Attachment A

Proposed Solid Waste Disposal Fees for 2022

June 2021

King County

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II. Executive Summary

The Department of Natural Resources and Parks (DNRP) has kept its Solid Waste Basic Fee, a disposal fee charged on a per-ton basis to customers disposing of garbage in the King County system, steady since 2018 and is proposing an increase of 9.4 percent in 2022. The impact of this increase for a typical residential customer, after commercial haulers pass on these costs, is forecast to be $0.71 per month.

This rate increase is needed to sustain current essential services, including recycling and waste disposal services at transfer stations, continued operations at the Cedar Hills Regional Landfill (CHRLF), and recycling and waste-prevention programs. A total of 37 partner cities and 1.5 million people depend on these disposal services. The proposed increase also provides for investments necessary to achieving the goals contained in the *2019 Comprehensive Solid Waste Management Plan* (Comp Plan) and the *2020 King County Strategic Climate Action Plan*. This increase will allow DNRP to continue the services and programs customers have come to expect and rely on, and that have helped this region become one of the best for recycling in the nation.

While preparing the 2021-2022 rate and budget proposals, DNRP staff met with stakeholders and partners from January to June 2020 to talk about a potential rate increase. During that process, the department received clear input that no rate increase should be implemented for 2021. Stakeholders and partners cited the economic fallout caused by the COVID-19 pandemic which challenged budgets across the county, whether for households dealing with job losses and illness, businesses absorbing losses from closures and increased operational costs, or municipalities facing falling revenues.

In order to accomplish this and improve its financial position, DNRP convened an employee task force to generate ideas for reducing costs and increasing revenue. In total, the department identified $40 million in net cost reductions and spending deferrals. As a result of this engagement and implementation of these cost saving ideas, the department was able to lower its adopted expenditures for the 2021-2022 biennium by $7 million compared with the 2019-2020 adopted budget, despite inflationary cost increases and the addition of the Zero Waste of Resources and Climate Change programs. Consequently, DNRP was able to forego a rate increase in 2021.

The overarching goal of the fiscal planning work for this 2022 rate proposal has been to maximize value for customers while mitigating financial impacts on rate payers. This rate proposal follows many months of stakeholder and partner engagement that resumed in December of 2020. The department's advisory committees, the Metropolitan Solid Waste Management Advisory Committee (MSWMAC) and Solid Waste Advisory Committee (SWAC), expressed willingness to support a rate increase that would allow the department to maintain current service levels, fund key investments in climate and environmental programs, and fulfill the commitments made in the Comp Plan. These commitments include construction of the new South County Recycling and Transfer Station in Algona and a new Northeast Recycling and Transfer Station to replace the outdated Houghton facility.

This proposed rate increase would provide DNRP with an estimated $500 million for critical infrastructure projects between now and 2026. It provides the necessary revenue to support the regional solid waste system and ensure continued progress on investments such as transfer station modernization, maximization of disposal capacity at the Cedar Hills Regional Landfill, diversion of resources from disposal, and expansion of recycling services. This proposed rate increase funds these key initiatives while also positioning the division to maintain a smooth and steady rate path in future years as requested by stakeholders.

This current rate proposal also introduces new sources of revenue, including a new mattress handling fee and the sale of surplus properties. These sources of revenue reduce the need for additional increases to the Basic Fee and provide a better balance between the cost of delivering services and the fees charged by the department. Another boost in revenues will derive from increasing the yard and wood waste fees from $75 per ton to $100 per ton. This fee has been in place since 2013, however, the cost to deliver this service is higher than the current $75 per ton. Increasing this fee brings the revenue it generates closer to the cost of this service. This rate proposal also includes making permanent the Cleanup-LIFT low-income discount program, providing a discount equal to half the minimum fee for self-haul customers who show an ORCA LIFT, Electronic Benefits Transfer (EBT), or Medicaid card at transfer stations.

All told, the 2021-2022 adopted budget assumed a 14 percent rate increase in 2022. However, through the cost-saving work of the employee task force, some one-time revenues, and better than expected 2020 disposal tonnage, the department has been able to reduce that 14 percent to a 9.4 percent increase in 2022.

The feedback DNRP received from stakeholders about this proposal was positive. Partner cities and haulers have voiced support for the department moving forward with these investments. Nevertheless, for the sake of due diligence, the department reviewed and updated its analysis of the cuts that would be necessary without a rate increase in 2022 and shared the information with city and hauler partners. These stakeholders did not voice support for a no rate increase option given the cuts in services and investment that would likely result from a fourth year with no rate increase. These stakeholders acknowledged the need for an adequate revenue stream to support the priorities laid out above. More details are provided in the “No Increase Option” section of this report.

Ultimately, sanitation is an essential service, and it is imperative that use of this service is equitable and accessible for all. [1] Beyond the disappointment service reductions would cause customers, additional ramifications include increased traffic to and at stations when open, the potential for more illegal dumping, and a loss of flow control as customers would seek out services in other jurisdictions. These impacts could cause the department to reduce services even further to properly mitigate them.

III. Background

Department Overview: The King County Department of Natural Resources and Parks (DNRP) works in support of sustainable and livable communities and a clean and healthy natural environment. Its mission is to foster environmental stewardship and strengthen communities by providing regional parks, protecting the region’s water, air, land, and natural habitats, and reducing, safely disposing of, and creating resources from wastewater and solid waste.

The DNRP is guided by its vision to achieve Zero Waste of Resources by 2030, and to enhance the environment through collaboration and innovation. The department operates eight transfer stations, two rural drop boxes, and the Cedar Hills Regional Landfill (CHRLF), the only operational landfill in the

[1] Sanitation means providing adequate recycling and disposal services to ensure public health.

county. DNRP stakeholders include residents and business owners in unincorporated King County and 37 cities throughout the county--all except the cities of Seattle and Milton, which are part of separate solid waste systems. The department's solid waste mission is to deliver value to its customers and stakeholders, and to continuously improve waste prevention, resource recovery, and waste disposal. The DNRP's Solid Waste Division (SWD) s an Enterprise Fund. DNRP proposes solid waste rate increases to support both ongoing operations and new investments in solid waste infrastructure. About 90 percent of DNRP's revenue from the solid waste system is derived from its Basic Fee, a per-ton fee charged to dispose of waste at solid waste facilities.

Key Historical Context: Historically, DNRP has operated over long periods of time with no rate increase for solid waste disposal. When implemented, rate increases have typically ranged between 5 percent and 15 percent. During development of the 2019-2020 rate, community stakeholders and partner cities requested that DNRP take a more incremental approach that would result in a more predictable path for rate increases.

Figure 1: 20-Year Overview of the Basic Fee

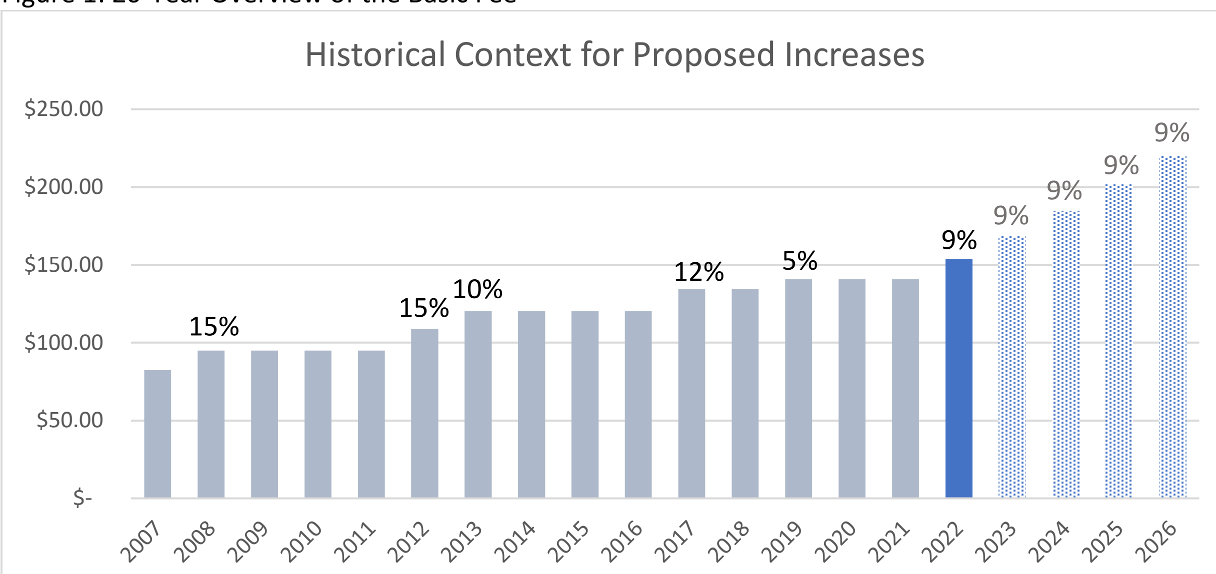
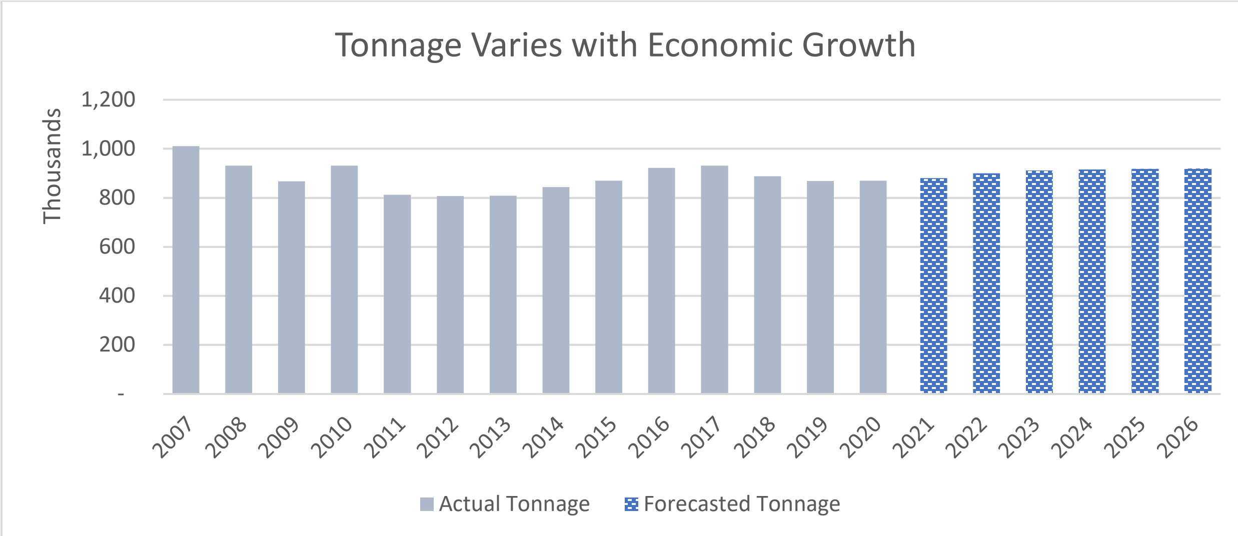


Figure 1 shows the history of rate increases since 2007, along with the proposed increase for 2022 and projections through 2026. The proposed rate increase for 2022 is low compared with most previous increases proceeded by several years of flat rates. By staggering the increase in one-year increments, the rate of increase is more gradual than setting a single rate for the biennium. The projected rate increases after 2022 are expected to be higher than annual rates would normally be due to (1) continued implementation of major capital projects such as the South County Recycling and Transfer Station (SCRTS), Northeast Recycling and Transfer Station (NERTS), and Area 9 development at the CHRLF and (2) deferring some costs from 2021-2022 to future years to mitigate the increase as recovery from the pandemic begins.

A primary determinant of the Basic Fee is the amount of tonnage received in a given year. DNRP prepares a tonnage forecast each February that provides a prediction of disposal over the next 10 years. After 10 years, the tonnage forecast uses a long-term growth rate based on historical tonnage. This forecast is used in the rate model to determine the Basic Fee.

Figure 2: 20-Year Overview of Tonnage



The historic trend has been one of rising tonnage, but the year-to-year relationship is more complex. Periods of recession result in falling tonnage, as demonstrated by the years 2008 to 2012. DNRP has a goal of reducing waste, and the implementation of policies in support of that goal can also result in fewer tons being received at facilities. An example of this is the implementation of diverting construction and demolition (C&D) debris from landfilling, which resulted in an estimated 7 percent annual decline in tonnage in 2018 and 2019. Early in 2020, DNRP forecast reductions in tonnage due to the economic impacts of the COVID-19 pandemic. While the department did see a drop in commercial tonnage, this was offset by increases in regional direct tons and a small increase in self-haul waste. [2]

While revenues are almost wholly dependent on tonnage, the converse is true for expenditures. It is estimated that 90 percent of DNRP's expenses are fixed, due to the operation of many facilities, the purchase and maintenance of specialized equipment, obligations from long-term debt, and the cost of meeting regulatory requirements. [3] Thus, declines in tonnage have a smaller impact on expenditures relative to the accompanying loss of revenue. Over the past three biennia, DNRP expenditures have increased at an average annual rate of 8 percent. The primary drivers of expenditure increases are related to the service levels provided at stations, the needs of capital programs, and the ongoing cost to meet environmental and safety controls at the CHRLF and closed landfill properties.

Key Current Context: During the previous rate-setting period, the tonnage forecast did not fully anticipate the effects of the C&D ban. Thus, the 2019-2020 rate proposal assumed more tonnage than was actually received. As a result, revenue was $20 million short of what had been anticipated.

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[2] In this case, regional direct tons refer to residual waste from material recovery facilities (MRFs) that was being taken by the City of Seattle Public Utilities (SPU). The proper disposal of these tons (collected in the King County Solid Waste service area, as part of the recycling waste stream, but sorted at MRFs in Seattle) is under discussion between DNRP and SPU.

[3] "Estimated Fixed vs. Variable Costs in 2016 KSCWD Budget." From "Alternative Solid Waste Revenue Structure", FCS Group, November 2017, Exhibit 3-3.

To address this fiscal challenge, DNRP convened an employee task force to generate cost-saving and revenue-generating ideas. The task force met throughout the fourth quarter of 2019, and representatives held break-out sessions within each work group in DNRP's SWD to allow for wide participation. The task force generated close to 200 ideas, submitted by DNRP staff at all levels of the organization.

These ideas, which represented over $70 million in savings, were evaluated for financial impact, feasibility, and alignment with the department's strategic goals. Expenditures were prioritized so that spending levels could be reduced, while maintaining progress toward fulfilling commitments made in the Comp Plan. These include achieving zero waste of resources by 2030 and construction of two new transfer stations in the next 10 years. Ultimately, many of these ideas were included in the overall cost savings and expenditure deferrals of $40 million that allowed for avoidance of a rate increase in 2021.

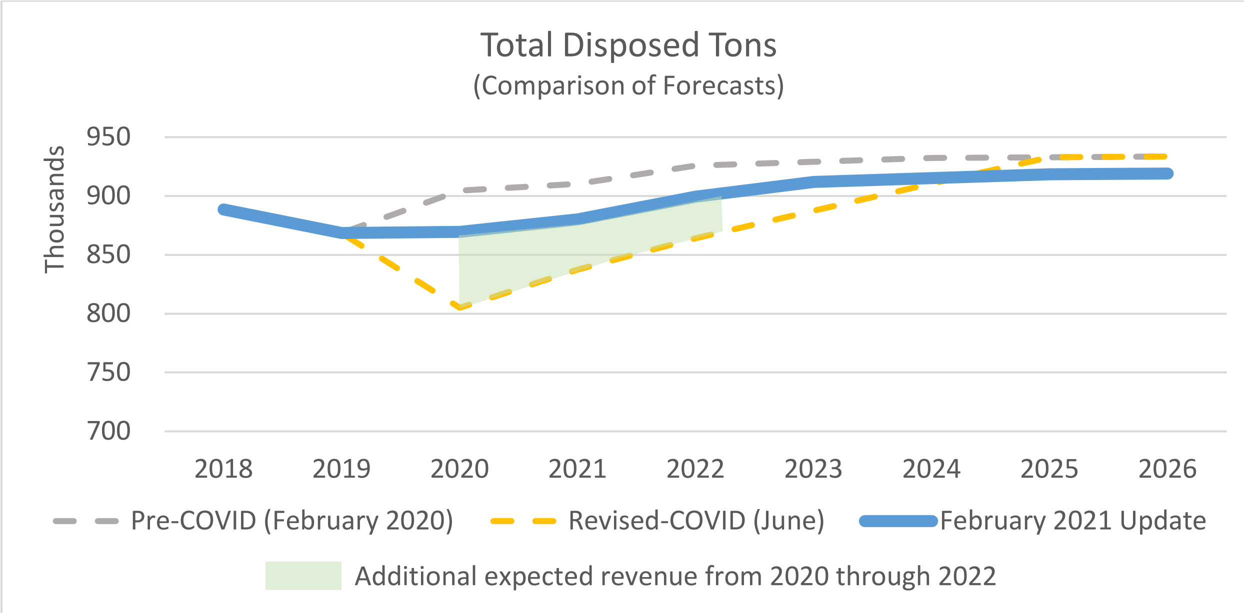
Impacts from the COVID-19 Pandemic

Tonnage is largely dependent on consumption patterns, and the tonnage forecast uses two key variables--employment and retail sales--to estimate consumption in DNRP's service area. With the emergence of COVID-19 and the implementation of the "Stay Home, Stay Healthy" order, economic conditions in the region changed rapidly, making it apparent that the tonnage forecast would need to be updated.

Given the fluidity of the situation, DNRP developed three scenarios, assuming low, medium, and high impacts to the key variables, in order to model the potential effects of the pandemic. In June 2020, DNRP used the Medium-Impact Scenario in the rate model since the key variables seemed most likely to trend in that direction. The department used this forecast to develop the 2021-2022 Proposed Budget.

In the meantime, DNRP continued to closely monitor tonnage, and in February 2021 saw improved numbers. In Figure 3, the green shaded area represents the additional expected revenue from 2020 through 2022, based on 2020 actuals and an updated forecast, that was not assumed in the department's 2021-2022 budget proposal.

Figure 3: Comparison of Tonnage Scenarios



Summary

Heading into the 2021-2022 biennium, DNRP is facing revenue shortfalls created by the successful implementation of the C&D diversion and the COVID-19 pandemic coupled with the growing capital costs of new construction. The financial impact of the revenue shortfall is exacerbated by an imbalance in the department's business model: while revenue is highly variable, expenditures, such as the operation of DNRP facilities, purchase and maintenance of specialized equipment, debt obligations, and responsibility to meet regulatory requirements, are largely fixed. Declines in revenue thus have a magnified effect on the department's financial health, as expenditures will largely stay the same even as revenues fall.

As DNRP focuses on developing and implementing a plan to reach zero waste of resources by 2030, more tonnage will be diverted from the waste stream along with the revenue it would have generated. This will be an important first step in contributing to development of a circular economy and will have long-term financial and environmental benefits for residents of the region. [4] However, without a change to the rate model, it will also create fiscal challenges for the department.

To address the issue, DNRP is working with regional leaders in a work group that is studying, and will make recommendations regarding, a rate restructure for the future. DNRP is not restructuring the rate for 2021-2022 because this represents a fundamental shift in revenue collection, and time is needed to work with cities and haulers to agree on an approach. This work group is exploring ways to reshape the system so that funding is not so dependent on tonnage; and will formulate a proposal to restructure the rate prior to the 2023-2024 biennium.

Report Methodology: DNRP gathered data from various internal and external systems, including from the cashiering system used at solid waste facilities for tonnage and revenue information, King County

[4] A circular economy aims to eliminate waste and reuse and recycle all resources.

accounting and budget systems (Oracle) for expenditure information, and the PRISM database that provides expenditure forecasts for capital projects. Ideas and additional information were gathered through an internal DNRP Rates Task Force created in fall 2019. Briefings with the DNRP solid waste advisory committees – the MSWMAC and SWAC – started in December 2020 and continued monthly through development of this report. The committees provided input on a variety of topics including recycling fees, rate options, and service levels.

The methodology used in formulating the rate proposal is explained in detail below.

IV. Report Requirements

A. Rate Model Methodology

Disposal fees comprise 90 percent of DNRP's revenue. Two variables control the revenue received from disposal fees: tonnage and the Basic Fee, or per-ton rate, charged for that tonnage. When tonnage falls, the per-ton rate increases. Since expenditures are largely fixed, smaller amounts of tonnage need to generate similar revenue and when that does not occur, the rate must increase. At a high level, the relationship between expenditures, revenue, tonnage, and rate can be characterized as shown in Figure 4:

Figure 4: Relationship of Expenditures, Revenues, Tonnage, and Rate

$$\text{Expenditures + Reserves} = \frac{\text{Revenues}}{\text{Tonnage}} = \text{Per Ton Rate}$$

Appendix B provides details of the rate model methodology.

B. Proposed Fees

DNRP is proposing the following per-ton rates for 2022:

Fee	2019-2021	2022
Basic Fee	$140.82	$154.02
Yard/Wood Waste	$75.00	$100.00
Regional Direct	$120.00	$131.00
Special Waste	$169.00	$185.00

The department charges a minimum fee on Basic Fee and Yard/Wood Waste charges on weights of 320 pounds or less. Some vehicles, such as passenger vehicles, are automatically charged at the minimum fee. [5]

[5] KCC 10.40.020 MM defines fixed-rate vehicles.

The minimum fees are as follows:

Fee	2019-2021	2022
Basic Fee *	$22.53	$24.64
Yard/Wood Waste	$12.00	$16.00

*The fee shown here is pre-tax and without a Moderate Risk Waste surcharge.[6]

DNRP is also proposing the following new fee:

Fee	Type of Fee	2019-2021	2022
Mattress Handling Fee	Per Item	Charged at Basic Fee	$30.00

The Mattress Handling Fee is a per-item fee that will be applied to each unit that is brought to a transfer station for disposal or recycling. Appendix B provides detailed information about this fee.

In addition, the department is proposing that the Cleanup Lift discount be raised to $14.00, which, after taxes and fees, is roughly 50 percent of the minimum fee for garbage transactions.

C. Financial Projections

The revenue, expenditure, and reserve assumptions used to develop this proposal are detailed in this section.

Expenditures

Given the loss in tonnage from the diversion of C&D debris, DNRP was facing a revenue shortfall in the 2019-2020 biennium. The initial expenditure projection for the 2021-2022 biennium was $352 million. This current projection used the 2019-2020 budget as the baseline, and then escalated it to account for inflation and the historic rate of expenditure growth.

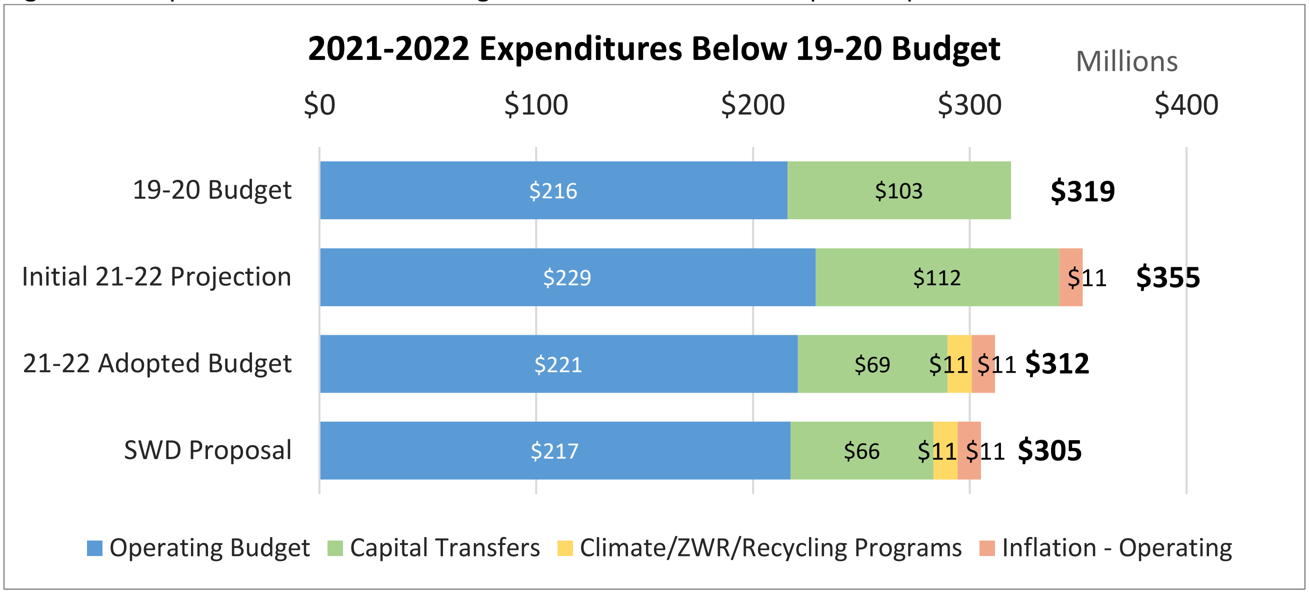
In response to the challenges created by the decline in tonnage, the department created an employee task force to generate ideas that would improve the financial position.

After the task force completed its work, the department was able to lower total expenditures by $20 million. As impacts from the pandemic became evident, the department reevaluated all planned spending and further reduced expenditures by $20 million for a total savings of $40 million. The savings include reductions in consulting services that will result in less frequent waste characterization studies, suspending operations at the CHRLF on the weekends, and reconfiguring required safety meetings for operations staff to reduce labor cost and the need for outside trainers. Currently, the department's 2021-2022 adopted budget keeps expenditures at $312 million, $7 million below its 2019-2020 budget of $319 million. The department has effectively absorbed all inflationary increases, while maintaining existing services and funding several new investments that will yield long-term financial benefits for the region.

[6] The King County Board of Health sets the amount of the Moderate Risk Waste surcharge that funds hazardous waste programs throughout the county.

Furthermore, this proposal is based on a revised projection of $305 million for the biennium, an additional $6.5 million below the adopted budget largely attributable to a revised capital construction spending forecast (see Figure 5). However, even as expenditures have decreased compared to the last biennium, an increase in the rate is needed because of increases in construction-related debt. The revised construction forecast favors 2021 and 2022 but increases those costs in the future through at least 2026. More information on this can be found in the "Debt Service" section, below.

Figure 4: Comparison of 2019-2020 Budget and 2021-2022 Rate Proposal Expenditures



New Investments

The reductions in operating and capital costs enable the department to pursue other critical investments without increasing baseline expenditures. As part of its expenditure evaluation, the department evaluated existing programs and projects for alignment with its strategic goals and commitments from the Comp Plan. DNRP identified several new investments that would fulfill or strengthen these goals. These are listed below.

Improved Asset Management. The department has developed a comprehensive, holistic approach to maintenance and repair of its assets. Additional staffing and funding to implement this work will yield long-term benefits for rate payers, as a deliberate and planned approach to asset management will maximize the life of assets and reduce the more costly emergency repairs. The total proposed cost of this program will be $2.4 million in the 2021-2022 biennium.

Expanded Safety and Emergency Response Capability. The department currently has a single safety officer dedicated to safety and emergency response across a multi-site, high-risk environment. This coverage is not sufficient. In addition to the need for expanded safety coverage, more advanced planning and training is needed to lead DNRP's response to emergencies and protect public health and the environment. Recent examples include gas pipeline breaks, landfill fires, and COVID-19. Over time, expanded capacity through the addition of staff will yield long-term benefits from improved safety, reduction of accident claims and associated expenses, and risk avoidance. The total projected cost for the biennium is about $700,000.

CDL and TSO Training Programs. In 2019, the department launched a training program that enables employees to obtain a Commercial Driver's License (CDL), a prerequisite to becoming a DNRP Truck Driver. Successful completion of this training program provides access to higher-paying positions for the department's lowest paid employees, and addresses the ongoing need to recruit new drivers, as many of the current drivers are at or near retirement age. In addition to continuing the CDL program, the department is creating an opportunity for employees to train as Transfer Station Operators (TSO), which will similarly address ongoing recruitment needs for this position. This program is forecast to cost $300,000.

King County Conservation Corps. In 2019, King County piloted a new program for waste cleanup to support underserved needs in unincorporated King County. The program, which became a permanent service in 2021 pairs people struggling with homelessness with jobs performing litter and graffiti cleanup work in unincorporated business districts. The program is funded by DNRP and the Department of Local Services helps with coordination. The department will contribute just over $500,000 in 2021-2022.

Recycling Cost Increases. With the enactment of China Sword, a policy that effectively banned the import of recycled materials into China beginning in 2018, the marketability of many recycled commodities declined. In addition, buyers of these materials are demanding lower levels of contamination, leading to increased processing costs. This has resulted in a steady increase in the cost of operating the department's transfer station recycling program. Haulers and cities have already implemented surcharges to counteract this cost increase. This rate proposal represents DNRP's first opportunity to address the impacts of China Sword. Transfer station recycling costs are projected to increase by $1.7 million in the 2021-2022 biennium. To offset the increase in these costs, the department has increased the budget for recycling to ensure it can continue to provide these services.

Zero Waste of Resources. A major goal of the department, ratified by its partner cities and the King County Council through adoption of the 2019 Comp Plan, is to achieve zero waste of resources by 2030.[7] It is estimated that 70 percent of the refuse that arrives at the CHRLF each year may have economic value. The Zero Waste of Resources Program aims to divert those materials from the landfill.

- DNRP has convened a task force of regional stakeholders to develop an implementation plan that will identify and prioritize actions needed to achieve this goal. [8] The department set aside $7 million for the 2021-2022 biennium to begin executing the implementation plan.

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[7] See 2019 Comprehensive Solid Waste Management Plan, Chapter 4—Sustainable Materials Management, page 75.

[8] "Zero waste" does not mean that no waste will be disposed of; it proposes that maximum feasible and cost-effective efforts be made to prevent, reuse, and recycle waste. See 2019 Comprehensive Solid Waste Management Plan, Common Terms, page xiii.

- Achieving zero waste of resources will be an important milestone in developing a circular economy and offers financial benefits for rate payers. Implementation can create green jobs in the region: recycling creates 37 new jobs for every 10,000 metric tons recycled, and advanced sorting and reuse facilities can multiply this effect. [9/10/11]

- Diversion of waste from the disposal stream can lower the monthly cost of trash service for businesses and residents. Since container size is the most important variable in determining the rate of curbside collection service, the impact of this change could create cost savings for customers in the region. [12]

Climate Change Mitigation Investments. The *2020 King County Strategic Climate Action Plan* (SCAP) included the commitment that DNRP achieve carbon neutrality by 2025. To reach this target, the department has set aside $2 million in revenue from the sale of landfill gas to BEW for investments that will help reach this goal. Planned actions include the purchase of electric vehicles, improvements to landfill gas collection systems, and purchase of "green diesel" to fuel the department's solid waste fleet. [13] In addition to reducing the carbon footprint of the department, these investments will yield long-term financial benefits for rate payers, as electric vehicles are less expensive to operate and maintain, and improvements in gas collection will increase revenues from this source.

Interim Facilities for Operations. Area 8, the current active disposal cell where waste is placed at the CHRLF, is expected to reach capacity in 2026. The construction of additional capacity will need to commence in 2023, with any necessary preconstruction occurring in 2022. In order to develop Area 9, the last remaining cell at the landfill, support facilities such as maintenance buildings and office trailers will need to be relocated. To reduce overall project cost and risk, the department will relocate most of the landfill operations staff to interim facilities in 2021. This will enable greater schedule flexibility for the complex landfill development process and allow the department to avoid the high cost of a direct move to permanent facilities. The leasing and relocation costs are expected to total $5.1 million in 2021-2022.

Cost Savings

In response to the loss in tonnage from the C&D ban and the effects of the COVID-19 pandemic, the department has been reviewing its expenditures for potential cost savings. The largest areas of cost reduction are outlined in the following section.

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[9] Green jobs are jobs that generate income sufficient to support a household in King County and benefit the environment, such as working at a facility that recycles plastics.
[10] See "Recycling Saves Resources and Creates Green Jobs." The EPA Blog, November 16, 2015.
[11] See "Recycling Means Business." Institute of Local Self-Reliance, February 1, 2002.
[12] See "Curbside Impact" section of this report.
[13] Green diesel is a renewable fuel that is similar to regular diesel at the molecular level but is derived from renewable sources such as beef tallow instead of petroleum. This means it has a lower greenhouse gas impact than regular diesel fuel.

Operational Efficiencies. Through the internal Rate Task Force process, the department identified $3 million in operational efficiencies spread over several projects and programs. Examples include the purchase of a shredder which will turn dirty wood[14] into material that can be used as a base for temporary roads and tipping pads at the landfill; adding an electrician to operations staff to provide in-house maintenance; and eliminating unneeded portable toilets from several facilities. [15]

Closure of Cedar Hills on Weekends. DNRP will no longer process waste on Saturday and Sunday, the lowest tonnage days of the week, and will save an estimated $2.9 million this biennium through reduction in staffing levels.

Recessionary Effects of COVID-19. Spending projections have fallen by about $12 million as a result of effects from the COVID-19 pandemic. The major decrease is from lower wage increase projections (cost of living adjustments) set by the County.

Landfill Reserve Fund. The Landfill Reserve Fund (LRF) serves two functions for the department: it provides funding for new development and closure projects at the CHRLF and provides funding for post-closure maintenance. The department is projected to save $14 million in the 2021-2022 biennium, as both the per-ton transfer rate (from the Operating fund to the LRF) and the tonnage have declined.

- **New Development.** Traditionally, new landfill development and closure projects were cash-funded from the LRF.[16] Given the constraints on the rate and planned development of Area 9, debt-financing these projects can provide relief to rate payers.
- **Post-Closure Maintenance.** The Washington Department of Ecology requires landfill owners to set aside funds to pay for 30 years of post-closure care. Years with lower tonnage, which have lower rates of transfer, effectively increase the life of the landfill, increasing the time period over which the post-closure funding is collected.

Capital Equipment Replacement Program (CERP) Transfer. Traditionally, the department has maintained reserves equal to 15 percent of the value of its rolling stock[17] in the CERP. Given the increased fiscal demands DNRP is facing, it was deemed prudent to lower the reserve amount to 10 percent of the rolling stock value, or just under $10 million. This ensures adequate funding to deal with emergencies, without overburdening rate payers during a recession. This change, coupled with the existing fund balance, allowed the department to reduce CERP transfer levels by $7 million without impacting the needed equipment purchased in the 2021-2022 biennium.

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[14] Dirty wood is wood treated with preservatives such as creosote, including dimension lumber. This may also include some treated plywood, strandboard, chemically treated wood. This also includes wood contaminated with other wastes in such a way that they cannot easily be separated but which consists primarily (over 50 percent) of wood. An example is wood with sheetrock attached.

[15] A tipping pad is a solid piece of ground on top of which a garbage tipper is placed. Garbage tippers take trailers full of garbage and tip them over the face of the landfill into the cell where waste is placed. Because this happens on top of garbage, a sturdy surface is needed.

[16] KCC 4A.200.390, which governs the LRF, will be updated through the rate ordinance to explicitly allow bond proceeds to fund these projects.

[17] Rolling stock is equipment that is commonly used and replaced on a set schedule based on the balance between capital depreciation and maintenance costs, for example, tractors and trailers, pool sedans, and yard goats.

Debt Service. The department is expected to save $4.2 million in debt service in the 2021-2022 biennium, compared with the adopted budget for the same biennium. This is primarily due to a shift in project schedules that has changed cash flows, as well as the decision to delay construction of permanent support facilities until after completion of three major construction projects: Area 9, South County Recycling and Transfer Facility, and Northeast Recycling and Transfer Facility. This change was made possible by re-sequencing landfill development work, which resulted in additional savings during the biennium, and the decision to move into interim facilities while Area 9 is developed.

Furthermore, DNRP annually reviews its Capital Improvement Program to update planned spending on existing projects and decide what other projects are needed. Starting this biennium, many of the updated cash flows are multiplied by an accomplishment rate (85 percent) and these lower amounts are used to project the needed bond issuances and estimate the cost of debt service over the next six years. Assuming an accomplishment rate of less than 100 percent is a practice used by other departments and reduces the accumulation of premature debt issuance, which puts downward pressure on the rate.

Reserves

The department has three reserve funds. The Rainy-Day Fund is required by County policy and is equivalent to thirty days of operating expenses. No significant changes to this fund are planned. Two other funds, the Recession Reserve and the Rate Stabilization Reserve, will be impacted during the 2021-2022 biennium.

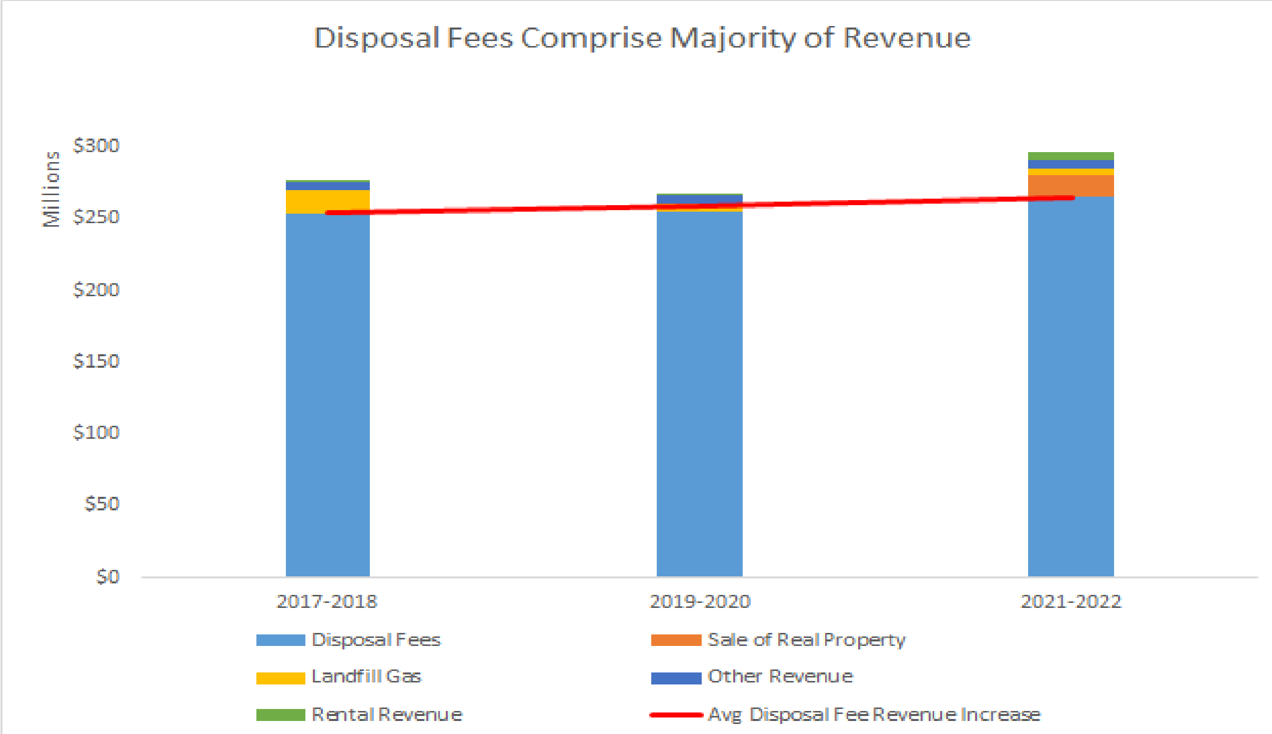
Recession Reserve. The Recession Reserve is meant to provide a buffer to rate payers in the event of a recession. This fund is equivalent to 5 percent of annual disposal revenue and is meant to be drawn down over the course of two years. After a period of recovery, the department will gradually replenish the fund. With the onset of a recession in 2020, the department began to draw down the reserve. In 2022, the department plans to leave this fund at $0, and begin replenishing it in 2023 at a rate of 1.6 percent of annual disposal revenues per year, to a maximum of 6.4 percent of annual disposal revenues.

Rate Stabilization Reserve. The Rate Stabilization Reserve for 2020 is expected to be $37 million. The department plans to spend down this reserve by an average of $5.6 million a year to lower and smooth rates until reaching a target of approximately $4 million at the end of 2027.

Revenues

Disposal fees comprise 90 percent of the DNRP's solid waste revenue. The successful implementation of the C&D debris diversion resulted in actual revenues falling seven percent below projections used in the prior rate model. The department is using a two-pronged strategy to stabilize revenues in the 2021-2022 biennium. First, the sale of surplus property will generate revenue to soften the direct burden on rate payers. DNRP also received $7 million in a settlement with BEW regarding underpayment for landfill gas provided for conversion to natural gas. In total, these sources are projected to generate $23 million in revenues. Second, the department is proposing an increase in its tipping and yard/wood waste fees, and the addition of a new per-item charge for mattresses. These increases will result in disposal fee revenue increasing for the 2021-2022 biennium. See Figure 6 below:

Figure 6: Comparison of Revenue Sources, 2017-2022



The average rate of increase for disposal fee revenues is 2.1 percent per biennium, well below the 5 percent average rate of increase in inflation over the same period. Because of declining tonnage, revenue stabilization can only be achieved through an increase in the rate.

Disposal Fee Revenues. DNRP is proposing an increase in its tonnage-based fees, yard/wood waste fee, and the creation of a new per-item charge for mattresses. Typically, the department sets these rates on a biennial basis, but DNRP is now proposing annual increases. Smaller, more frequent increases will minimize the burden on rate payers and create a smoother, more predictable situation for customers and are preferred by our stakeholders.

The rationale and revenue projections for each fee are summarized as follows:

- **Basic Fee.** The Basic Fee is the per-ton fee charged to customers disposing of municipal solid waste at transfer facilities and to curbside collection vehicles at the CHRLF. In 2021, DNRP did not increase the fees to avoid putting additional pressure on rate payers and city partners during the pandemic. The department is proposing to increase the fees by 9.4 percent, to $154.02, in 2022. The impact of this increase for a typical residential customer, after commercial haulers pass on these costs, is forecasted to be $0.71 per month in 2022. The increase in Basic Fee is projected to increase revenues by approximately $12 million in the 2021-2022 biennium above what they would be if the current rate were maintained.
- **Regional Direct Fee.** This is a discounted fee charged to commercial collection companies that haul solid waste to the CHRLF from their own transfer stations and processing facilities, thus bypassing County transfer stations. Regional Direct tonnage is composed mainly of non-

recyclable material removed from recyclables during processing at material recovery facilities (MRFs). Regional Direct fees are typically set at 85 percent of the Basic Fee, so this fee is increasing from $120 per ton in 2020 to $131per ton in 2022. This increase is expected to bring in $200,000 more in revenues in 2021-2022.

- **Special Waste**. The fee charged for certain materials that require special handling, record keeping, or both, such as asbestos-containing materials and contaminated soil. This fee is typically set at 120 percent of the Basic Fee, so this fee is increasing from $169 per ton in 2020 to $185 per ton in 2022. This increase is expected to bring in $24,000 more in revenues in 2021-2022.
- **Mattress Fee.** Traditionally, mattress disposal has been charged at the Basic Fee, but the cost of transporting used mattresses to the landfill, as well as fees charged to the department by third-party mattress recyclers, makes these materials expensive both to dispose of in the landfill and to recycle. Therefore, the department has decided to begin charging a fee of $30 per mattress at all locations. Appendix C provides more information. This fee is projected to generate $300,000 in revenues this biennium.
- **Yard/ Wood Waste Fee.** This fee is for separated yard waste and clean wood brought to facilities that have separate collection areas for these materials. The fee has been set at $75 per ton since 2011. To bring the fee more in line with the cost of this service, the department is proposing to raise the fee to $100 per ton. For a more detailed analysis of this fee adjustment, please see Appendix D. This fee will increase projected revenues by about $642,500 for the biennium.
- **Increased flow control.**[18] In 2019, the department increased enforcement of flow-control agreements in regard to Regional Direct tonnage, which consists of non-recyclable materials collected at MRFs. This change resulted in the department increasing its projected tonnage from this source by 5,000 tons over prior projections. This will increase the department's revenue by about $300,000 annually. The proper disposal of this material--collected in the King County solid waste service area but sorted at MRFs in Seattle--is under discussion between DNRP and the City of Seattle, thus receipt of these materials may change in the future.

Other Revenues. DNRP has also investigated ways to increase its other revenue streams.

- **Sale of Surplus Property.** The department recently sold a parcel of surplus property in Eastgate, near the Factoria Recycling and Transfer Station. At the time of this writing, the amount DNRP will be compensated--which involves reimbursement and costs from other departments--has not been finalized. However, it is expected the sale will net at least $16 million, which is already assumed in the rate model.
- **Rental Income.** The department has been able to secure a new tenant at its Harbor Island property to generate additional income.
- **Sale of Landfill Natural Gas**. Landfill gas is captured at CHRLF and converted to pipeline-quality natural gas by BEW. The natural gas is sold to Puget Sound Energy (PSE) and the revenue shared between BEW and the department. In addition, carbon credits, which are owned solely by the department, are sold to PSE, which brokers it on the secondary market.

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[18] Flow control refers to the requirement in KCC 10.08.020 that all solid waste generated in the King County system must go to a King County facility.

The most recent total revenue projected in the rate model for the 2021-2022 biennium is $306 million. Revenue from disposal fees is projected to be $265 million. An additional $41 million is projected from other revenue sources.

D. Rate Determination

Each biennium, DNRP needs to raise revenue equal to its projected expenditures and required reserves. The amount of revenue can be buffered by the existing balance in the Rate Stabilization Reserve, but at the end of each biennial cycle, the department must have enough cash on hand to fund its required reserves.

Since revenues are largely based on disposal fee revenue, the amount of tonnage is a key variable in determining the rate. The department has been facing declining tonnage since 2018. Expenditures are relatively insulated from the effects of tonnage declines because 90 percent of the department's expenditures are fixed.

Recognizing the challenges posed by the loss in tonnage, the department has been working to address the revenue shortfall with cost savings. Expenditures for 2021-2022 will decrease slightly from the 2019-2020 budget, a decrease in $40 million from initial projections. Despite these savings, a rate increase is needed due to increasing debt service associated with major construction projects and investments in climate and environmental programs.

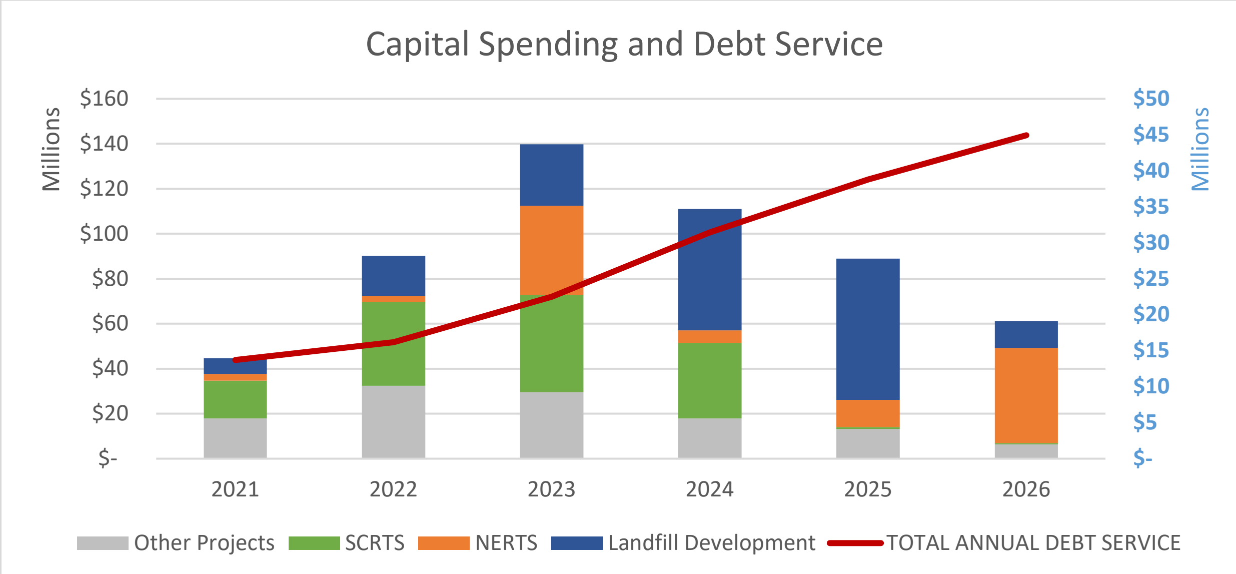
In addition to reviewing all expenditures for potential savings, the department is expected to realize additional revenue from the sale of surplus property in the 2021-2022 biennium. The department also examined its reserve levels. The Recession Reserve, which provides additional rate reserve, was depleted by the end of 2020. Additionally, the Rate Stabilization Reserve, which is used to smooth future rate increases, will be gradually drawn down over the next several years.

Once these projections were finalized, the department calculated the rate necessary to sustain the department through the end of 2022, but with an eye on needed near-term future rate increases. Many options were considered, and all were evaluated for risks and benefits to rate payers. Ultimately, the department sought to balance the immediate need for rate relief in 2021 with the long-term financial health of the department, and the environmental health of the region. DNRP believes that its current proposal strikes a balance between all three criteria.

Understanding the Rate Increase

Items that increased the rate include funding the increased cost of transfer station recycling, the Zero Waste of Resources implementation plan, and new investments in operations and support services. Capital programs and LRF changes provided the most relief in 2021-2022, and reductions to operations, recycling, and support services round out the reductions. However, as mentioned above, capital spending on critical infrastructure alone will put pressure on rates through 2026 as illustrated below in Figure 7.

Figure 7: Capital Costs Drive the Rate Increase



No-Increase Options

Several cities asked DNRP to forego a rate increase entirely in 2021 and the department was able to do so. However, doing so again in 2022 would require DNRP to further reduce expenditures, or face a 15 percent increase in 2023. Considering expenditure reductions already made, and DNRP's operational budget for the transfer stations, landfill, and transportation is about $60 million per biennium, the impacts of additional reductions would mean the department would likely need to consider reducing service levels.

In view of the continued pressures of the COVID-19 pandemic, the department analyzed what service level reductions would be needed to avoid an increase in 2022 and mitigate the expected 15 percent jump in 2023. The service level changes needed to mitigate an increase of that magnitude in 2023 include shutting down the Renton Transfer Station and the Cedar Falls Drop Box; closing remaining transfer stations Friday through Sunday; and closing the CHRLF on Saturday (which is in addition to Sunday that is already included in the adopted budget). DNRP would also need to lower proposed investments in zero waste of resources and climate change mitigation actions, which were approved in the Comp Plan. This could disrupt DNRP's ability to meet its 2025 carbon neutrality goal unless it purchases carbon credits to offset emissions. The department may also have to eliminate city recycling grants, with the result that cities would be less likely to offer popular recycling collection events.

Given the nature of these service reductions, there would be impacts to all users of the system. Sanitation is an essential service and limiting access to it has a number of negative consequences. For example, in addition to the direct impact on service access, station closures would increase traffic near the stations during times stations are open, cause long lines and service delays, and result in some loss of flow control as self-haulers may then dispose of their waste in other jurisdictions. In addition, there might also be some increase in illegal dumping that would require mitigation. Increased costs, such as traffic control and cleanup of illegal dumpsites, and decreased revenue from tonnage going to other solid waste systems (Snohomish County, Seattle, or Pierce County) would require additional service level reductions to compensate.

These changes would increase costs for haulers because they would need to purchase more trucks and hire more staff to move the same amount of waste over fewer days. It could also impair their ability to deliver contractually obligated levels of service. In areas governed by the Washington Utilities and Transportation Commission, which includes all of unincorporated King County and some municipal areas, the cost increases could be passed directly on to customers. In areas governed by city contract, administrators may be faced with the choice to accept lower levels of service, terminate contracts for cause, or agree to service cost increases. For most residential customers in the region, the “no increase” option for disposal fees in 2022 would result in either (1) increases in service costs, due to haulers passing on the costs to purchase new trucks and hire staff, or (2) decreases in the frequency of services, should haulers decide to cut service to reduce costs instead of increasing their fees. If the latter option resulted in customers having to increase the size of their curbside bins, the total monthly impact would likely be higher than the curbside impact of the proposed increase in disposal fees (as illustrated in the Curbside Impact section of this report). Thus, the “no increase” option could result in higher overall bills for many customers.

While DNRP has the option of reducing funding for zero waste of resources and climate change mitigation in the short-term, the department is committed, by ratification of the cities and the King County Council, to achieving these goals within the timeframes specified by the Comp Plan and the SCAP. Reducing investment in zero waste of resources actions will compress the timeline for achieving the goal by 2030. As many of these actions require a period of years to implement, such as improving markets for recyclables or building new sorting/processing facilities, the delay could challenge the department’s ability to implement these actions.

A delay in funding could cause the department to miss an opportunity to create the “green jobs” that come with some of these actions during the economic downturn. The Environmental Protection Agency estimates that every 10,000 metric tons of materials recycled generates 37 jobs, so building a new sorting/processing facility could generate potentially hundreds of new jobs. [19] Reducing investments in climate change mitigation will also result in compression of the schedule for DNRP achieving the County’s policy of carbon neutrality by 2025. In essence, the reductions would narrow the strategic pathways for achieving these goals and could require that the department elect more accelerated, and expensive, solutions in later years. It would also result in the need to increase funding in the 2023-2024 biennium.

DNRP shared these options with city and hauler partners and, given the negative impacts described above from pursuing a no-rate increase option, these partners recognized the need for a rate increase to support the regional solid waste system and ensure continued progress on key capital projects and environmental goals. The average cost to monthly customers resulting from the proposed rate is $0.71 in 2022 and puts the department on a path to meet its obligations and goals, while keeping monthly customer cost increases under $1.00.

[19] https://blog.epa.gov/2015/11/16/recycling-saves-resources-and-creates-green-jobs/

E. Curbside Impact

In developing this rate proposal, DNRP calculated the likely impact of a rate increase on curbside customers using an estimate of the average monthly weight of about 100 pounds of garbage generated by a typical residential household. [20][21]

	2021	2022	2023	2024	2025	2026
Basic Fee	$140.82	$154.02	$168.45	$184.24	$201.50	$219.89
% Increase	0%	9.4%	9.4%	9.4%	9.4%	9.1%
Estimated Monthly Curbside Increase	$0.00	$0.71	$0.78	$0.85	$0.93	$0.99

While this method provides insight into the overall regional average, it is important to remember that residential customers are charged by the size of their bin, or cart, rather than by weight. Thus, the actual impact is dependent on how the increase in Basic Fee changes the monthly charge for each particular cart size and how those cart sizes are distributed in the population. Each contract between a city and its hauler(s) contains provisions for how the Basic Fee will be applied to the existing fee schedule, so this calculation will vary by area based on the contract.

To provide a sense of how the Basic Fee will impact actual contractual rates, DNRP has included an analysis of one city's contract:

Cart Size (gallons)	No. of Customers	Total Monthly Cost	Disposal Cost	
			Current	Increase
		2021	2021	2022
20	1,691	$12.52	$3.33	$0.31
35	7,564	$17.60	$5.82	$0.55
64	2,326	$34.38	$10.65	$1.00
96	1,305	$53.18	$15.94	$1.49
	Average Curbside Increase			**$0.44**

Under this contract, the actual cost to customers consists of two separate components: the disposal cost and the service cost. Increases to the disposal cost are determined by increases in the Basic Fee charged by DNRP. The service cost compensates the hauler for their collection services.

On average, residential curbside customers in this city will see the disposal cost component of their bill increase by $0.44 per month in 2022.

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[20] A curbside customer is someone who pays a monthly garbage bill to have garbage picked up at the curb. These are mainly single-family residents.

[21] The actual curbside impacts for curbside customers will vary based on local retail collection rates, cart size, and how the terms of the contract between their city and their hauler pass through these disposal costs to customers. Variations in these factors create hundreds of possible individual impacts, which is why the department uses an average impact measure.

Notably, the amount of increase year to year is smaller than the impact of cart size. As noted above, in 2021, the total cost for a 20-gallon bin is $12.52 and for a 35-gallon bin, $17.55. As the department takes action to achieve its zero waste of resources goal, residents and businesses should see financial benefit through the reduction of their cart size and thus their total monthly bill. For example, implementing cart tagging – where a person gets an "oops" tag on their garbage bin if they put recyclables in the garbage can – has led to behavior change where people learn to recycle more. If they recycle more, they can move to a smaller garbage can and save money. This analysis illustrates the tangible benefits of investing in zero waste of resources actions.

V. Conclusion

Entering into this rate development period, DNRP was facing two years of declining revenues, due to the successful implementation of the C&D ban. The emergence of the COVID-19 pandemic created uncertainty and required the department to do what it could to avoid a rate increase in 2021, which it accomplished. However, as the region begins to emerge from the threat of the pandemic, city and hauler partners still wish to see DNRP build two new transfer stations and make planned investments in climate and environmental programs.

On the expenditure side, the department has been working to address increased capital costs with rate savings elsewhere. Spending has been prioritized to focus on maintaining delivery of essential services and delivering on the commitments made in the Comp Plan and the SCAP. New investments in zero waste of resources and continuation of capital projects are expected to provide economic stimulus during the economic recovery period. As noted earlier, zero waste of resources could create hundreds of new green jobs while the spending on the South County Recycling and Transfer Station project is expected to create about 1,400 new jobs based on the Washington State Office of Financial Management's labor multiplier model.[22] Employees from across the SWD have been engaged to develop ideas for cost savings and improving operational efficiencies. This approach has succeeded, and expenditures for 2021-2022 will be $7 million less than the 2019-2020 budget, a decrease in $40 million from initial projections. All inflationary pressure has been absorbed within existing spending levels, meaning that in constant dollars, DNRP expenditures for operation of solid waste programs and facilities have fallen $16 million.

The focus on the revenue side has been one of gradual increases. A proposed one-year rate increase in disposal fees will result in disposal fee revenues increasing at an average rate of 2 percent per biennium since 2017-2018, which is lower than the 5 percent average rate of inflation. The economic recession caused by the COVID-19 pandemic has challenged budgets across the county, whether for households dealing with job losses and illness, businesses absorbing losses from closures and increased operational costs, or municipalities facing falling revenues. During this rate-setting process, the department has been sensitive to the needs of its customers and stakeholders and worked to reduce the need for rate increases, while preserving essential services and providing investments needed to reach the County's strategic goals and commitments. The decision to forego a rate increase in 2021 coupled with this 2022 rate increase proposal balances the immediate need for rate relief in the region with the ongoing need for waste disposal and the long-term financial and environmental impacts to future rate payers.

[22] https://ofm.wa.gov/washington-data-research/economy-and-labor-force/washington-input-output-model/2007-washington-input-output-model

VI. Appendices

Appendix A – Proposed Solid Waste Disposal Fees for 2022 Brief
Appendix B – Rate Methodology
Appendix C – Mattress Fee Analysis
Appendix D – Yard/Wood Waste Fee Increase Analysis
Appendix E – Tonnage Forecast Through 2026
Appendix F – Summary of Rate Model Through 2026

Proposed 2022 Solid Waste Disposal Fees Brief

A 9.4 percent increase in King County's Solid Waste Basic Fee is proposed for 2022, from $140.82 to $154.02, which amounts to an average of $0.71 to customers' monthly curbside bill. In order to provide relief to ratepayers dealing with the economic fallout of the COVID-19 pandemic, King County did not increase the Basic Fee in 2021. The proposed 9.4 percent increase in 2022 will allow the County to continue to maintain reliable and essential waste and recycling services.

The proposed legislation would allow the continuation of projects outlined in the *2019 Comprehensive Solid Waste Management Plan* (Comp Plan), including capital projects such as the South County Recycling and Transfer Station in Algona, the future Northeast Recycling and Transfer Station, and further development at the Cedar Hills Regional Landfill. Investment in these critical infrastructure projects will bring estimated total capital spending to close to $500 million through 2026. This will greatly increase debt service and drive up rates for the next several years, and thus raising rates now will mitigate a larger spike in the future.

The following changes to the Solid Waste Fund rate schedule are proposed:
- Increase the per-ton fee for yard and wood waste from $75 to $100. The estimated cost to DNRP to provide this service is $115 per ton.
- Add a new Mattress Handling Fee of $30 per unit to cover the cost of recycling/disposal of mattresses.
- Make permanent the CleanUp Lift low-income discount program and increase the discount from $12 to $14 to keep it at approximately 50 percent of the minimum disposal fee.

Drivers for the proposed 2022 rate

1. **The rate funds capital projects and programs that provide economic stimulus.** Continued modernization of the transfer system, expanding capacity at the Cedar Hills Regional Landfill, and other upcoming capital improvement projects are estimated to create about 1,400 living-wage jobs.[1] In addition, decreasing the amount of garbage sent to the landfill by recovering resources that have economic value will create hundreds of new green jobs in recycling.

2. **The rate keeps the department on track to fulfill its goal of reaching climate neutrality in 2025.** Instead of using landfill gas sales to buy down the rate, the department will now use that revenue to pivot away from traditional fuel and other sources of greenhouse gas (GHG) emissions and to focus on green innovations such as electric trucks, renewable diesel, and other low-emission technology. Funding transfer station recycling also helps reduce the department's carbon footprint and maintain carbon offsets.

[1] Based on the Washington State Office of Financial Management's labor multiplier model: [LINK]

3. **The rate funds vital and valued programs and services.** Customers have repeatedly shown their support and desire for programs and services that make their communities better places to live. The region is known for its commitment to recycling, and customers understand that modest rate increases support enhanced recycling services, especially in communities that currently lack those services.

4. **The rate proposal delivers value for customers through $40 million in cost cuts and deferred spending identified by employees.** These savings allowed King County to avoid a rate increase for 2021 but do not eliminate the need for an increase in 2022. This proposed increase is approximately 5 percent lower than the 14 percent increase for 2022 assumed in the 2021-2022 Adopted Budget.

5. **The rate keeps the promises made in adopted and approved policies.** Approval of the rate proposal means that King County can honor its obligations and advance goals outlined in the King County Code, Strategic Climate Action Plan, Comp Plan, and Equity and Social Justice Strategic Plan.

6. **A “no-rate increase” option carries risks and consequences.** Foregoing an increase again in 2022 would create a need for double-digit increases in future years due to depletion of the rate stabilization reserve and large increases in debt service anticipated from development of critical infrastructure capital projects. While a “no-rate increase” option may seem prudent as the region continues to grapple with the economic effects of the COVID-19 pandemic, there is much to lose with this option. Deferring investments in the solid waste system would result in short-term savings yet shift the financial burden into future biennia. This would negatively impact customers, haulers, community members, partners, and stakeholders. For example:

    - **Closing transfer stations Friday through Sunday:** Increased wait times, drive times, and costs for self- and commercial haulers; increased traffic on city streets during operating hours; commercial haulers passing added costs directly onto curbside customers; and a possible increase in illegal dumping.
    - **Eliminating recycling at transfer stations:** Increased GHG emissions and delayed attainment of carbon neutrality by 2025.
    - **Eliminating investment in the Zero Waste of Resources Plan:** Potential delays in development of a recycling processing facility that will create new jobs or missed opportunities for improving recycling.
    - **Eliminating city recycling grants:** Cities would be less likely to offer popular recycling collection events.
    - **Reducing GHG mitigation:** Missed goal of carbon neutrality by 2025; necessity for increased financial investments in the next biennium; purchase of carbon credits to offset emissions, with less benefit than actual reductions in GHG emissions; and loss of ancillary benefits such as reduced air pollution.
    - **Closure of facilities, including Renton Transfer Station and/or Cedar Falls Drop Box:** Layoffs of operations staff and uneven distribution of service.

These cuts would slow the achievement of regional environmental goals outlined in the King County Code and the Comp Plan; require more dramatic spending increases in future years to reach these goals; and anger customers, as occurred in 2013 when the department cut recycling services at transfer stations to reduce costs. Public support for these services is clear; and investing in a modest rate increase now will benefit our customers while contributing to a greener more sustainable future.

Solid Waste Rate Methodology

The rate model seeks to balance expenditure and reserve requirements with anticipated revenues. The ending fund balance can be carried over from prior years in order to smooth out demands on revenues from one biennium to the next. A description of each of the major components is provided below.

Expenditures

Expenditures can be divided into two major categories: (1) operating expenditures and (2) capital fund transfers/debt service. Within operating expenditures, the model distinguishes between expenditures for ongoing programs and projects and new budgetary additions to expand or augment existing operations.

Operating Expenses

Existing Operational Footprint

Projected spending levels for existing solid waste operations are calculated by reviewing the current biennial budget, actual spending levels for the biennium, and the *pro forma* budget for the upcoming biennium. Differences between the existing budget, actual spending levels, and the *pro forma budget* are reconciled to create a projected spending level for the upcoming biennium. For some items, the expenditure levels are directly related to tonnage or revenue projections and thus are calculated based on the tonnage and/or revenue forecasts.

New Budgetary Additions

As part of the rate development process, the Department of Natural Resources and Parks (DNRP) identifies the need for new or additional funding across each section. Once new funding needs are identified, such as new programs or bodies of work to meet County goals, an evaluation process is used to prioritize and assess them.

Operational Efficiencies

King County and DNRP are committed to financial stewardship. DNRP employees are empowered to find ways to operate more efficiently and save money for rate payers. The department looks for operational efficiencies on an ongoing basis and evaluates options for expenditure reduction as part of its biennial budget and rate-setting process.

Capital Expenditures, Landfill Reserve Fund, and Debt Service

The County funds capital projects and post-closure obligations at the Cedar Hills Regional Landfill (CHRLF) through direct cash transfers to capital funds or by using bond funding to raise additional revenue. Three capital funds are used for this purpose: the Solid Waste Construction fund, the Solid Waste Capital Equipment Replacement Program (CERP) fund, and the Landfill Reserve Fund (LRF), which provides funding for capital projects at the landfill and is a reserve account for the post-closure maintenance of the landfill.

Construction Transfer

Typically, transfers of $4 million per biennium from the operating fund to the construction fund are made to fund small capital projects where bond financing is not appropriate. This amount is evaluated biennially as part of the rate-setting process.

CERP Transfer

An annual spending plan is developed to address anticipated needs for equipment replacement over the next six years. The transfer rate is calculated to provide the necessary funding for the planned spending above the required reserve amount.

LRF Transfer

The LRF amount is calculated on a per-ton basis. Key variables include the tonnage forecast, the estimated date that the CHRLF will reach capacity, and the projected cost for post-closure activities. Traditionally, new landfill development and closure projects were cash-funded from the LRF. Given the constraints on the rate and planned development of Area 9 at the CHRLF, it became apparent that debt-financing of these projects would provide significant relief to rate payers. KCC 4A.200.390, which governs the LRF, was updated in 2020 to explicitly allow bond proceeds to fund these projects.

Debt Service

DNRP annually reviews the solid waste Capital Improvement Program to update planned spending on existing projects and decide what other projects are needed. The cash flows are then multiplied by an accomplishment rate (typically 85 percent) and these amounts are used to project the needed bond issuances in order to estimate the cost of debt service over the next six years. The projected amount of new debt service is added to the scheduled debt service to arrive at an estimated expenditure in the rate model.

Reserve Requirements

Three reserve funds are utilized by the department in accordance with the County's financial policies—the Rainy-Day Reserve, the Recession Reserve, and the Rate Stabilization Reserve.

Rainy-Day Reserve

King County Comprehensive Financial Management Policies require that operating funds include a Rainy-Day Reserve. This reserve is equal to 30 days of operating expenditures.

Recession Reserve

This reserve provides a buffer for the rate in case of a recession. Set at 5 percent of annual disposal revenue, it is meant to protect the rate payers from financial shocks due to falling tonnage resulting from a recession. In years with a recession, this fund is intended to be drawn down by no more than 50 percent per year. After the recession has ended, the fund is gradually replenished over a five-year period.

Rate Stabilization Reserve

The rate stabilization reserve allows balances to be carried over between biennia, which can smooth revenue demands over time. This creates a more predictable path for rate payers.

Revenues

About 90 percent of revenue supporting the County's solid waste activities comes from disposal fees. Other important sources of revenue include the sale of gas collected at the CHRLF, rental income from real property owned by the Solid Waste Fund, a fee from construction and demolition waste collected at third-party recycling facilities, and the commodity value of recyclables collected at the transfer stations. Reimbursement income revenue is received from the Hazardous Waste Management Program in exchange for providing Moderate Risk Waste (MRW) collection services. Miscellaneous sources of revenue include various grants, interest earnings, and other small-dollar sources.

Disposal and Recycling Fees

Disposal and recycling fees are collected on a per-ton or per-item basis, depending on the material. The projected revenue for this source is calculated using the tonnage forecast. The rate model is used to determine the basic fee needed to balance the expenditure and reserve requirements once all other revenue sources are incorporated into the model.

Per-Ton Fees

- **Basic Fee.** The per-ton fee charged to customers disposing of municipal solid waste at transfer facilities and to curbside collection vehicles at the CHRLF. The minimum fee a customer would pay is equivalent to the prorated cost for the disposal of 320 pounds of waste material.
- **Regional Direct Fee.** A discounted fee charged to commercial collection companies that haul solid waste to Cedar Hills in transfer trailers from their own transfer stations and processing facilities, thus bypassing county transfer stations. This fee is set at 85 percent of the Basic Fee.
- **Special Waste Fee.** The fee charged for certain materials that require special handling, record keeping, or both, such as asbestos-containing materials and contaminated soil. This fee is set at 120 percent of the Basic Fee.
- **Yard Waste and Clean Wood Waste Fee.** A fee for separated yard waste and clean wood delivered to facilities that have separate collection areas for these materials. Appendix C provides a more detailed study of this rate.

Per-Item Fees

- **CFC Appliances.** Appliances with chlorofluorocarbons (CFCs,) such as refrigerators, are charged on a per-item basis.
- **Mattresses.** A per-item fee for mattresses is a new proposal. This will compensate King County for the high cost of handling these items and allow for the expansion of recycling services that handle them. Appendix C provides a more detailed study of this rate.
- **Unsecured Loads.** Vehicles that arrive at transfer stations with unsecured loads are charged a $25 fee.

Cleanup LIFT

King County offers a discount on transactions for low-income self-haul customers, if they can provide an Orca LIFT, Electronic Benefit Transfer (EBT), or Medicaid card.

Other Revenue

Sale of Landfill Natural Gas

Landfill gas, a natural byproduct of the decomposition of waste at the CHRLF, is captured and converted to pipeline-quality natural gas by BioEnergy Washington (BEW). The natural gas is sold to Puget Sound

Energy and the revenue shared between BEW and the department. In addition, carbon credits, which are owned solely by the department, are sold to Puget Sound Energy, which brokers them on the secondary market. Energy markets are relatively volatile, so a conservative estimate is included in the rate model.

Rental Income

The Solid Waste Fund receives revenue from a variety of rental properties. The rent schedule from each lease is modelled, and properties that are near the end of their lease terms are re-evaluated for income potential.

Construction and Demolition Fee

The Solid Waste Fund collects a small fee from each ton of construction and demolition waste collected at third-party sorting and reclamation facilities. This revenue funds the Construction and Demolition Waste Program.

Moderate Risk Waste Reimbursement Expense

The Solid Waste Fund receives reimbursement income from the Hazardous Waste Management Program in exchange for providing Moderate Risk Waste (MRW) collection services. For example, DNRP Transfer Station Operators running an MRW facility at the Factoria Transfer Station.

Recyclable Materials Proceeds

Recycling collected at the transfer stations is sent to material-processing facilities, and the Solid Waste Fund pays for hauling costs and processing and then receives the commodity value of the processed material as revenue. After China implemented a policy that banned the importation of recyclable materials, values for many common materials fell precipitously. The proceeds from the sale of recyclable material are thus projected to be a declining revenue source.

Mattress Fee Analysis

Description of Proposed Mattress Fee

A $30 per unit mattress handling charge at all County transfer stations and Cedar Hills waste clearances is proposed starting in 2022. [1] [2] This fee will help cover the costs of recycling these items from five major recycling and transfer stations (Bow Lake, Shoreline, Factoria, Enumclaw, and Vashon), and disposal at the other stations where there is no space to provide this service (Algona, Houghton, and Renton).

Background

DNRP has piloted mattress recycling at the Bow Lake Recycling and Transfer Station since mid-2017. During the pilot, customers paid the tipping fee[3] (typically the minimum fee) and were allowed to recycle up to six mattresses per customer per day.

The 2019 King County Waste Characterization and Customer Survey Report estimated there were 8,355 tons of mattresses disposed of at solid waste facilities that year. Recycling rather than disposing of mattresses aligns with the County's goal of zero waste of resources by 2030 by reducing the number of mattresses going to the landfill and increasing the recycling of steel, foam, wood, and fabrics.

This proposal positions King County to be an innovator in Washington State, as transfer station mattress recycling is an interim step toward state legislation establishing a more efficient and equitable statewide mattress product stewardship system. These mattress stewardship systems, generally referred to as Extended Producer Responsibility (EPR), are in place in California, Connecticut, and Rhode Island, and is under consideration in Oregon. A manufacturer-operated mattress EPR system would reimburse transfer station costs for mattress collection while providing a complete collection and recycling system.

Analysis

Based on costs from the Bow Lake pilot and adding indirect and overhead costs, the department estimates the cost to recycle one mattress is $22. Several different pricing options were considered given this cost estimate:

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[1] The definition of mattress also includes the foundation used to support a mattress (e.g., box spring).

[2] Some wastes may be accepted for disposal only when specific conditions are met. The process for evaluating restricted wastes, determining whether they can be accepted, and establishing the conditions for acceptance is known as waste clearance.

[3] The tipping fee, or "Basic Fee" is the per-ton fee charged to customers disposing of municipal solid waste at transfer facilities and to curbside collection vehicles at the CHRLF. The "minimum fee" a customer would pay is equivalent to the prorated cost for the disposal of 320 pounds of waste material.

Option	Description	Price
Status Quo	Treat mattresses as garbage and typically charge the minimum fee, as mattresses weigh 55 pounds on average and the minimum fee is set at 320 pounds. Note: A customer will usually bring in at least two units – the mattress and the foundation – so from a per-unit standpoint, the price is significantly lower than the per-transaction price they are charged.	~$27 per transaction, not per unit
Cost Recovery	Based on analysis above, charge a price to fully recover costs.	$22 per unit
Match Private Sector	Based on analysis of 2019 pricing, customers pay private sector mattress recyclers $20 to $29 per unit.	$30 per unit

Decision

It was determined to set the price at the high end of private-sector pricing in order to not take customers away from businesses that charge this price, while offering the service at King County stations as an option. It is expected that private sector pricing will increase from the 2019 rates shown above.

Some of the County's transfer stations currently have the ability to recycle mattresses while others do not. The decision to charge $30 per unit for both recycling and disposal of mattresses was made to encourage recycling of mattresses and discourage customers from going to a station that only disposes of mattresses at a lower price. As noted above, if a customer brought in the maximum six mattresses on the visit to a King County station that disposes of mattresses, and the same fee for disposal as for recycling was not charged, the customer would be charged the $27 the minimum fee instead of the $180 ($30/unit x 6 units = $180 total price) at a station that recycles them. This is a significant of savings that could encourage customers to dispose of rather than recycle their mattresses. Mattresses take up significant air space at the landfill, so reducing the number of mattresses going to the landfill will preserve airspace and benefit rate payers.

Note that disposing of mattresses at Cedar Hills as part of a waste clearance will be charged on a per-ton basis at $1,090 per ton versus the $175.08 per ton Special Waste Clearance Fee paid now, incentivizing recycling options. This price is set by dividing 2,000 pounds (1 ton) by 55 pounds (average weight of a mattress) times $30 per mattress. A typical customer bringing mattresses directly to the landfill is a bed supplier disposing of old or used mattresses; and taking the time to count dozens or scores of mattresses on a truck is onerous for both the customer and the King County.

Solid Waste Yard / Wood Waste Fee Increase Analysis

Description of the Yard / Wood Waste Fee Increase

An increase the current yard / wood waste fee from $75 per ton to $100 per ton is proposed for 2022. The minimum fee would increase from $12 per entry to $16 per vehicle entry.

Background

The Solid Waste yard / wood waste fee has remained at $75 per ton since 2013. According to 2019 and 2020 data, collecting and recycling yard / wood waste cost the County $300,000 more each year than the revenues generated from the tip fees. King County is moving toward charging fees that recover the cost of providing the service.

Analysis

Several different pricing options for increasing the yard /wood waste fee were considered:

Option	Description	Price
Status Quo	Continue to charge current fees.	$75 per ton, $12 min fee
Inflation Adjusted	Increase the fee by adjusting the current $75 per ton to account for inflation since 2013, based on the Seattle-area Consumer Price Index	$90 per ton, $14 min fee
Cost Recovery	Set price based on cost-recovery analysis. *NOTE: Analysis shows it costs DNRP $115 per ton but DNRP set the price lower to avoid a dramatic increase in the fee.*	$100 per ton, $16 min fee
Seattle Rates	Set price equal to neighboring major solid waste system.	$113 per ton, $21 min fee (as of Apr 1, 2020)

Conclusion

The increased price is based on cost-recovery analysis conducted by DNRP. As noted above, the analysis shows it costs the County $115 per ton to recycle yard /wood waste and the proposal is to set the price at $100 per ton. Feedback from advisory committees suggested that going higher than $100 per ton was too much of an increase, particularly during recovery from the pandemic. This is an interim step toward eventual full-cost recovery pricing.

Solid Waste Tonnage Forecast Through 2026

The solid waste rate proposal was developed using a forecast of the amount of waste that will be disposed of at department facilities during the rate period. The forecast relies on established statistical relationships between waste being disposed of and economic and demographic variables that affect it, including population, employment, and consumption.[1]

Year	Type	Basic Fee Tons	Regional Direct	Special Waste	Total Tons Disposed	Yard/ Wood Waste	Total System Tons
2015	Actual	861,620	6,384	1,797	869,802	11,723	881,525
2016	Actual	910,803	8,894	2,303	922,000	16,168	938,168
2017	Actual	915,570	12,161	3,446	931,177	21,966	953,143
2018	Actual	867,842	17,039	3,632	888,513	19,150	907,663
2019	Actual	858,300	7,542	2,690	868,532	22,739	891,271
2020	Actual	835,092	32,553	1,504	869,149	23,583	892,732
2021	Forecast	855,226	18,300	1,500	875,026	25,000	900,026
2022	Forecast	869,700	18,300	1,500	889,500	25,700	915,200
2023	Forecast	882,099	18,300	1,500	901,899	28,000	929,899
2024	Forecast	885,339	18,300	1,500	905,139	28,000	933,139
2025	Forecast	888,579	18,300	1,500	908,379	30,000	938,379
2026	Forecast	889,265	18,300	1,500	909,065	30,000	939,065

[1] Consumption measured in dollars spent for retail sales, excluding automobiles.

Summary of Solid Waste Rate Model Through 2026

	Actuals		Projected					
	2019	2020	2021	2022	2023	2024	2025	2026
Basic Fee	$140.82	$140.82	$140.82	$154.02	$168.45	$184.24	$201.50	$219.89
Percent change	4.6%	0.0%	0.0%	9.4%	9.4%	9.4%	9.4%	9.1%
REVENUES								
Disposal Fees	$126,852,447	$127,849,788	$125,039,225	$139,771,179	$155,306,239	$170,147,062	$186,770,300	$203,577,670
Landfill Gas	$3,438,249	$3,069,083	$2,150,000	$2,150,000	$2,150,000	$2,150,000	$2,150,000	$2,150,000
Other Revenues*	$8,415,537	$13,482,761	$26,690,556	$10,706,013	$11,912,939	$12,138,111	$12,381,967	$12,655,598
Total Revenues	$138,706,233	$144,401,633	$153,879,781	$152,627,193	$169,369,178	$184,435,173	$201,302,266	$218,383,268
EXPENDITURES								
SWD Operating Expenditures	$104,630,952	$106,112,191	$121,650,019	$117,518,631	$126,881,163	$132,669,562	$146,568,171	$151,057,776
Landfill Reserve Fund	$15,182,103	$16,907,862	$12,381,966	$12,970,790	$13,811,428	$13,056,808	$12,411,964	$11,866,757
Capital Equipment Recovery Program	$6,900,000	$6,900,000	$3,373,524	$3,373,524	$8,000,000	$8,000,000	$8,000,000	$8,000,000
Construction Fund	$2,000,000	$2,000,000	$2,000,000	$2,000,000	$2,000,000	$2,000,000	$2,000,000	$2,000,000
Debt Service	$13,859,197	$13,421,125	$13,710,477	$16,201,918	$22,480,989	$31,461,346	$38,806,049	$44,933,226
Total Expenditures	$142,572,252	$145,341,178	$153,115,985	$152,064,863	$173,173,580	$187,187,716	$207,786,185	$217,857,760
RESERVES								
Rainy Day Reserve	$9,643,132	$9,643,132	$10,957,540	$10,822,750	$12,276,341	$13,490,212	$15,236,237	$16,108,850
Recession Reserve	$6,342,622	$0	$0	$0	$2,484,900	$5,444,706	$8,964,974	$13,028,971

** Large increase in 2021 is due to the upcoming sale of surplus property (Eastgate) which will be a one-time revenue.*