with Skagit County Public Works Solid Waste Division staff on this effort. Please let me know if you have any questions or need additional information for this report. I can be reached at (425) 615-6056.

Sincerely,



Angie Sanchez-Virnoche
Principal and Vice President



Matt Hobson
Project Manager



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TABLE OF CONTENTS

Table of Contents	1
Section I. Executive Summary.....	2
Section II. Introduction	6
Section III. Rate Setting Principles and Methodology	8
Section IV. Solid Waste Revenue Requirements.....	12
Section V. Cost of Service.....	17
Section VI. Rate Design	25

Section I. EXECUTIVE SUMMARY

BACKGROUND

The Skagit County Public Works Solid Waste Division (Division or County) oversees and manages solid waste transfer and disposal services throughout Skagit County. The Division owns two transfer stations and one waste drop-off station: the Skagit County Recycling and Transfer Station (SCRTS), Sauk Recycling & Transfer Station (Sauk), and Clear Lake Recycling & Compactor Site (Clear Lake). Municipal solid waste (MSW) that is delivered at Sauk and Clear Lake is consolidated and transferred to the Skagit County Recycling and Transfer Station where it is loaded into compacted rail containers and transported for land disposal at Roosevelt Regional Landfill in Klickitat County. Recyclable materials, tires, refrigerators, and other appliances that are collected at all three sites are transported to a variety of local companies for further processing. County facilities provide waste disposal and recycling drop-off services to residents, businesses, and commercial waste haulers within the County and surrounding areas.

COST PRESSURES AND RATE IMPACTS

The County is anticipating several operating cost pressures over the next several years that, if left unaddressed, will impact the County's goals for providing efficient and reliable solid waste services that also protect and preserve human health, environmental quality, and natural resources.

- A new ten-year service contract for the long-haul transportation and disposal of municipal solid waste was initiated in late 2023. The contract is the single-largest expense item for the Division and is projected to increase by approximately \$2.0 million in 2023. By 2024, the annual cost of the contract is estimated to be \$5.6 million higher compared to the contract expenses in 2022.
- The County's existing rate structure – charging customers a tipping fee based on the weight of MSW – is a common structure for transfer stations; however, it can create funding challenges for solid waste utilities. Some of the services provided by the County are unrelated to disposed solid waste (e.g., recycling and hazardous materials processing), but are partially or wholly supported by a rate structure dependent on disposed solid waste. The rate study analyzed the embedded cost of these services within the tipping fees assessed for MSW.
- All MSW collected at Sauk and Clear Lake must be transported to the SCRTS before disposal. The intermodal receipt, consolidation, and transportation of this waste creates unique costs for this waste that is incurred by the County. The rate study analyzed the incremental cost of managing MSW received at Sauk and Clear Lake relative to MSW received at SCRTS.
- The County receives MSW at SCRTS from two general classes of customers. Municipal and commercial solid waste haulers deliver large loads of MSW, averaging six tons per load. The County also receives waste from residential and business self-haulers who deliver relatively small loads to SCRTS, averaging about half of a ton per load. Self-haulers deliver approximately half of all MSW by weight to SCRTS and comprise more than 90 percent of MSW transactions. The rate study evaluated the differences in the cost to provide transfer and disposal services to commercial solid waste haulers and self-haulers.

- The County also contracts for the processing of other unique materials accepted at solid waste facilities. The County assesses rates to customers for some of these materials (e.g., tires and appliances). In other cases, customers are not assessed a specific rate, rather the cost is embedded into other rates (e.g., household hazardous waste). The rate study evaluated the cost and cost recovery levels for these services.

STUDY PROCESS

The methods used to conduct the rate study are based on principles that are generally accepted and widely followed throughout the industry. These principles are designed to produce rates that equitably recover the costs of the utility by setting the appropriate level of revenue to be collected from ratepayers.

The three key analyses completed as part of the study process are listed below:

- **Revenue Requirement.** This analysis identifies the total revenue requirement to fully fund the Division on a standalone basis, considering operating and maintenance expenditures, capital funding needs, and fiscal policy objectives.
- **Cost of Service.** This analysis equitably distributes costs to customer classes based on their proportional demands on and use of the system.
- **Rate Design.** Rate design is the third technical step in utility rate setting. The principal objective of rate design is to implement a rate structure that collects the appropriate level of revenue and is both cost-based and aligns with the utility's pricing goals and objectives.

REVENUE REQUIREMENT RESULTS

Annual operating expenses are estimated at \$15.8 million in 2023 and are expected to increase to \$20.7 million in 2024. The primary driver for the increase in operating expenses is the cost of the new contract for transport and disposal of MSW.

Under the existing rate structure, rate revenues and other revenues (e.g., grants and interest earnings) are projected to generate \$16.5 million in 2024. As a result, an operating deficit is estimated at \$4.2 million in 2024 and is expected to increase each year over the 2025 to 2028 rate-setting period.

In the short run, the Division will rely on the one-time use of cash reserves to manage the operating deficit. The Division's total cash reserves are estimated at \$5.9 million in 2024, of which \$3.3 million is set aside as a minimum operating cash reserve. Unless a rate revenue adjustment occurs in 2024, cash reserves are anticipated to drop below the minimum financial policy target in 2024 and be exhausted by 2025.

In response to these financial pressures:

- The County's multi-year financial plan includes a proposed 30.0 percent increase to rate revenues effective September 1, 2024. No rate increase is proposed in 2025.
- Annual 3.0 percent inflationary-level rate adjustments are proposed on January 1 for each year from 2026 to 2028.
- Rate adjustments to specific user groups or "classes" of customers may be higher or lower than these overall rate adjustments and are designed to transition existing rates towards the cost to provide services to the utility's different customer groups.

COST-OF-SERVICE ANALYSIS AND RECOMMENDATIONS

As part of the study, FCS GROUP evaluated the cost equity between different customer classes served by the Division. Cost equity compares the rate revenue collected from a customer class to the costs incurred to provide services to that customer class. FCS GROUP considers a cost recovery rate between 90 percent and 110 percent to be within the range of reasonableness for full cost recovery.

Key findings indicated that:

- Generally, the County's rates align with the cost of service. Cost recovery rates for the County's largest customer classes, municipal/commercial solid waste haulers and self-haulers at SCRTS, are estimated at 106 percent and 108 percent respectively in 2024.
- White goods (e.g., appliances) have an estimated cost recovery rate of 118 percent in 2024.
- Customer class rates below the cost of service include: direct-to-intermodal (84 percent), street waste (66 percent), Sauk MSW (41 percent), Clear Lake MSW (30 percent), tires (24 percent), and moderate risk waste and household hazardous waste (9 percent).

FCS GROUP coordinated with Division staff and the Skagit County Solid Waste Advisory Committee (SWAC) to review several rate strategies to improve cost equity between the system's different customer classes. Based on these discussions, the proposed rates increase are:

- Commercial solid waste rates would increase at a slightly lower level each year relative to rates for other customer classes: 26 percent in 2024; 2.0 percent each year from 2026 to 2028.
- Annual rate adjustments for all self-haul services (e.g., MSW, tires, appliances) would be uniform, and higher than the annual rate adjustments for commercial solid waste rates: 30.1 percent in 2024; 3.6 percent each year from 2026 to 2028.
- The direct-to-intermodal rate would increase to full cost recovery in 2024: 55.0 percent in 2024 followed by 3.0 percent annual adjustments from 2026 to 2028.
- The street waste rates would increase to full cost recovery in 2024: 98.0 percent in 2024 followed by 2.0 percent annual adjustments from 2026 to 2028.

RATE DESIGN RECOMMENDATIONS

Exhibit 1.1 details the scheduled proposed increases to the County's solid waste rates from 2024 to 2028.

Exhibit 1.1
Rate Schedule Assuming SWAC Approved Increases

Class of Service	Billing Unit	Existing	2024	2025	2026	2027	2028
General Waste - Municipal Municipalities							
	Ton	\$104.00	\$131.00	\$131.00	\$134.00	\$137.00	\$140.00
General Waste - Self-Haul							
Commercial / Residential - Commercial	Ton	\$105.00	\$137.00	\$137.00	\$142.00	\$147.00	\$152.00
Commercial / Residential - Minimum Fee	Ticket	\$19.30	\$26.06	\$26.06	\$27.03	\$28.96	\$30.89
County Litter Clean-Up Program	Ton	\$57.00	\$137.00	\$137.00	\$142.00	\$147.00	\$152.00
General Waste - Out-of-County							
Out-of-County Garbage	Ton	\$111.00	\$138.00	\$138.00	\$141.00	\$144.00	\$147.00
Street Waste							
De-watered Solids	Ton	\$64.50	\$128.00	\$128.00	\$132.00	\$136.00	\$140.00
Sweeper waste	Ton	\$49.70	\$98.00	\$98.00	\$101.00	\$104.00	\$107.00
Vactor Waste	Ton	\$20.20	\$40.00	\$40.00	\$41.00	\$42.00	\$43.00
White Goods							
Appliances	Unit	\$10.00	\$13.00	\$13.00	\$13.00	\$13.00	\$13.00
Refrigerators	Unit	\$25.00	\$33.00	\$33.00	\$34.00	\$35.00	\$36.00
Direct to Intermodal							
C&D Residuals	Ton	\$69.00	\$107.00	\$107.00	\$110.00	\$113.00	\$116.00
MRW							
Antifreeze	Gallon	\$0.50	\$0.70	\$0.70	\$0.70	\$0.70	\$0.70
Batteries	Ton	\$400.00	\$521.00	\$521.00	\$540.00	\$559.00	\$579.00
Compact Florescent Lamps	Bulb	\$0.50	\$0.70	\$0.70	\$0.70	\$0.70	\$0.70
Corrosive Material	Gallon	\$18.00	\$23.00	\$23.00	\$24.00	\$25.00	\$26.00
Flammable Liquid Aerosols	Unit	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00
Flammable Liquids (Solvents)	Gallon	\$3.00	\$4.00	\$4.00	\$4.00	\$4.00	\$4.00
Florescent Lamps	Linear Foot	\$0.10	\$0.10	\$0.10	\$0.10	\$0.10	\$0.10
HID Lamps	Unit	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00
Motor Oil	Gallon	\$0.50	\$0.70	\$0.70	\$0.70	\$0.70	\$0.70
Oil-based paints	Gallon	\$4.00	\$5.00	\$5.00	\$5.00	\$5.00	\$5.00
Organic Peroxides	Gallon	\$38.00	\$49.00	\$49.00	\$51.00	\$53.00	\$55.00
Oxidizing Material	Gallon	\$20.00	\$26.00	\$26.00	\$27.00	\$28.00	\$29.00
Pesticide Aerosols	Unit	\$3.00	\$4.00	\$4.00	\$4.00	\$4.00	\$4.00
Pesticides & Poisons	Gallon	\$16.00	\$21.00	\$21.00	\$22.00	\$23.00	\$24.00
Solid Organics	Gallon	\$10.00	\$13.00	\$13.00	\$13.00	\$13.00	\$13.00
Unclassified Waste	Gallon	\$6.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00
Tires							
Residential	Unit	\$4.00	\$5.00	\$5.00	\$5.00	\$5.00	\$5.00
Off-Rim: Motorcycle	Unit	\$3.00	\$4.00	\$4.00	\$4.00	\$4.00	\$4.00
Off-Rim: Small Pneumatic & Passenger / Light Truck (12" - 16.5")	Unit	\$4.00	\$5.00	\$5.00	\$5.00	\$5.00	\$5.00
Off-Rim: Passenger / Light Truck (17" - 28")	Unit	\$5.00	\$7.00	\$7.00	\$7.00	\$7.00	\$7.00
Off-Rim: Commercial Truck / Motor Home (19.5" - 24.5")	Unit	\$24.00	\$31.00	\$31.00	\$32.00	\$33.00	\$34.00
Off-Rim: Tires Over 25 inches	Unit	\$150.00	\$195.00	\$195.00	\$202.00	\$209.00	\$216.00
On-Rim: Motorcycle	Unit	\$4.00	\$5.00	\$5.00	\$5.00	\$5.00	\$5.00
On-Rim: Small Pneumatic & Passenger / Light Truck (12" - 16.5")	Unit	\$9.00	\$12.00	\$12.00	\$12.00	\$12.00	\$12.00
On-Rim: Passenger / Light Truck (17" - 28")	Unit	\$10.00	\$13.00	\$13.00	\$13.00	\$13.00	\$13.00
On-Rim: Commercial Truck / Motor Home (19.5" - 24.5")	Unit	\$40.00	\$52.00	\$52.00	\$54.00	\$56.00	\$58.00
On-Rim: Tires Over 25 inches	Unit	\$250.00	\$325.00	\$325.00	\$337.00	\$349.00	\$361.00
Sauk Transfer							
General Waste - Commercial	Ton	\$105.00	\$137.00	\$137.00	\$142.00	\$147.00	\$152.00
General Waste - Minimum Fee	Ticket	\$19.30	\$26.06	\$26.06	\$27.03	\$28.96	\$30.89
White Goods - Appliances	Unit	\$10.00	\$13.00	\$13.00	\$13.00	\$13.00	\$13.00
White Goods - Refrigerators	Unit	\$25.00	\$33.00	\$33.00	\$34.00	\$35.00	\$36.00
Clear Lake Transfer							
General Waste - Can (32 gallon)	Unit	\$7.00	\$9.00	\$9.00	\$9.00	\$9.00	\$9.00
General Waste - Half Can (32 gallon)	Unit	\$3.50	\$4.50	\$4.50	\$4.50	\$4.50	\$4.50
White Goods - Appliances	Unit	\$10.00	\$13.00	\$13.00	\$13.00	\$13.00	\$13.00
White Goods - Refrigerators	Unit	\$25.00	\$33.00	\$33.00	\$34.00	\$35.00	\$36.00

Section II. INTRODUCTION

SCOPE OF WORK

In August 2023, the Skagit County Public Works Solid Waste Division contracted with FCS GROUP to perform a solid waste cost-of-service and rate study. The results of this study establish a blueprint for achieving strong financial performance in the future while delivering efficient and effective services to the Division's customers.

REPORT ORGANIZATION

This report is organized into seven sections.

- **Section I** presents a high-level executive summary, detailing the cost-of-service study and rate recommendations.
- **Section II** provides background information about the Division and a general outlook of factors affecting the future financial performance of the solid waste utility.
- **Section III** describes the general purpose of a utility rate study, as well as the study methodology generally used in public utility rate-setting and a framework for the analysis.
- **Section IV** explains the step-by-step process and results of the revenue requirement analysis, which details the overall needs of the system (operating expenses, existing debt, capital programs, etc.), and the revenue (rate increases) required to cover those needs.
- **Section V** details the cost-of-service analysis, which addresses cost proportionality between the Division's customer classes. This analysis explores the extent to which different customer classes are paying their proportional share of the revenue requirement.
- **Section VI** outlines the third and final technical step in utility rate setting (rate design). The principal objective of rate design is to implement rate structures that collect the appropriate level of revenue and are reasonably aligned with cost of service.
- **Section VII** summarizes the study results and recommendations from FCS GROUP.

SKAGIT COUNTY SOLID WASTE DIVISION

The Skagit County Public Works Solid Waste Division owns and manages the transfer and disposal of solid waste generated in the county, with interlocal cooperation from the cities of Mount Vernon, Anacortes, Burlington, Sedro-Woolley, and areas governed by the various tribes in Skagit County. The Division also serves as the lead agency for solid waste management planning within the county service area. The Division owns and manages two solid waste transfer stations and one waste drop-off station:

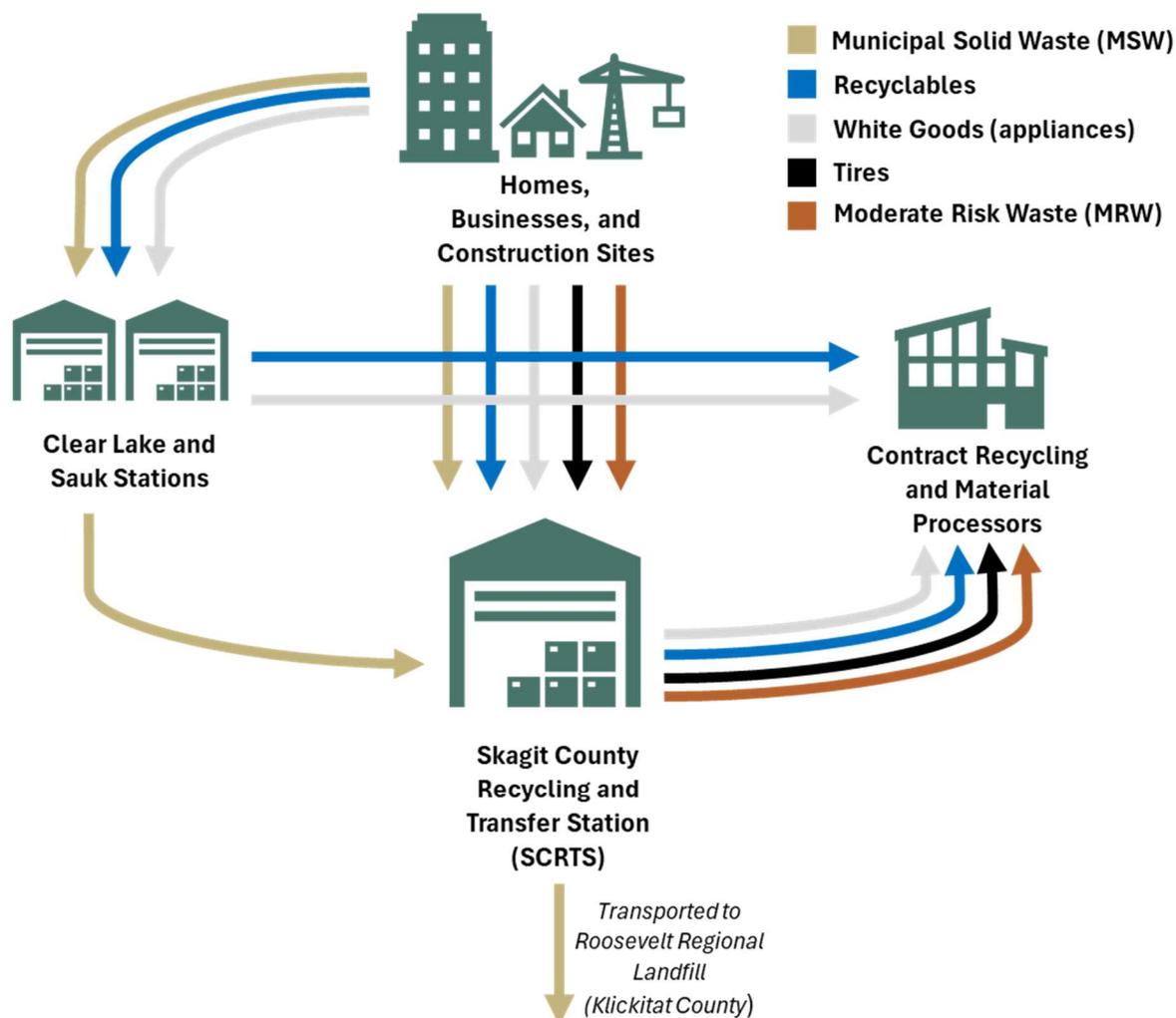
- » Skagit County Transfer and Recycling Station (SCTRS) consists of a vehicle scale, scalehouse, recycling drop-off area, tipping building for commercial and self-haul vehicles, and pre-load compactor. The SCTRS is open 359 days a year for recycling and waste disposal. Waste Management, Inc (WMI), the primary certificated collection company within Skagit County, delivers waste to SCTRS. Additionally, waste is delivered to SCTRS from

cities with municipal solid waste collection utilities (e.g., Anacortes, Mount Vernon, and Sedro-Wooley) as well as from self-haulers.

- » Sauk Transfer Station (Sauk) operates for the collection of household waste only (i.e., no commercially collected waste). The site consists of an attendant’s trailer, a vehicle scale, six recycling drop boxes of various sizes, and an appliance receiving area. The County hauls full waste containers to the SCTR for disposal and recycling containers are delivered to Skagit River Steel & Recycling in Burlington for sorting, processing, and marketing.
- » Clear Lake Recycling and Compactor Site (Clear Lake) consists of an attendant’s building, two stationary compactors, six recycling drop boxes of various sizes, and an appliance receiving area. Because Clear Lake has no scale, customers are charged on the basis of volume. The County hauls full waste containers to the SCTR for disposal and recycling containers are brought to Skagit River Steel.

Exhibit 2.1 below outlines the flow of materials through the Division’s waste facilities.

Exhibit 2.1
Waste Flow Map for Division Facilities



Section III. RATE SETTING PRINCIPLES AND METHODOLOGY

OVERVIEW

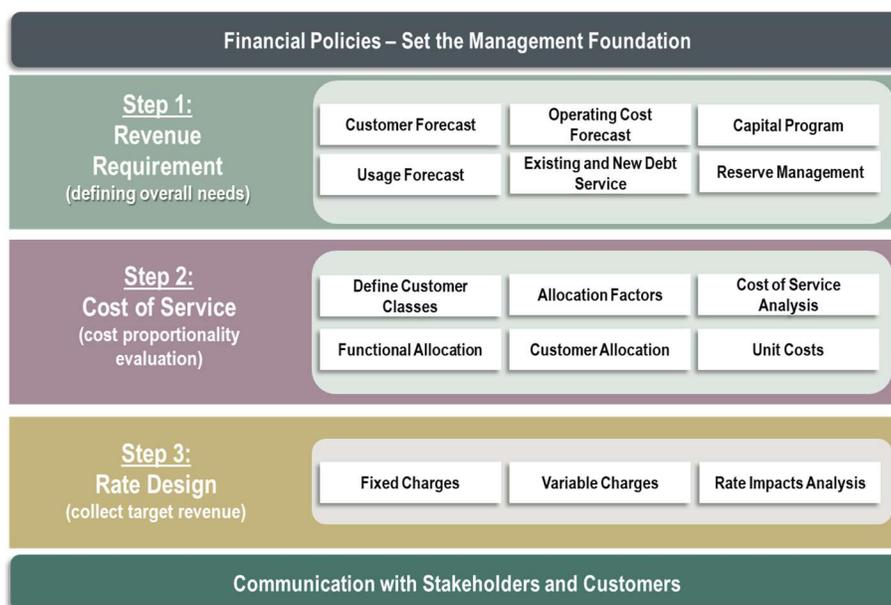
The methods used to establish rates are based on principles that are generally accepted and widely followed throughout the industry. These principles are designed to produce rates that equitably recover the costs of the utility by setting the appropriate level of revenue to be collected from ratepayers and utilizing the established rate structure to collect those revenues.

The three key analyses completed as part of the rate study process are listed below:

- **Revenue Requirement.** This analysis identifies the total revenue requirement to fully fund the Division on a standalone basis, considering operating and maintenance expenditures, capital funding needs, and fiscal policy objectives.
- **Cost of Service.** This analysis proportionally distributes costs to customer classes based on their unique demands on and use of the system.
- **Rate Design.** This analysis includes the development of a rate structure that generates sufficient revenue to meet each system’s revenue requirement forecast, and to address the County’s pricing objectives (e.g., revenue stability, conservation, cost-based pricing).

Exhibit 3.1 illustrates the entire rate study process.

Exhibit 3.1
Overview of Rate Study Process



FINANCIAL POLICIES

The basic framework for evaluating utility revenue needs is founded on a set of fiscal policies. These policies, which can address a variety of topics including cash management, capital funding strategy, financial performance, and rate proportionality, are intended to promote long-term financial viability for the Solid Waste Division. The fiscal policy assumptions in the rate model were provided by the Division staff

Utility Reserves

Reserves are a key component of any utility financial strategy, as they provide the flexibility to manage variations in costs and revenues that could otherwise have an adverse impact on ratepayers. The rate study included the following financial reserves:

- **Operating Reserve**– Operating reserves are designed to provide a liquidity cushion to ensure that adequate cash will be maintained to deal with significant cash balance fluctuations such as seasonal fluctuations in billings and receipts, unanticipated cash expenses, or lower than expected revenue collections. Industry practice is to maintain a minimum balance in the operating reserve equal to 30 to 90 days of operations and maintenance (O&M) expenses for a solid waste utility. These, of course, are guidelines and actual levels should be established based upon each jurisdiction’s unique needs and risk tolerance. The current operating reserve target for the County’s Solid Waste Division is 90 days of O&M expenses or approximately \$3.3 million in 2024. It is assumed that any operating funds above the operating reserve minimum target are assigned to the capital reserve.
- **Rate Stabilization Reserve** – This reserve is typically a percentage of annual revenues set aside for years with lower than expected revenue collections. The reserve provides a financial tool to mitigate the effects of significant shifts in expenses or revenue on tipping fees. No rate stabilization was considered as a part of this study.
- **Capital Reserve** – The Division maintains a capital reserve used to fund annual capital needs. Common industry practices are to maintain a minimum balance equal to 1percent to 2percent of the utility’s net assets or an amount sufficient to cover an unexpected equipment or facility failure. The minimum target for this reserve is assumed at 1 percent of the original cost of fixed assets or \$0.1 million.

Reserves should fluctuate above and below targets, and such experience does not reflect on the quality of budgeting or management. In fact, if a reserve remains static for extended periods of time without use, this may indicate that it is not set appropriately, or is unnecessary. Utility reserves are intended to absorb fluctuation in revenues or expenditures without abrupt rate impacts. As reserve levels vary, a policy structure can define the mechanisms for regulating those levels and returning them to intended targets.

Debt Management

Debt issuance is a valuable tool for the Division to finance certain costs, as it allows the Division to spread a relatively large capital project cost over several years. Debt repayment structures can be flexible (e.g. deferred principal repayment), allowing the Division to “shape” its cost structure and facilitate a stable progression of moderate rate adjustments. When developing its capital funding strategy, the Division must weigh the pros and cons of issuing debt to pay for a project. Too much debt issuance may limit the ability to manage rates. However, excessive aversion to issuing debt can

also create problems, shifting the burden of funding capital investment to existing customers. It is prudent to consider policies related to debt management as part of a broader utility financial policy structure. Common debt management policies may include the level of acceptable outstanding debt, debt repayment terms, bond coverage and total debt coverage targets.

Debt Service Coverage. Debt service coverage is a requirement associated with revenue bonds and some State loans. It is a financial measure that assesses the ability to repay debt. A typical minimum coverage requirement for utility revenue bonds is 1.25. If the Division issues debt, the Division is required to collect enough revenue to meet operating expenses and not only pay debt service but collect an additional 25 percent above the bonded debt service. The extra revenue is a cushion that assures bondholders that the Division has the financial resources to meet its debt service obligations. Achieving a bonded debt service coverage level greater than the minimum required level is a positive signal to bond rating agencies and can result in more favorable terms if the Division enters the market for revenue bonds. No new debt is forecasted within the rate-setting period (2024 to 2028).

REVENUE REQUIREMENT

A revenue requirement analysis forms the basis for a long-range financial plan and multi-year rate management strategy for the solid waste utility. A revenue requirement enables the Division to set utility rate increases which fully recover the total cost of operating the utility: capital improvement and replacement, operations, maintenance, administration, fiscal policy attainment, cash reserve management, and debt repayment. Linking rate levels to a financial plan such as this helps to enable not only sound financial performance for the Division, but also establishes a clear and defensible relationship between the rates imposed on utility customers and the costs incurred to provide the service.

A revenue requirement analysis establishes the total annual financial obligations of the utility by bringing together the following core elements:

- **Fiscal Policy Analysis.** Identifies formal and informal fiscal policies of the Division to ensure that current policies are maintained, including reserve levels and debt service coverage.
- **Capital Funding Plan.** Defines a strategy for funding the capital improvement program, including an analysis of available resources from rate revenues, debt financing, and any special resources that may be readily available (e.g., grants, outside contributions, etc.).
- **Operating Forecast.** Identifies future annual non-capital costs associated with the operation, maintenance, and administration of the system.
- **Sufficiency Testing.** Evaluates the sufficiency of revenues in meeting all financial obligations, including any coverage requirements associated with long-term debt.
- **Strategy Development.** Designs a forward-looking strategy for adjusting rates to fully fund all financial obligations on a periodic or annual basis over the planning period.

COST-OF-SERVICE ANALYSIS

The purpose of a cost-of-service analysis is to provide a rational basis for distributing the full costs of utility services to each class of customers in proportion to the demands they place on the system. Detailed cost allocations, along with appropriate customer class designations, help to sharpen the degree of equity that can be achieved in the resulting rate structure design. The key analytical steps of the cost-of-service analysis are as follows:

- **Functional Cost Allocation.** Apportions the annual revenue requirement (e.g., operating expenses, annual debt service, use/funding of financial reserves) to the major functions of the solid waste service:
 - » Scalehouse, Waste Transfer, Sauk MSW Transfer, Clear Lake MSW Transfer, Recycling & Education, MRW, MSW Transport & Disposal, Environmental Compliance, Tires, and White Goods.
- **Cost Classification.** Establishes a rational relationship between functions (activities) and costs. For example, the cost of land disposal is determined based on the tonnage sent to the Roosevelt Regional Landfill. An allocation of these disposal costs to a particular customer class would be based on the tons of MSW generated by that customer class. Tonnage, volume, and transaction statistics are developed to allocate the cost of service to customers classes.
- **Customer Class Designation.** Identifies the customer classes that will be evaluated as part of the study. Existing as well as new or revised customer classes or class definitions may be considered. It is appropriate to group customers that exhibit similar usage characteristics and service requirements. The classes in this study are as they appear on the utility rate schedule.
- **Cost Allocation.** Allocates the costs from the functional cost allocation to different customer classes based on their unique demands for each service as defined through the cost classification process. The results identify shifts in cost recovery by customer class from that experienced under the existing rate structure.

RATE DESIGN

Rate design is the third and final technical step in utility rate setting. The first two technical steps (identifying the total rate revenue needs and determining the proportional distribution of those revenue needs to the utility's customer classes of service) provide the revenue targets for rate design. The principal objective of rate design is to implement rate structures that collect the appropriate level of revenue and that are reasonably aligned with cost of service.

No one rate structure will work well for every utility nor will one rate structure work equally well for all customer classes within a single utility. Solid waste utilities recover charges through a variety of rate structures from tipping fees, fixed fees, fees based on container size and container compaction rating, as well as service frequency. Given the range and complexity of potential rate structures, a solid waste utility should carefully plan and evaluate changes to an existing rate structure. Several considerations (e.g., data availability, implementation feasibility, intraclass equity) can help a utility understand the degree to which different rate structures will advance the agency's objectives.

Section IV. SOLID WASTE REVENUE REQUIREMENTS

OVERVIEW

A revenue requirement analysis forms the basis for a long-range financial plan and multi-year rate management strategy. The analysis is developed by completing an operating forecast that identifies future annual operating costs and a capital funding plan that defines a strategy for funding the capital improvement needs of the Division.

OPERATING FORECAST ASSUMPTIONS

The purpose of the operating forecast is to determine whether the existing rates and charges are sufficient to recover the costs the Division incurs to operate and maintain the utility. The financial forecast for the solid waste utility was developed over the twenty-year period from 2023 to 2042. The evaluation of future rate revenue adjustments focused on the 2024 to 2028 time period.

The basis for this forecast is the Division's 2023 projected year-end revenues and expenditures. FCS GROUP reviewed the projections on a line-item basis with Division staff and made specific adjustments to one-time expenditures and expenditures that deviated from long-term trends. The following list highlights some of the key assumptions used in the development of the operating forecast.

Operating Revenue

- **Rate Revenue** was based on adopted tipping fees and anticipated changes to waste tonnage and ticket volumes.
 - » **Tonnage** was based on the Division's actual tonnage at each of the Division's waste facilities in 2022. A one-time 12.5 percent adjustment to 2022 tons was made to reconcile to projected tonnage in 2024. Annual tonnage growth from 2025 to 2028 is assumed at 0.9 percent and is based on the annualized population growth rate for Skagit County as reported by the Washington State Office of Financial Management for 2020 to 2040 forecast period (middle series).
 - » **Transactions** were provided by the County project team along with the tonnage forecasts. Transaction growth was assumed to match tonnage growth.
- **Non-Rate Revenue** consists of grants, interest earnings, and other miscellaneous revenue. Non-rate revenue is estimated at \$430,000 in 2023. A significant portion of this revenue (\$375,000) comes from the Department of Ecology in the form of grants. Grant revenue is expected to grow to \$710,000 in 2024 and then decrease to \$410,000 from 2025 to 2028. Other non-rate revenue is forecasted at \$50,000 annually from 2024 to 2028.

O&M Expenses

- Operating expenditures are assumed to increase by the following inflation factors:
 - » **General Cost Inflation** for 2024 is set at 5.0 percent based on the CPI-U for Seattle-Tacoma-Bellevue. Annual inflation for subsequent years of the forecast is assumed at 3.0 percent.
 - » **Labor Inflation** for 2024 is set at 5.0 percent based on the CPI-U for Seattle-Tacoma-Bellevue. Annual inflation for subsequent years of the forecast is assumed at 3.0 percent.
 - » **Benefit Inflation** for 2024 is set at 5.0 percent based on the CPI-U for Seattle-Tacoma-Bellevue. Annual inflation for subsequent years of the forecast is assumed at 3.0 percent.
 - » **Construction Cost Inflation** is assumed to be 4.0 percent annually throughout the forecast based on the 5-year average for the Engineering News-Record's Construction Cost Index (ENR-CCI) 20-City index.
 - » **Transportation and Disposal Contract Inflation** is based on the terms outlined in Article 8 of the disposal contract with Waste Management Disposal Services of Oregon. Contract tipping fees are increased each year based on 100 percent of the CPI-U index for Seattle-Tacoma-Bellevue from October of the previous calendar year. The annual inflation adjustment for 2024 is assumed at 5.00 percent. Annual inflation adjustments to the contract tipping fee are consistent with the inflation assumption for general cost inflation listed above.

Debt Service

- **Existing Debt Service:** The solid waste program has one limited tax general obligation (LTGO) bond issued in 2021 with payments ending in 2030. Annual payments fluctuate year to year and average \$678,000 throughout the payment term.
- **New Debt Service:** No new debt issuances were recommended as a part of this study.

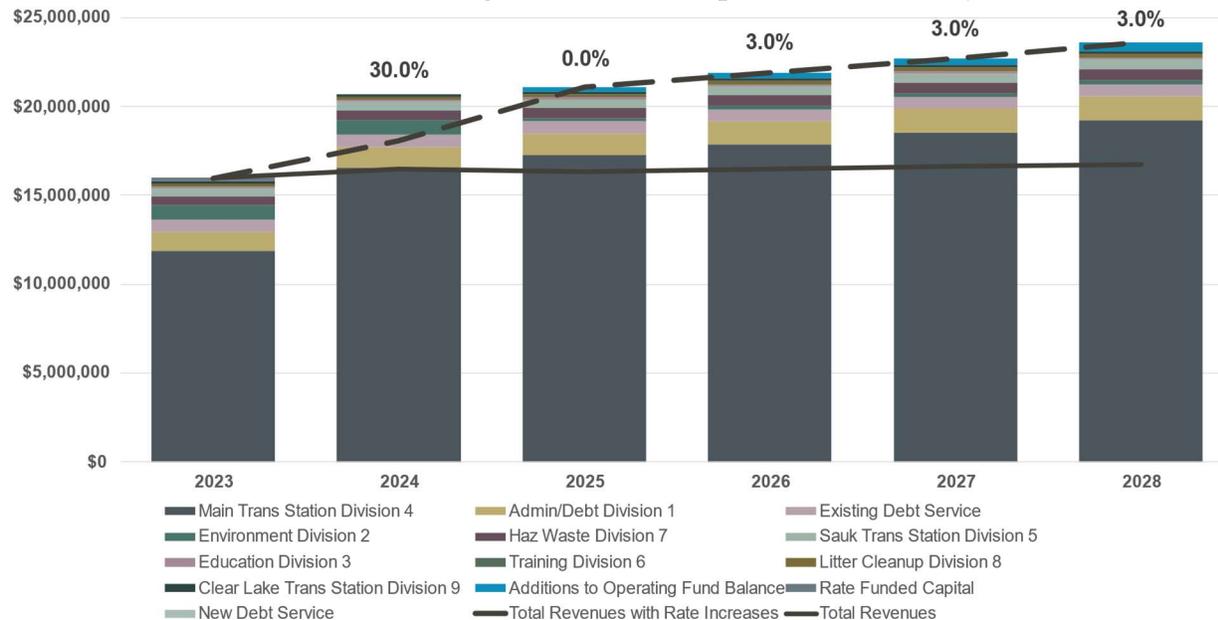
CAPITAL FUNDING PLAN

The financial planning period includes relatively minor costs for improvements to the scalehouse of \$10,000 in 2023, and improvements to the moderate risk waste facility at \$30,000 in 2024. Large improvements to the SCRTS had previously been made in 2021 and, as a result, limited capital improvements are forecasted within the rate-setting period. Additionally, anticipated replacement costs for the Division's rolling equipment (e.g., tractor trailers, loaders) and compactor are funded through the County's equipment replacement fund for which the Division is assessed annual internal service charges.

SUMMARY OF REVENUE REQUIREMENT

The forecast components for operating and maintenance expenses, debt service and rate-funded capital come together to form the multi-year revenue requirement. The revenue requirement compares the overall revenue available with forecasted expenses to evaluate the sufficiency of rates on an annual basis. **Exhibit 4.1** provides a summary of the solid waste revenue requirement findings.

Exhibit 4.1
Solid Waste Program Revenue Requirement Summary



A summary of solid waste revenue requirement is listed below:

- Revenues at current rate levels are projected to generate \$16.0 million in 2023 compared to \$15.8 million in expenditures – resulting in a slight cash surplus of \$0.2 million. The cash surplus is projected to fall to a \$4.2 million deficit in 2024. There are several cost drivers causing the projected deficit:
 - The new transportation and disposal contract (included in the Main Trans Station Division 4 bar in **Exhibit 4.1**) includes an increased tipping fee expense of \$89.00 per ton in 2023 compared to the previous contract tipping fee of \$62.10 per ton.
 - The new contract was executed in October 2023. The first full year of the new contract expenses is 2024. Compared to the original contract costs in 2022, the new transportation and disposal service contract is expected to increase by approximately \$5.6 million once fully in effect in 2024.
 - Existing debt service obligations associated with former capital improvements contribute annual debt service costs of \$680,000 until 2030.
- Annual operating expenses are projected to continue to outpace revenues over the rate-setting period. By 2028, the annual cash deficit is projected to be \$6.2 million.
- To meet the projected financial obligations of the utility, the rate proposal includes 30.0 percent annual increases to the overall rate revenues in 2024. Inflationary-level revenue adjustments of 3.0 percent annually are forecasted from 2026 to 2028.
- Even with these rate revenue adjustments, the utility is forecasted to operate at a cash deficit in 2024. This rate strategy assumes a one-time use of \$2.6 million in financial reserves in 2024 to offset anticipated expenses. The utility would generate a positive cash flow each year thereafter which would replenish financial reserves back to minimum target levels established by the County’s financial policies.

Exhibit 4.2 below provides the detailed summary tables of the revenue requirement analysis.

Exhibit 4.2
Solid Waste Utility Revenue Requirement Analysis

Revenue Requirement	2023	2024	2025	2026	2027	2028
Revenues						
Rate Revenues Under Existing Rates	\$ 15,509,446	\$ 15,710,200	\$ 15,847,125	\$ 15,985,282	\$ 16,124,683	\$ 16,265,338
Non-Rate Revenues	456,564	789,238	476,109	477,287	478,830	480,764
Total Revenues	\$ 15,966,010	\$ 16,499,438	\$ 16,323,234	\$ 16,462,569	\$ 16,603,513	\$ 16,746,102
Expenses						
Admin/Debt Division 1	\$ 1,076,456	\$ 1,120,137	\$ 1,147,863	\$ 1,176,371	\$ 1,205,683	\$ 1,235,823
Environment Division 2	793,268	832,931	191,027	196,758	202,660	208,740
Education Division 3	101,107	106,162	109,347	112,628	116,006	119,487
Main Trans Station Division 4	11,863,856	16,574,330	17,238,726	17,878,069	18,541,472	19,229,848
Sauk Trans Station Division 5	450,527	473,053	487,245	501,862	516,918	532,426
Training Division 6	16,242	17,054	17,566	18,093	18,635	19,195
Haz Waste Division 7	535,265	562,028	578,889	596,256	614,143	632,568
Litter Cleanup Division 8	147,658	155,041	159,692	164,483	169,418	174,500
Clear Lake Trans Station Division 9	139,418	146,389	150,781	155,304	159,963	164,762
Existing Debt Service	680,641	681,633	677,475	678,244	678,863	674,333
New Debt Service	-	-	-	-	-	-
System Reinvestment Funding	-	-	-	-	-	-
Additions Required to Meet Reserves	-	-	-	-	-	-
Total Expenses	\$ 15,804,439	\$ 20,668,759	\$ 20,758,611	\$ 21,478,067	\$ 22,223,763	\$ 22,991,681
Net Surplus (Deficiency)	\$ 161,571	\$ (4,169,321)	\$ (4,435,377)	\$ (5,015,498)	\$ (5,620,250)	\$ (6,245,579)
Additions to Meet Coverage	-	-	-	-	-	-
Total Surplus (Deficiency)	\$ 161,571	\$ (4,169,321)	\$ (4,435,377)	\$ (5,015,498)	\$ (5,620,250)	\$ (6,245,579)
Annual Rate Increase		30.00%	0.00%	3.00%	3.00%	3.00%
Cumulative Rate Increase		30.00%	30.00%	33.90%	37.92%	42.05%
Revenues After Rate Increases	\$ 15,509,446	\$ 17,281,220	\$ 20,601,262	\$ 21,404,293	\$ 22,238,679	\$ 23,105,646
Additional Taxes from Rate Increase	-	27,493	83,197	94,833	106,995	119,705
Net Cash Flow After Rate Increase	\$ 161,571	\$ (2,625,794)	\$ 235,563	\$ 308,680	\$ 386,751	\$ 475,024
Coverage After Rate Increase: Bonded Debt	n/a	n/a	n/a	n/a	n/a	n/a
Coverage After Rate Increase: Total Debt	1.24	(2.85)	1.35	1.46	1.57	1.71

Fund Balance	2023	2024	2025	2026	2027	2028
Operating Reserve						
Beginning Balance	\$ 5,866,072	\$ 5,847,643	\$ 3,221,849	\$ 3,457,412	\$ 3,766,092	\$ 4,152,843
plus: Net Cash Flow after Rate Increase	161,571	(2,625,794)	235,563	308,680	386,751	475,024
less: Transfer of Surplus to Capital Fund	(180,000)	-	-	-	-	-
Ending Balance	\$ 5,847,643	\$ 3,221,849	\$ 3,457,412	\$ 3,766,092	\$ 4,152,843	\$ 4,627,867
<i>Actual Days of O&M</i>	<i>141 days</i>	<i>59 days</i>	<i>63 days</i>	<i>66 days</i>	<i>70 days</i>	<i>75 days</i>
<i>Minimum Balance Requirement</i>	\$ 2,486,104	\$ 3,285,555	\$ 3,305,528	\$ 3,432,825	\$ 3,557,216	\$ 3,686,193
<i>Maximum Balance Requirement</i>	\$ 3,729,156	\$ 4,928,333	\$ 4,958,292	\$ 5,149,238	\$ 5,335,825	\$ 5,529,290
Capital Reserve						
Beginning Balance	\$ -	\$ 170,000	\$ 139,950	\$ 140,650	\$ 141,353	\$ 142,060
plus: System Reinvestment Funding	-	-	-	-	-	-
plus: Transfers from Operating Fund	180,000	-	-	-	-	-
plus: Capital Grants / Other Resources	-	-	-	-	-	-
plus: Interest Earnings	-	850	700	703	707	710
Total Funding Sources	\$ 180,000	\$ 170,850	\$ 140,650	\$ 141,353	\$ 142,060	\$ 142,770
less: Capital Expenditures	(10,000)	(30,900)	-	-	-	-
Ending Capital Fund Balance	\$ 170,000	\$ 139,950	\$ 140,650	\$ 141,353	\$ 142,060	\$ 142,770
<i>Minimum Target Balance</i>	\$ 136,469	\$ 136,778	\$ 136,778	\$ 136,778	\$ 136,778	\$ 136,778
Combined Beginning Balance	\$ 5,866,072	\$ 6,017,643	\$ 3,361,799	\$ 3,598,062	\$ 3,907,445	\$ 4,294,903
Combined Ending Balance	\$ 6,017,643	\$ 3,361,799	\$ 3,598,062	\$ 3,907,445	\$ 4,294,903	\$ 4,770,637
<i>Ending Total Days of Operating Expenditures</i>	<i>145 days</i>	<i>61 days</i>	<i>65 days</i>	<i>68 days</i>	<i>72 days</i>	<i>78 days</i>
<i>Combined Minimum Target Balance</i>	<i>2,622,573</i>	<i>3,422,333</i>	<i>3,442,306</i>	<i>3,569,603</i>	<i>3,693,994</i>	<i>3,822,971</i>

Section V. COST OF SERVICE

OVERVIEW

A cost-of-service analysis determines the proportional recovery of costs from customers according to unique demands each customer class places on the system. There are three fundamental steps to allocating the annual revenue requirement to customer classes and developing the final rates: 1) allocate utility assets and total utility costs by function, 2) develop customer-specific allocation factors and 3) allocate costs to customer classes. The methodology conforms to generally accepted industry practices for public utility rate setting as well as solid waste-specific methodologies outlined within the full cost accounting framework developed by the US Environmental Protection Agency and principles established in the American Public Works Association Rate Setting and Financing Guide for Solid Waste.

SOLID WASTE CLASSES OF SERVICE

A class of service is a grouping of utility customers with similar usage characteristics who are served at similar costs. Classes of service can be defined based on several factors such as demand levels and patterns, service requirements, geography, and waste material. A cost-of-service analysis determines the proportional recovery of costs from each class of service based on these unique demands. The classes of services evaluated as part of the rate study were based on the County's existing rates and include:

- **Municipal MSW:** This class includes commercial and municipal waste haulers that deliver refuse to the SCRTS from cities and unincorporated areas of Skagit County.
- **Self-Haul MSW:** This class includes residential and business self-haulers that deliver refuse to the SCRTS from cities and unincorporated areas of Skagit County.
- **Out-of-County MSW:** Domestic waste from Whatcom County, which is collected by commercial haulers along State Highway 20 north of the Skagit County line. Waste generated in San Juan County and hauled pursuant to the terms of Skagit County Contract #C20130187, Interlocal Agreement Between San Juan County, Town of Friday Harbor, and Skagit County regarding Receipt of Solid Waste.
- **Street Waste:** Waste resulting from street and catch basin cleaning activities accepted by the County at the Skagit County Decant Facility co-located at SCRTS.
- **White Goods:** Appliances from residential and business self-haulers that are delivered to the County's solid waste facilities.
- **Tires:** Tires from residential and business self-haulers that are delivered to the County's solid waste facilities.
- **Direct to Intermodal (C&D):** Residual waste generated by the processing of construction and demolition debris at a permitted intermediate solid waste handling facility utilized by Skagit County for the transport and/or disposal of solid waste.
- **Moderate Risk Waste (MRW):** Wastes produced by residential activities that would be classified as hazardous waste and wastes from small-quantity generators, which are wastes from businesses

that generate less than 220 pounds of most types of chemical wastes per month and store no more than 2,200 pounds, or generate or store less than 2.2 pounds of extremely hazardous chemicals.

- **Sauk Transfer Station:** MSW delivered by residential and business self-haulers to Sauk.
- **Clear Lake Transfer Station:** MSW delivered by residential and business self-haulers to Clear Lake.

DEFINING SOLID WASTE FUNCTIONS

The first step in the cost-of-service analysis is to allocate the revenue requirement for the County's solid waste fund into several functions or activities. This allocation assigns costs to functional categories based on documented program requirements (e.g., staffing levels, facility operating plans, fixed asset records) and industry practices based on the relationship of each function and the costs incurred by the utility. This cost "causation" provides the framework for the cost-of-service analysis. The functions of service to which the revenue requirement was allocated are discussed below.

- **Scalehouse:** associated with the operation of the entry gates and scale houses at the County's transfer stations.
- **Waste Transfer:** associated with receiving, consolidating, and loading of municipal solid waste and other materials at SCRTS.
- **Sauk MSW Transfer:** associated with receiving and consolidation of materials at Sauk as well as the intermodal transportation to SCRTS.
- **Clear Lake MSW Transfer:** associated with receiving and consolidation of materials at Clear Lake as well as the intermodal transportation to SCRTS.
- **Moderate Risk Waste (MRW):** associated with the receiving, consolidation and processing of moderate risk waste such as antifreeze, oil, sharps and batteries.
- **Recycling & Education:** associated with costs to support recycling outreach, recycling drop-off services at the County solid waste facilities, and recycling processing.
- **Tires:** the contract cost associated with the disposal of tires.
- **White Goods:** the contract cost associated with the collection and processing of refrigerators and other appliances, including those collected at Sauk and Clear Lake.
- **Environmental Compliance:** associated with the long-term management of closed regional landfills, landfill gas and water monitoring, litter abatement and clean-up, and other environmental liability expenses.
- **MSW Transport & Disposal:** associated with the long-haul transportation and land disposal of MSW at Roosevelt Regional Landfill in Klickitat County.

Functional Cost Allocation

The second step of the cost-of-service analysis is to allocate the revenue requirement for a test year to each solid waste function to determine the annual costs of each function. A test year is a period of time for which the utility's cost of service is reviewed. The test year for the rate study is the projected revenue requirement for 2024 which is the first complete calendar year that the new transportation and disposal service contract is in effect.

This process included assigning or allocating each line-item account of the solid waste fund in the test year to the solid waste functions. In some cases, the line-item expenses within an accounting cost center solely support one function of service. For example, all costs associated with the Environment

Division are directly assigned to the Environmental Compliance function. In other cases, the expenses within an accounting cost center support multiple functions of service: the Main Transfer Station cost center expenses are allocated to several functions of service in proportion to facility operating plans, organizational chart, and staffing workloads. FCS GROUP developed a series of functional cost allocation factors to develop cost shares for accounting cost centers that support more than one solid waste function.

Functional Cost Allocation Factors

Functional cost allocation factors are used to proportionally distribute expenses not directly assigned to a single solid waste function of service and were developed in coordination with the County project team. These factors are detailed below:

- **FTE Allocation**– Costs allocated on the basis of 2023 full-time equivalents (FTEs) assigned to the County’s transfer & drop box systems, MRW operations, landfills, recycling, education & outreach programs, and administration.
- **Service Contracts**
 - » The costs incurred from the WMI contract were functionalized as 100 percent MSW Transport and Disposal.
 - » The contract costs for the Liberty Tire contract were functionalized as 100 percent Tires
 - » The contract costs for Rick’s Appliances contract were functionalized as 100 percent White Goods
 - » Recycling processing costs were functionalized as 100 percent Recycling and Education.
 - » The contracts described above are all accounted for within one line item in the Main Transfer Division of the Solid Waste Fund. The resulting aggregated allocation of all service contracts is 98 percent MSW Transport and Disposal, 1 percent Recycling and Education, 0.5 percent Tires, and 0.5 percent White Goods.
- **Equipment Replacement Rental Rates** – Distribution of equipment replacement expenditures based on annual replacement charges by equipment type and number. The resulting aggregated allocation of all equipment replacement rental rate expenditures is 83 percent MSW Transfer, 9 percent Recycling and Education, 8 percent Sauk MSW Transfer, and <1 percent Clear Lake MSW Transfer.
- **Transfer Station Attendants/Operators/Drivers** – Distribution of full-time and part-time employees assigned to the solid waste facilities. The resulting aggregated allocation is 66 percent Waste Transfer, 24 percent Scalehouse, 5 percent Recycling and Education, 4 percent Sauk MSW Transfer, and <1 percent Clear Lake MSW Transfer.
- **Department of Ecology Grants** – Distribution of annual grant funding from the Washington Department of Ecology. For the 2024 test year, the aggregate distribution is 49 percent Environmental Compliance, 39 percent MRW, and 11 percent Recycling and Education.

Functionalization of Test Year Revenue Requirement

Following the development of the functional cost allocation factors, test year (2024) revenue requirements for each accounting cost center or object code were assigned to the functions of service as described below:

- **Division 1: Administrative / Debt** – All expenses assigned to All Other (e.g., in proportion to all other assigned or allocated revenue requirements).
- **Division 2: Environment Division** – All expenses assigned to Environmental Compliance.
- **Division 3: Education Division** – All expenses assigned to Recycling & Education.
- **Division 4: Main Transfer Station**
 - » Labor-related expenses and selected interfund payments allocated on the basis of Transfer Station Attendants/Operators/Drivers.
 - » Utilities expenses allocated on the basis of Service Contracts.
 - » Interfund Equipment Rental allocated on the basis of Equipment Rental Rates.
 - » Interfund Payments for Service supporting Skagit County Public Health Department allocated on the basis of operating expenses less expenses related to long-haul transportation and disposal of MSW.
 - » All other non-labor expenses assigned to Waste Transfer.
- **Division 5: Sauk Transfer Station** – All expenses assigned to Sauk MSW Transfer.
- **Division 6: Training** – All expenses allocated on the basis of FTE Allocation.
- **Division 7: Hazardous Waste** – All expenses assigned to MRW.
- **Division 8: Litter Cleanup** – All expenses assigned to Environmental Compliance.
- **Division 9: Clear Lake Transfer Station** – All expenses assigned to Clear Lake MSW Transfer.
- **Taxes** – Annual state business and occupation taxes allocated as All Other.
- **Non-Rate Revenue** – Non-rate revenues were as follows:
 - » DOE Grants allocated on the basis of Department of Ecology Grants.
 - » All other non-rate revenues allocated on the basis of total expenses.
- **Net Cash Flow and Taxes from Rate Adjustments** – Net cash flow and additional tax expenses from rate adjustments are allocated on the basis of total expenses.

Exhibit 5.1 details the functional allocation of the revenue requirement to each function of service.

Exhibit 5.1
Functional Allocation of Test Year Revenue Requirement

Function of Service	Test Year	As a Percent
Scalehouse	\$ 441,102	2.16%
Waste Transfer	2,889,435	14.15%
Sauk MSW Transfer	654,023	3.20%
Clear Lake MSW Transfer	169,849	0.83%
Recycling & Education	321,310	1.57%
MRW	361,692	1.77%
MSW Transport & Disposal	14,684,724	71.90%
Environmental Compliance	778,179	3.81%
Tires	60,313	0.30%
White Goods	62,631	0.31%
Total	\$ 20,423,260	100.00%

Customer Class Cost Allocation

The costs identified in the functional allocation of the revenue requirement are assigned to each customer class based on the demands each class places on the utility. In order to complete this task, forecasted tons and transactions for the customer classes are used as allocation factors. The allocation factors are intended to proportionally allocate the functional cost pools to the customer classes. These allocations were reviewed by the County project team. The functions of service are allocated to the customer classes of service based on the following factors:

- **Scalehouse** – Scalehouse expenses capture the staff time of each transaction at the entry point at each solid waste facility. While Clear Lake does not have a scale, it does have attendants accepting payment from customers. These costs are allocated to customer classes based on the transaction count (loads / items). Municipal and commercial refuse haulers enter/exit SCRTS via unstaffed scales and, as a result, were not allocated Scalehouse function expenses.
- **Waste Transfer** – The allocation of the SCRTS waste transfer expenses to the classes of service is based on annual tons of MSW, white goods, and tires received at the facility in the test year. The consolidated MSW loads from Sauk and Clear Lake are also assigned a share of Waste Transfer expenses.
- **Sauk MSW Transfer** – Allocated to all MSW and white goods delivered to Sauk based on tons in the test year.
- **Clear Lake MSW Transfer** – Allocated to all MSW and white goods delivered to Clear Lake based on tons in the test year.
- **Moderate Risk Waste (MRW)** – Allocated to all MRW waste based on estimated tons in the test year.
- **Recycling & Education** – Allocated on the basis of MSW tons delivered by self-haulers at SCRTS, Clear Lake, and Sauk. Municipal and commercial refuse haulers are only allocated a share of this function related to the Recycling Education expenses outlined in Division 3 of the Solid Waste Fund. Municipal and commercial refuse haulers are not allocated any expenses related to recycling drop-off services and related material processing at the County solid waste facilities.
- **Tires** – Assigned to the Tire customer class.
- **White Goods** – Assigned to White Goods customer class.
- **Environmental Compliance** – Allocated to all customer classes that deliver MSW to County solid waste facilities on the basis of tons.
- **MSW Transport & Disposal** – Allocated to all customer classes that deliver MSW to County solid waste facilities on the basis of tons.

COST OF SERVICE ANALYSIS RESULTS

The final step of the cost-of-service analysis is to compare the allocation of the test year revenue requirement with the rate revenue generated by each customer class at existing rates. This evaluation identifies general differences between the allocated cost to provide utility services to customer classes and the rate revenue collected from the customer classes. It also identifies proportional differences in the cost that the County incurs to provide services to different customer classes. The cost-of-service analysis provides an initial and reasonable basis for potential rate adjustments to align rates with the cost of service. This cost-rate relationship is a primary tool used by public utilities when developing changes to rates. Other rate objectives and tools are described in the following section **Rate Design**.

Test Year Cost of Service Analysis

Exhibit 5.2 provides a comparison of the current rate revenue distribution between customer classes and the distribution of revenues resulting from the cost-of-service analysis.

Exhibit 5.2
Test Year Cost of Service and Across-the-Board (ATB) Rate Revenue Comparison

Class of Service	Cost of Service	Existing w/ ATB	\$ Difference	% Recovery
General Waste - Municipal	\$ 6,774,775	\$ 7,186,901	\$ (412,126)	106.08%
General Waste - Self-Haul	10,875,386	11,716,063	(840,677)	107.73%
General Waste - Out-of-County	119,365	134,830	(15,465)	112.96%
Street Waste	258,335	169,391	88,945	65.57%
White Goods	67,134	79,258	(12,125)	118.06%
Direct to Intermodal	765,962	645,212	120,749	84.24%
MRW	362,475	31,554	330,921	8.71%
Tires	64,689	15,383	49,306	23.78%
Sauk Transfer	936,350	385,756	550,594	41.20%
Clear Lake Transfer	198,789	58,911	139,878	29.63%
Total	\$ 20,423,260	\$ 20,423,260	\$ -	100.00%

The table above shows the ten classes of service evaluated in the cost-of-service analysis. The first column is the calculated cost to provide service, based on the methodology outlined above. This is compared to the revenue at the existing rates plus an across-the-board (ATB) adjustment to account for total necessary systemwide revenue needs. The classes that show a negative difference in the second to last column are currently paying more than the cost of the service provided. Those with a positive difference would require a rate increase above the systemwide average to cover the full cost of service.

A cost-of-service analysis is a reasonable allocation of the test year revenue requirement to classes of service based on available financial and operational data, expectations of future demand for service, and the allocation methodologies described in the previous sections. Given the need for assumptions and these other factors, FCS GROUP considers a cost recovery rate between 90 percent and 110 percent to be within the range of reasonableness for full cost recovery. Based on this framework, the cost-of-service results indicate that:

- Generally, the County’s rates align with the cost of service.
- Cost recovery rates for the County’s largest customer classes, municipal/commercial solid waste haulers and self-haulers at SCRTS, are estimated at 106 percent and 108 percent respectively in 2024.
- White goods (e.g., appliances) have an estimated cost recovery rate of 118 percent in 2024.
- Customer class rates below the cost of service include: direct-to-intermodal (84 percent), street waste (66 percent), Sauk MSW (41 percent), Clear Lake MSW (30 percent), tires (24 percent), and moderate risk waste and household hazardous waste (9 percent).

Test Year Unit Costs

The cost-of-service analysis can also be used to evaluate existing rates per unit of service (e.g., per ton, per ticket) with the unit cost of service. This cost-price evaluation is a useful tool to leverage the cost-of-service analysis results for the third and final technical step of the rate study, rate design.

Exhibit 5.3 describes some of the more notable differences in cost and price for common solid waste services provided by the County.

**Exhibit 5.3
Comparison of Unit Cost and Rates for Solid Waste Services**

Customer Classification	Total Unit Cost	Rate with ATB Increase	\$ Difference	Cost Recovery Percent
1 General Waste - Municipal				
1 Municipalities	\$ 127.45	\$ 135.20	\$ 7.75	106%
2 General Waste - Self-Haul				
2 Commercial / Residential - Commercial	\$ 132.11	\$ 136.50	\$ 4.39	103%
2 Commercial / Residential - Minimum Fee	17.81	25.09	7.28	141%
2 County Litter Clean-Up Program	143.50	74.10	(69.40)	52%
3 General Waste - Out-of-County				
3 Out-of-County Garbage	\$ 127.75	\$ 144.30	\$ 16.55	113%
4 Street Waste				
4 De-watered Solids	\$ 127.68	\$ 83.85	\$ (43.83)	66%
4 Sweeper waste	99.12	64.61	(34.51)	65%
4 Vactor Waste	40.35	26.26	(14.09)	65%
5 White Goods				
5 Appliances	\$ 10.62	\$ 13.00	\$ 2.38	122%
5 Refrigerators	27.90	32.50	4.60	116%
6 Direct to Intermodal				
6 C&D Residuals	\$ 106.49	\$ 89.70	\$ (16.79)	84%
9 Sauk Transfer				
9 General Waste - Commercial	\$ 463.31	\$ 136.50	\$ (326.81)	29%
9 General Waste - Minimum Fee	47.09	25.09	(22.00)	53%
9 White Goods - Appliances	22.33	13.00	(9.33)	58%
9 White Goods - Refrigerators	66.42	32.50	(33.92)	49%
10 Clear Lake Transfer				
10 General Waste - Can (32 gallon)	\$ 28.62	\$ 9.10	\$ (19.52)	32%
10 General Waste - Half Can (32 gallon)	15.29	4.55	(10.74)	30%
10 White Goods - Appliances	70.13	13.00	(57.13)	19%
10 White Goods - Refrigerators	205.13	32.50	(172.63)	16%

Interpreting Cost of Service Results

A cost-of-service analysis is a snapshot in time and because costs fluctuate each year, the needed increase by class can also fluctuate and interclass rate changes are not suggested unless the class's cost recovery level is consistently outside the 90 percent to 110 percent range. For classes outside the threshold, public utilities can leverage several financial strategies to align rate revenues with cost-of-service results. These policy decisions may focus on the timing and level of rate adjustments for a particular class of service. For example, an agency may decide to gradually increase rates for a class of service over several years in order to make progress towards cost of service while also keeping the rate increases relatively affordable. If an agency anticipates major changes to programs and services in the future, it may consider a slower or delayed strategy to rate adjustments until new cost data is available.

FCS GROUP recommends the following guidelines when considering policy options to adjust existing rates based on cost-of-service results:

- **Prioritize Class-Specific Rate Adjustments.** Prioritize adjustments to those classes that are farthest outside the threshold. Consider monitoring future cost of service results for classes that are relatively close but outside of the threshold.

- **Develop Multi-Year Phase-In Plan.** Developing a multi-year rate strategy can transition classes towards cost of service while also addressing potential affordability concerns.
- **Consider Future Utility Costs.** Future cost of service results can shift in response to major changes in programs, facility operations, and availability of information. Gradually implementing rate adjustments can provide flexibility in responding to current and future costs.
- **Hold Rates at Existing Levels.** For those customer classes whose rates are higher than the cost of service, consider holding rates at existing levels until rates are generally aligned with cost. This strategy can avoid the need to lower rates one year only to increase rates in future years.
- **Monitor Long-Term Trends.** Further evaluation may be appropriate for classes that are outside the range of reasonableness to confirm if results are indicative of an on-going trend or are an anomaly. This can be a particularly effective strategy if a cost-of-service analysis has not been conducted recently or is being completed for the first time.
- **Monitor Changes in Demand from Rate Adjustments.** Significant decreases or increases to rates can impact the demand for utility services – particularly for usage-based rates and subscription services. An agency should actively monitor the demand impact of major changes to rates and develop a contingency plan as needed.
- **Seek Legal Counsel.** Class-specific rate adjustments may be subject to existing contract agreements between the County and specific customer groups. FCS GROUP recommends that the County seek legal counsel to determine any legal restrictions or requirements that would affect rate adjustments based on the cost-of-service analysis.

Cost-of-Service Phase-in Strategy

Based on feedback from County staff, FCS GROUP developed a multi-year phase-in strategy to transition existing rates to better align with the cost-of-service results. **Exhibit 5.4** details the annual changes to rate revenue by customer class (and subsets of customer class) to phase in existing rates towards cost of service through 2028. The proposed rate strategy was recommended by the Solid Waste Advisory Council (SWAC) on March 13, 2024.

Exhibit 5.4
Cost of Service Phase-In Strategy

Class of Service	2024	2025	2026	2027	2028
General Waste - Municipal	26.00%	0.00%	2.00%	2.00%	2.00%
General Waste - Self-Haul	30.13%	0.00%	3.60%	3.58%	3.57%
General Waste - Out-of-County	26.00%	0.00%	2.00%	2.00%	2.00%
Street Waste	98.00%	0.00%	3.00%	3.00%	3.00%
White Goods	30.13%	0.00%	3.60%	3.58%	3.57%
Direct to Intermodal	55.00%	0.00%	3.00%	3.00%	3.00%
MRW	30.13%	0.00%	3.60%	3.58%	3.57%
Tires	30.13%	0.00%	3.60%	3.58%	3.57%
Sauk Transfer	30.13%	0.00%	3.60%	3.58%	3.57%
Clear Lake Transfer	30.13%	0.00%	3.60%	3.58%	3.57%
Total	30.00%	0.00%	3.00%	3.00%	3.00%

Section VI. RATE DESIGN

OVERVIEW

The principal objective of the rate design stage of the analysis is to implement a rate structure that collects the appropriate level of revenue and is responsive to the cost-of-service analysis and other policy objectives of the County. This section will review the existing and proposed rates at the County’s solid waste facilities.

RATE DESIGN OBJECTIVES

Public utilities leverage rate structures as tools to advance their financial, operational, customer communication, and policy goals. **Exhibit 6.1** illustrates several rate design objectives used by utilities. In some instances, rate objectives can be complementary to each other; a rate structure that may generate stable revenue each year would also likely provide predictability year to year. In other cases, rate objectives may be less complementary to others. Establishing rates that promote conservation can create challenges to financial sustainability if rates are not calibrated accurately to changes in customer demand. Balancing a utility’s various rate objectives is an important consideration in rate design.

Exhibit 6.1 Examples of Utility Rate Design Objectives

Objective	Description
Financial sustainability	Sufficient and predictable revenues Stable and predictable impacts to customers
Conservation and efficiency	Promote conservation and efficiency of use Protect natural resources
Transparency and simplicity	Easy to understand, explain, and administer Minimizing unexpected changes to customer bills Compatible with billing system
Cost of service fairness and equity	Correlate rates with costs Reflect customer usage patterns Reflect other customer service requirements
Legal support	Complying with all applicable laws

RATE DESIGN CONSIDERATIONS

No one rate structure will work well for every utility nor will one rate structure work equally well for all customer classes within a single utility. Solid waste utilities recover charges through a variety of rate structures from tipping fees, fixed fees, fees based on container size and container compaction rating, as well as service frequency. Given the range and complexity of potential rate structures, a solid waste utility should carefully plan and evaluate changes to an existing rate structure. The

following considerations can help a utility understand the degree to which different rate structures will advance the agency's objectives.¹

- **Availability and Quality of Data** – Any rate structure requires reliable, timely, and accurate billing data to develop and administer charges to customers.
- **Cost of Service** – Rates and rate structures should be reasonably related to the cost to provide service to different classes of customers.²
- **Implementation** – Utilities should consider the time and cost requirements of implementing and administering a new rate structure. New billing data may need to be created, existing service contracts may need to be adjusted, and accounting systems may need to be updated.
- **Intraclass Cost Consistency** – Rates assessed to customers within the same class of service should be uniformly applied (e.g., a utility cannot arbitrarily charge a higher or lower rate for customers within the same class).
- **Pricing Signals** – If rates are used to communicate the cost of service to customers to promote conservation and efficient use of the utility, the rate structure (e.g., billing frequency, usage charges) should provide customers with the ability to adjust their use on a timely and meaningful basis.
- **Revenue Sufficiency** – Rate structures should be designed to generate a sufficient and appropriate level of revenue to support the utility's annual and seasonal cash flow requirements.
- **Risk** – When applicable, utilities should consider the financial risks of price elasticity of demand, weather seasonality, and changes in economic activity when developing rates and rate structures.

EXISTING RATE STRUCTURE

Most of the County's rate revenue is generated from a tipping fee assessed based on the weight of material received at the Skagit County Transfer and Recycling Station or at Sauk. Clear Lake does not have a scale at the entry point, so rates are assessed based on the number or estimated volume of material delivered by customers.

Customers that deliver 360 pounds or less of MSW at SCRSTS or at Sauk are assessed a fixed minimum fee of \$20.00 (\$19.30 plus \$0.70 in state refuse taxes).

Exhibit 6.2 provides a summary of existing rates.

¹ Principles of Water Rates, Fees, and Charges, Sixth Edition. American Water Works Association.

² The Solid Waste Rate Setting and Financing Guide published by the American Public Works Association identifies two general approaches to rate setting. Cost-based rate setting is designed to “accurately reflect the cost to provide a particular service” whereas market-based rate setting “can be designed to encourage customers to recycle, be consistent with rates in nearby jurisdictions, or maintain the structure of existing rates.” Solid waste rates are often set using both approaches.

**Exhibit 6.2
Existing Fees**

Class of Service	Billing Unit	Existing
General Waste - Municipal		
Municipalities	Ton	\$104.00
General Waste - Self-Haul		
Commercial / Residential - Commercial	Ton	\$105.00
Commercial / Residential - Minimum Fee	Ticket	\$19.30
General Waste - Out-of-County		
Out-of-County Garbage	Ton	\$105.00
Street Waste		
De-watered Solids	Ton	\$64.50
Sweeper waste	Ton	\$49.70
Vactor Waste	Ton	\$20.20
White Goods		
Appliances	Unit	\$10.00
Refrigerators	Unit	\$25.00
Direct to Intermodal		
C&D Residuals	Ton	\$69.00
MRW		
Antifreeze	Gallon	\$0.50
Batteries	Ton	\$400.00
Compact Florescent Lamps	Bulb	\$0.50
Corrosive Material	Gallon	\$18.00
Flammable Liquid Aerosols	Unit	\$1.00
Flammable Liquids (Solvents)	Gallon	\$3.00
Florescent Lamps	Linear Foot	\$0.10
HID Lamps	Unit	\$1.00
Motor Oil	Gallon	\$0.50
Oil-based paints	Gallon	\$4.00
Organic Peroxides	Gallon	\$38.00
Oxidizing Material	Gallon	\$20.00
Pesticide Aerosols	Unit	\$3.00
Pesticides & Poisons	Gallon	\$16.00
Solid Organics	Gallon	\$10.00
Unclassified Waste	Gallon	\$6.00
Tires		
Residential	Unit	\$4.00
Off-Rim: Motorcycle	Unit	\$3.00
Off-Rim: Small Pneumatic & Passenger / Light Truck (12" - 16.5")	Unit	\$4.00
Off-Rim: Passenger / Light Truck (17" - 28")	Unit	\$5.00
Off-Rim: Commercial Truck / Motor Home (19.5" - 24.5")	Unit	\$24.00
Off-Rim: Tires Over 25 inches	Unit	\$150.00
On-Rim: Motorcycle	Unit	\$4.00
On-Rim: Small Pneumatic & Passenger / Light Truck (12" - 16.5")	Unit	\$9.00
On-Rim: Passenger / Light Truck (17" - 28")	Unit	\$10.00
On-Rim: Commercial Truck / Motor Home (19.5" - 24.5")	Unit	\$40.00
On-Rim: Tires Over 25 inches	Unit	\$250.00
Sauk Transfer		
General Waste - Commercial	Ton	\$105.00
General Waste - Minimum Fee	Ticket	\$19.30
White Goods - Appliances	Unit	\$10.00
White Goods - Refrigerators	Unit	\$25.00
Clear Lake Transfer		
General Waste - Can (32 gallon)	Unit	\$7.00
General Waste - Half Can (32 gallon)	Unit	\$3.50
White Goods - Appliances	Unit	\$10.00
White Goods - Refrigerators	Unit	\$25.00

PROPOSED RATES

Based on feedback from County staff, the following rate design adjustments were made to transition existing rates towards cost of service over the next several years:

Exhibit 6.3 details the proposed transfer station fees for the 2024 to 2028 rate period as recommended by the Solid Waste Advisory Council (SWAC) on March 13, 2024.

This section will be updated following discussions with the Board of Commissioners regarding customer class-specific rate adjustments. The following rate projections assume annual adjustments are applied across-the-board to all applicable rates for each customer class.

**Exhibit 6.3
Proposed Rates**

Class of Service	Billing Unit	Existing	2024	2025	2026	2027	2028
General Waste - Municipal							
Municipalities	Ton	\$104.00	\$131.00	\$131.00	\$134.00	\$137.00	\$140.00
General Waste - Self-Haul							
Commercial / Residential - Commercial	Ton	\$105.00	\$137.00	\$137.00	\$142.00	\$147.00	\$152.00
Commercial / Residential - Minimum Fee	Ticket	\$19.30	\$26.06	\$26.06	\$27.03	\$28.96	\$30.89
County Litter Clean-Up Program	Ton	\$57.00	\$137.00	\$137.00	\$142.00	\$147.00	\$152.00
General Waste - Out-of-County							
Out-of-County Garbage	Ton	\$111.00	\$138.00	\$138.00	\$141.00	\$144.00	\$147.00
Street Waste							
De-watered Solids	Ton	\$64.50	\$128.00	\$128.00	\$132.00	\$136.00	\$140.00
Sweeper waste	Ton	\$49.70	\$98.00	\$98.00	\$101.00	\$104.00	\$107.00
Vactor Waste	Ton	\$20.20	\$40.00	\$40.00	\$41.00	\$42.00	\$43.00
White Goods							
Appliances	Unit	\$10.00	\$13.00	\$13.00	\$13.00	\$13.00	\$13.00
Refrigerators	Unit	\$25.00	\$33.00	\$33.00	\$34.00	\$35.00	\$36.00
Direct to Intermodal							
C&D Residuals	Ton	\$69.00	\$107.00	\$107.00	\$110.00	\$113.00	\$116.00
MRW							
Antifreeze	Gallon	\$0.50	\$0.70	\$0.70	\$0.70	\$0.70	\$0.70
Batteries	Ton	\$400.00	\$521.00	\$521.00	\$540.00	\$559.00	\$579.00
Compact Florescent Lamps	Bulb	\$0.50	\$0.70	\$0.70	\$0.70	\$0.70	\$0.70
Corrosive Material	Gallon	\$18.00	\$23.00	\$23.00	\$24.00	\$25.00	\$26.00
Flammable Liquid Aerosols	Unit	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00
Flammable Liquids (Solvents)	Gallon	\$3.00	\$4.00	\$4.00	\$4.00	\$4.00	\$4.00
Florescent Lamps	Linear Foot	\$0.10	\$0.10	\$0.10	\$0.10	\$0.10	\$0.10
HID Lamps	Unit	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00
Motor Oil	Gallon	\$0.50	\$0.70	\$0.70	\$0.70	\$0.70	\$0.70
Oil-based paints	Gallon	\$4.00	\$5.00	\$5.00	\$5.00	\$5.00	\$5.00
Organic Peroxides	Gallon	\$38.00	\$49.00	\$49.00	\$51.00	\$53.00	\$55.00
Oxidizing Material	Gallon	\$20.00	\$26.00	\$26.00	\$27.00	\$28.00	\$29.00
Pesticide Aerosols	Unit	\$3.00	\$4.00	\$4.00	\$4.00	\$4.00	\$4.00
Pesticides & Poisons	Gallon	\$16.00	\$21.00	\$21.00	\$22.00	\$23.00	\$24.00
Solid Organics	Gallon	\$10.00	\$13.00	\$13.00	\$13.00	\$13.00	\$13.00
Unclassified Waste	Gallon	\$6.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00
Tires							
Residential	Unit	\$4.00	\$5.00	\$5.00	\$5.00	\$5.00	\$5.00
Off-Rim: Motorcycle	Unit	\$3.00	\$4.00	\$4.00	\$4.00	\$4.00	\$4.00
Off-Rim: Small Pneumatic & Passenger / Light Truck (12" - 16.5")	Unit	\$4.00	\$5.00	\$5.00	\$5.00	\$5.00	\$5.00
Off-Rim: Passenger / Light Truck (17" - 28")	Unit	\$5.00	\$7.00	\$7.00	\$7.00	\$7.00	\$7.00
Off-Rim: Commercial Truck / Motor Home (19.5" - 24.5")	Unit	\$24.00	\$31.00	\$31.00	\$32.00	\$33.00	\$34.00
Off-Rim: Tires Over 25 inches	Unit	\$150.00	\$195.00	\$195.00	\$202.00	\$209.00	\$216.00
On-Rim: Motorcycle	Unit	\$4.00	\$5.00	\$5.00	\$5.00	\$5.00	\$5.00
On-Rim: Small Pneumatic & Passenger / Light Truck (12" - 16.5")	Unit	\$9.00	\$12.00	\$12.00	\$12.00	\$12.00	\$12.00
On-Rim: Passenger / Light Truck (17" - 28")	Unit	\$10.00	\$13.00	\$13.00	\$13.00	\$13.00	\$13.00
On-Rim: Commercial Truck / Motor Home (19.5" - 24.5")	Unit	\$40.00	\$52.00	\$52.00	\$54.00	\$56.00	\$58.00
On-Rim: Tires Over 25 inches	Unit	\$250.00	\$325.00	\$325.00	\$337.00	\$349.00	\$361.00
Sauk Transfer							
General Waste - Commercial	Ton	\$105.00	\$137.00	\$137.00	\$142.00	\$147.00	\$152.00
General Waste - Minimum Fee	Ticket	\$19.30	\$26.06	\$26.06	\$27.03	\$28.96	\$30.89
White Goods - Appliances	Unit	\$10.00	\$13.00	\$13.00	\$13.00	\$13.00	\$13.00
White Goods - Refrigerators	Unit	\$25.00	\$33.00	\$33.00	\$34.00	\$35.00	\$36.00
Clear Lake Transfer							
General Waste - Can (32 gallon)	Unit	\$7.00	\$9.00	\$9.00	\$9.00	\$9.00	\$9.00
General Waste - Half Can (32 gallon)	Unit	\$3.50	\$4.50	\$4.50	\$4.50	\$4.50	\$4.50
White Goods - Appliances	Unit	\$10.00	\$13.00	\$13.00	\$13.00	\$13.00	\$13.00
White Goods - Refrigerators	Unit	\$25.00	\$33.00	\$33.00	\$34.00	\$35.00	\$36.00