

Use of Stormwater Utility Fees in Puget Sound: Summary of Implications for Implementation Strategies

2020 CRITICAL ANALYSIS

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EXECUTIVE SUMMARY

This report is one of five deliverables provided for a stormwater utility fee (SUF) critical analysis that Puget Sound Institute conducted in support of the Freshwater Quality/Benthic Index of Biotic Integrity (B-IB) Implementation Strategy. The complete critical analysis package includes:

- A summary report focusing specifically on the implications and relevance for the Implementation Strategies (this document).
- A manuscript (to be submitted for journal publication) focusing on broader findings related to the use of SUF relative to stormwater program funding.
- A presentation summarizing the findings of the critical analysis.
- Spreadsheets with the compiled data and associated metadata.
- An online mapping resource presenting SUF data by jurisdiction.

This report focuses on key results related to operationalization of the B-IBI IS *Local Capacity Strategy* and specific questions posed by Puget Sound Partnership (PSP) colleagues. Detailed descriptions of our study methods and a broader suite of results are provided in the manuscript deliverable.

A key approach of the *Local Capacity Strategy* is to support local jurisdictions in developing and/or expanding revenue streams for stormwater management. The B-IBI Interdisciplinary Team (IDT) members recommended three ways to advance this priority: (1) increase the number of jurisdictions that charge SUFs; (2) update rates that have not been increased recently; and (3) restructure fee schedules to increase contributions associated with single-family residential properties.

Our data show that 102 (82%) of the 124 counties and cities in the region charge SUFs. There is less opportunity to expand SUF coverage than expected based on IDT input. This indicates the strategy should instead focus on increasing local stormwater program revenue. The proposed Intermediate Progress Measure for this IS—percent of impervious surface in the Puget Sound region subject to SUF—should be reconsidered.

Our data show that SUFs are the primary source of local stormwater program revenue for jurisdictions in the region. For 2019, we documented a combined \$537.7M in total stormwater program revenue for 80 jurisdictions. 91% of this revenue—a combined total of \$489.2M—came from SUFs. Local stormwater expenditures were about evenly split between O&M and capital for half of the jurisdictions. Of the remaining, three spent more on O&M and four spent more on capital projects. Median per capita expenditures were \$150 in 2019. This is a sharp increase over the Visitacion et al. (2009) estimate of \$100 per capita a decade prior.

It appears that SUF rate increases may have become more common in the time since the B-IBI IS was developed. We documented increases in 67 jurisdictions between 2019 and 2020.

Supporting local government decision-makers to utilize best practices in setting their SUF rates to ensure revenue adequacy may be the most promising type of social marketing intervention for the Stormwater Strategic Initiative to pursue. However, we caution that affordability must be carefully considered to avoid having adverse, unintended consequences on equity outcomes. We compiled data on three affordability metrics in one jurisdiction and demonstrated that the cost of combined water utility service has the potential to overburden low-income households. These results also have implications for the Marine Water Quality Implementation Strategy as well as the Land Development and Cover Implementation Strategy.

Our data do not indicate that single family parcels are underpaying for stormwater programs. This could potentially be an isolated issue in a few jurisdictions, but it does not appear to be a widespread problem that should be a focus of the *Local Capacity Strategy*.

Our data demonstrate that there is enormous regional variation in annual SUFs for single-family properties on per ft² impervious surface (\$0.01/ft² to \$2.70/ft²), per capita (\$17 to \$328), and per housing unit (\$42 to \$1,007)¹ bases. The Stormwater Strategic Initiative and Puget Sound Partnership should take care with messaging about the need to raise rates. Broad generalizations about locals not paying enough may be objectionable to leaders and residents of jurisdictions with higher fees. Development of more tailored messaging is recommended.

This report includes the following recommendations about indicator tracking and additional research needs:

- Metrics such as SUF revenue as a percent total stormwater revenue, median SUF revenue by MS4 permit status, and median per capita revenue should be considered as options for a SUF Intermediate Progress Measure.
- Annual “Financial Statements and Audit Reports” prepared by the Office of the Washington State Auditor are a good source for standardized stormwater program budget data. We suggest PSP inquire about means to access this information directly from the Auditor’s Office.
- Rather than focusing on time since a SUF rate increase alone, we suggest identifying a progress measure relating to revenue adequacy as well. The number of jurisdictions that have conducted formal rate studies could be a potential indicator.
- Social marketing formative research conducted to identify specific motivators for SUF increases and barriers that jurisdictions face in raising rates should consider the following factors noted during our review of the stormwater finance literature: quality of long-term capital planning, extent of past under-investment and existing

¹ The ft² impervious surface values were derived from calculated SUF charges in the 11-jurisdiction dataset, while the per capita and housing unit values were calculated from census data and total SUF revenue data from the 80-jurisdiction dataset.

maintenance backlogs, extent of flooding and drainage problems, and the role of private consulting firms in SUF policy diffusion.

- Additional economic and basic water/sewer use data should be collected for more jurisdictions so that a broader affordability assessment can be conducted to inform funding pathway development for the Marine Water Quality Implementation Strategy.

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1. INTRODUCTION

Inadequate funding is widely viewed as a major barrier for effective stormwater management. The Freshwater Quality/Benthic Index of Biotic Integrity (B-IBI) Implementation Strategy aims to address the stormwater funding gap via a *Local Capacity Strategy* (Stormwater Strategic Initiative 2020). A key approach for this strategy is to support jurisdictions in developing and/or expanding local revenue streams for stormwater management. Stormwater utility fees (SUFs) were a key topic of discussion during development of this strategy and regional SUF coverage was selected as a proposed Intermediate Progress Measure to track strategy impact.

The Base Program Analysis prepared in support of the B-IBI Implementation Strategy (Kinney and Roberts 2020) summarized existing research on prevalence of SUFs in the region and identified information gaps suitable for a critical analysis. In consultation with the Stormwater Strategic Initiative and Puget Sound Partnership, Puget Sound Institute developed a series of research questions designed to support implementation of the *Local Capacity Strategy*, provide baseline data for the proposed intermediate progress measure, and inform Puget Sound Management Conference legislative priorities.

This summary report is one of five deliverables provided for the SUF critical analysis conducted in support of the B-IBI Implementation Strategy. The other deliverables are:

- A [data collection](#) (Evrard et al. 2022) that includes spreadsheets and associated metadata. The data includes: (1) SUF rate structure and fees charged in 2019 and 2020 for 102 jurisdictions, (2) local stormwater program SUF revenue and total revenue for 80 jurisdictions, (3) parcel-level SUF calculations for 11 jurisdictions.
- An [interactive mapping application](#) developed to allow regional partners to explore the SUF dataset and facilitate its use as a baseline for tracking future SUF rate changes.
- A manuscript prepared for journal submission (Kinney, A., R. Evrard, K. Bogue, and C.A. James. *manuscript in prep*. Filling the Gap: A Comparative Analysis of Stormwater Utility Fees and Stormwater Program Budgets in the Puget Sound Watershed).
- A slide deck from Puget Sound Institute's April 2021 presentation to the Implementation Strategies Work Group.

The manuscript deliverable provides detailed descriptions of our study methods and a broader suite of results. This summary report focuses on key results related to operationalization of the *Local Capacity Strategy* and specific questions posed by Puget Sound Partnership colleagues.

2. CRITICAL ANALYSIS PURPOSE AND APPROACH

2.1 *Local Capacity Strategy*

The primary desired outcome of the *Local Capacity Strategy* is increased local investment in stormwater management programs, particularly in smaller jurisdictions where stormwater management is most capacity limited (Stormwater Strategic Initiative 2020). A key strategy approach is to support local jurisdictions in developing and/or expanding revenue streams for stormwater management. B-IBI Interdisciplinary Team (IDT) members recommended three ways to advance this priority:

- Increase the number of jurisdictions that charge SUFs.
- Update rates that have not been increased recently.
- Restructure fee schedules to increase contributions associated with single-family residential properties.

Upstream social marketing was proposed as a mechanism to influence local decisions about SUFs and build political will for improved stormwater management. Formative research is a crucial first step in the development of any social marketing strategy. An initial assessment provides baseline data to help refine the issues for which social marketing interventions will be designed. This SUF critical analysis was designed to provide a foundation for development and implementation of such interventions.

2.2 *Research questions*

The following critical analysis research questions were developed by the Puget Sound Institute project team, the Stormwater Strategic Initiative, and Puget Sound Partnership:

1. What percentage of land zoned for development in the Puget Sound region is subject to a stormwater utility fee?
2. How are local stormwater programs currently funded in the Puget Sound region?
3. How are program expenditures divided between operations and maintenance versus capital expenses?
4. Has funding for local stormwater programs increased in recent years? Are future increases expected or underway?
5. How do different SUF rate structures affect the amount of revenue generated and other program outcomes?
6. Are higher grades on “Nature’s Scorecard” (Puget Soundkeeper Alliance and Washington Environmental Council 2019) related to levels of SUF funding?

2.3 Data collection and analysis

These research questions were answered through analysis of three datasets compiled by Evrard et al. (2022):

- A 124-jurisdiction dataset with information on SUF rate structure and fees charged in 2019 and 2020 by customer group (single-family residential, multi-family residential, and commercial/industrial). This data was obtained from jurisdiction web pages, codes, and personal correspondence with staff.
- An 80-jurisdiction dataset with 2019 budget information. This data was obtained from yearly and quarterly budget reports posted on jurisdiction web pages. Budget reporting varied and complete data sets were not available for every jurisdiction; for example, only 14 budget reports included sufficient information to classify expenditures.
- An 11-jurisdiction dataset with calculations of SUFs applied to individual parcels in 2019. Fees were calculated using rate information from the SUF database; land use designation and area data from online parcel viewers; and percent imperviousness from the National Land Cover Database 2016 Urban Imperviousness dataset. Calculated fees were verified by spot-checking against actual assessed fee data provided in the online parcel viewers.

3. KEY RESULTS

3.1 What percentage of the region is subject to SUFs?

Of the 124 counties and cities in the region, 102 (82%) charge SUFs. The breakdown by MS4 permit coverage is:

- Phase I – 100%
- Phase II – 98% (4 out of 79 do not charge SUFs)
- Unpermitted – 50% (20 out of 40 do not charge SUFs)

The breakdown by area is:

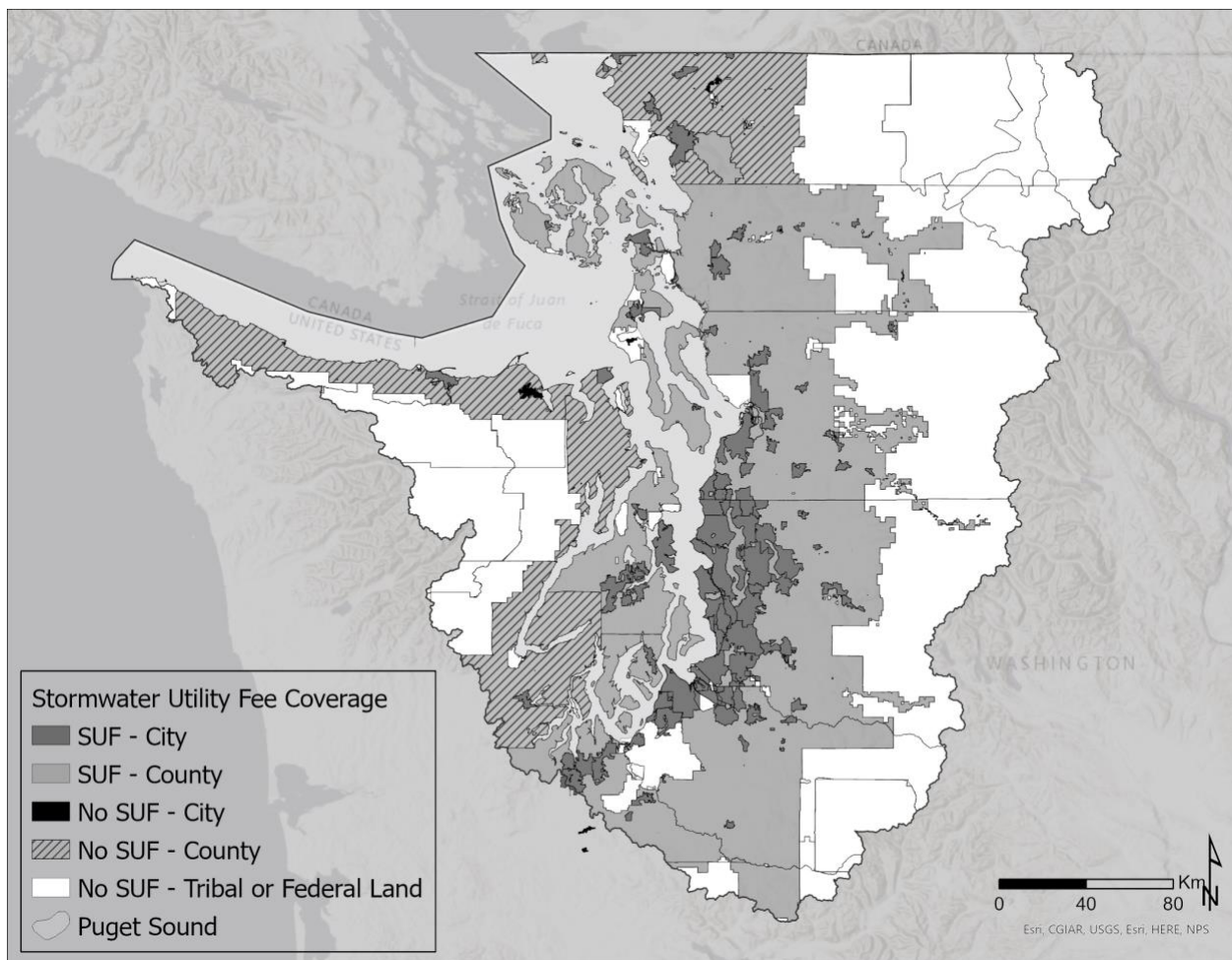
- 40% of total area (~14,300 km²) has SUF coverage
- 70% of impervious area (~2,300 km²) has SUF coverage

As shown on the coverage map (Figure 1), a large portion of the area lacking SUF coverage are federal and tribal lands. RCW 36.89.080(3) prohibits imposition of SUFs on lands taxed as forestlands or timberlands. Table 4 in Kinney and Roberts (2020) lists all 124 Puget Sound jurisdictions categorized by MS4 permit status and SUF coverage.

3.1.1 IMPLICATIONS FOR THE LOCAL CAPACITY STRATEGY

There is less opportunity to expand SUF coverage than expected based on IDT input. This indicates social marketing strategy development should instead focus on increasing local stormwater program revenue. An analysis of B-IBI geographic priorities could identify the highest priority of the 20 jurisdictions without SUFs. Then an approach less resource-intensive than social marketing could be employed to encourage expansion of SUF coverage in these jurisdictions.

Figure 1: Spatial extent of SUF coverage



3.1.2 PROPOSED INTERMEDIATE PROGRESS MEASURE

The metric proposed as an Intermediate Progress Measure was percent of impervious surface in the Puget Sound region subject to SUF (Stormwater Strategic Initiative 2020). Based on the small number of jurisdictions without SUF, we do not expect SUF coverage to change frequently enough to make it a meaningful indicator. We recommend shifting the focus of the *Local*

Capacity Strategy to increasing local stormwater program revenue and suggest this progress measure be reconsidered. In the following sections, we present data on revenue and expenditures that may be more suitable to track as an indicator of progress.

3.2 How are local stormwater programs currently funded?

As shown in Figure 2, SUFs are the primary source of local stormwater program revenue. For 2019, we documented a combined \$537.7M in total stormwater program revenue from our 80-jurisdiction dataset. 91% of this revenue—a combined total of \$489.2M—came from SUFs.

Stormwater-focused grants from the Department of Ecology contributed less than 10% of total stormwater revenue for all but two jurisdictions in the Puget Sound watershed. Available grant funding is fairly limited relative to the magnitude of combined local stormwater program budgets. In 2019, the Water Quality Financial Assistance Program disbursed about \$75 million in state funding plus \$80 million in federal funding to support 69 wastewater, stormwater, non-point, and septic system projects state-wide (Ecology 2018, Ecology 2019). Of this total, \$26.83 million was allocated for 21 stormwater projects, 12 of which are in Puget Sound jurisdictions (Ecology 2018). This grant funding represents just 5% of the \$573.7 million in total 2019 revenue we documented for the 80-jurisdiction dataset.

Table 1 illustrates the wide range of SUF revenue among jurisdictions in the region. Median per capita values indicate that this variation cannot be attributed to population size alone. MS4 permit status appears to influence SUF rates.

Table 1: SUF revenue summary statistics for 2019 by NPDES Municipal Stormwater permit status

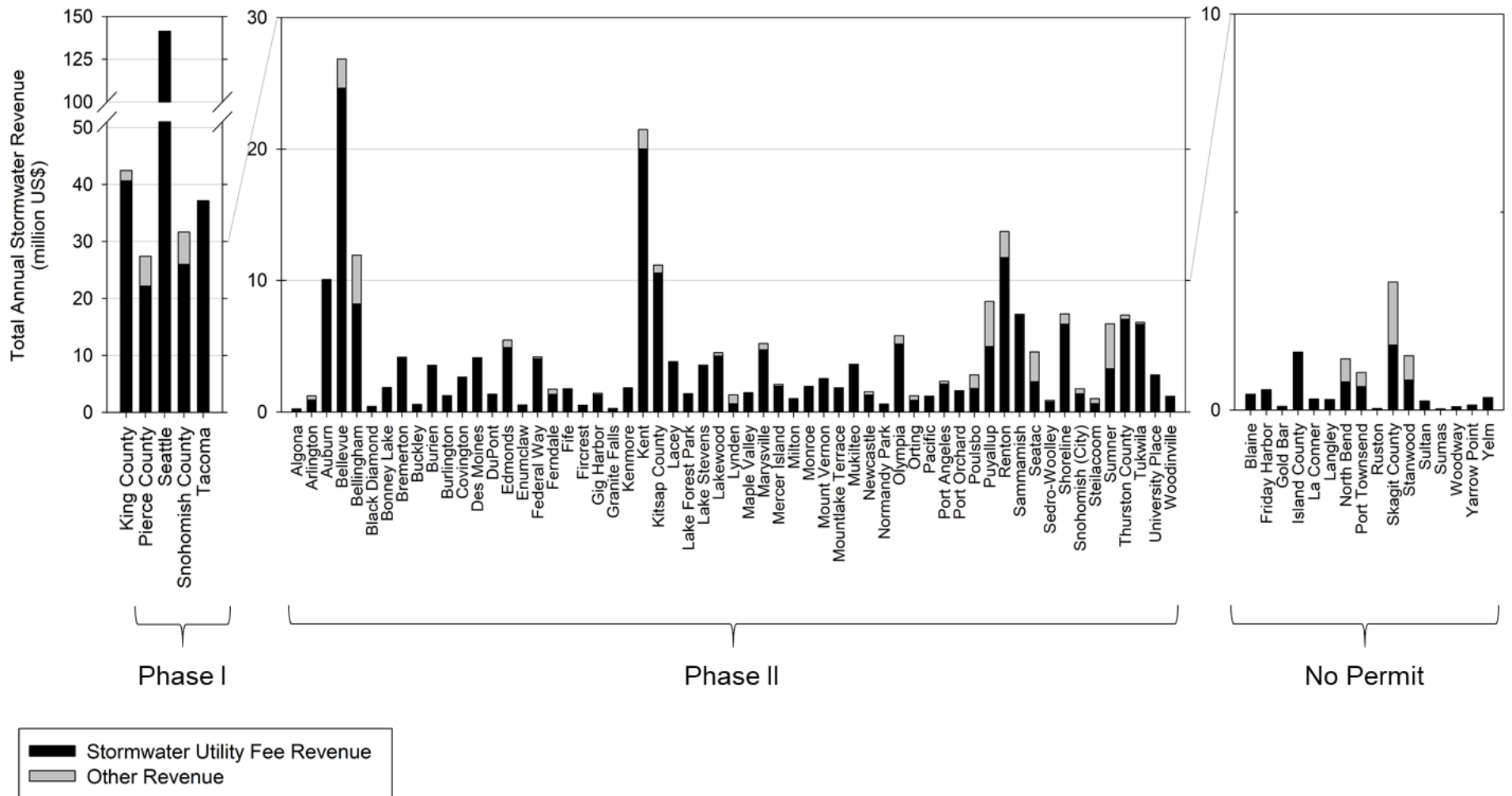
Permit Status	Range	Median	Median per capita
Phase I	\$22M - \$141.4M	\$37.0M	\$164
Phase II	\$176,000 - \$24.6M	\$1.9M	\$98
Unpermitted	\$26,000 - \$1.6M	\$0.3M	\$64

The 2019 regional average annual total revenue per capita was \$112, nearly double the national average of \$63 reported by Black and Veatch (2021a).

3.2.1 IMPLICATIONS FOR THE LOCAL CAPACITY STRATEGY

This budget dataset may support identification of small jurisdictions where stormwater program operations/staff capacity is constrained by funding. The IDT identified this group as a priority for interventions like increasing access to external expertise and support tools.

Figure 2: Total 2019 stormwater revenue by source



Notes: “Other” revenue sources identified in the budget reports included grants, intergovernmental transfers, connection or impact fees, interest on capital reserve accounts, late fees, processing fees, and miscellaneous income (e.g., rentals/leases, asset sales). Seattle’s total revenue excludes an additional \$467 million in non-SUF funds to address combined sewer overflows in their 2019 stormwater program budget.

3.2.2 POTENTIAL INTERMEDIATE PROGRESS MEASURES

Metrics such as SUF revenue as a percent total stormwater revenue, median SUF revenue by NPDES Municipal Stormwater permit status, and median per capita revenue should be considered as options for a SUF intermediate progress measure. Annual “Financial Statements and Audit Reports” prepared by the Office of the Washington State Auditor are a good source for standardized SUF revenue and capital grants and contributions data.² However, these reports are issued by jurisdictions and may not always be easily accessible online. To facilitate tracking, we suggest Puget Sound Partnership inquire about other means of accessing this information directly from the Auditor’s Office.

We also recommend better tracking of trends in state contributions to stormwater management via grants and capital funding. Given the creation of a dedicated revenue stream for the state’s Stormwater Financial Assistance Program during the 2019 legislative session (SB 5993), we would expect increased grant funding to appear in subsequent budget reports.

3.3 How are expenditures divided between operations and capital expenses?

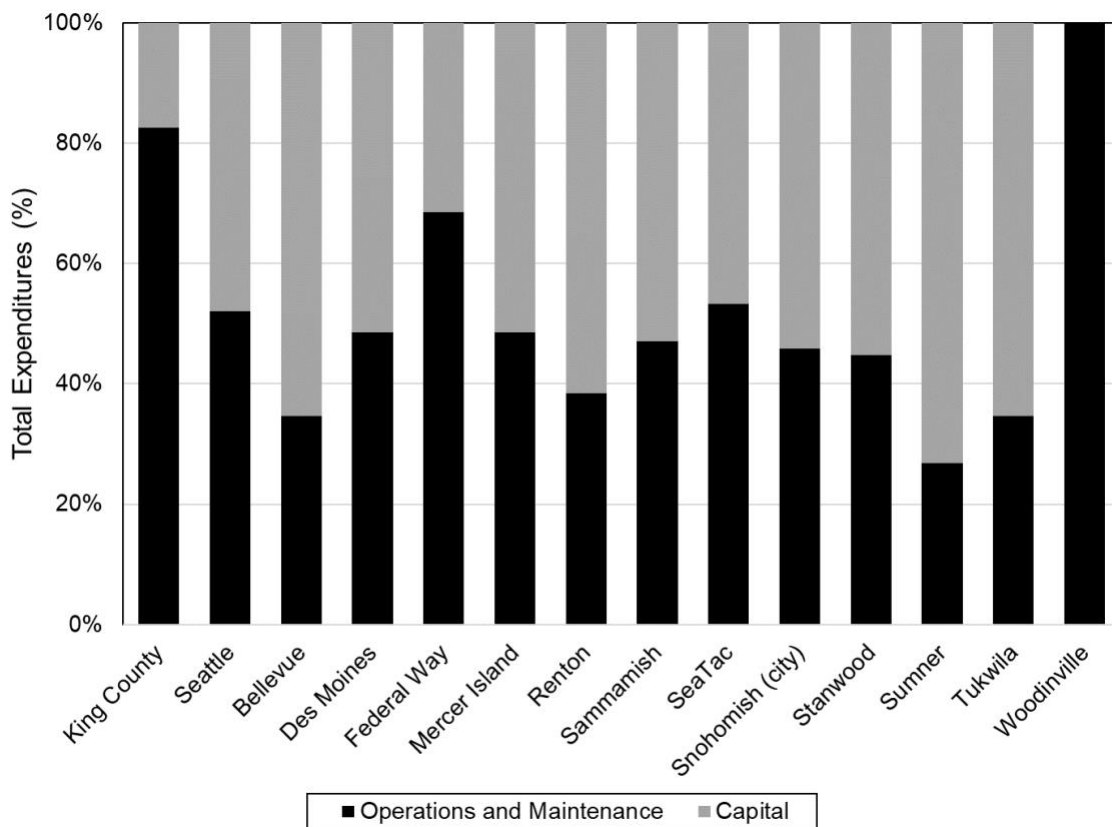
Detailed stormwater program expenditure data was available in budget reports for 14 jurisdictions. Figure 3 shows the division of budgeted expenditures between operations and maintenance (O&M) and capital uses. In 2019, expenditures were about evenly split between O&M and capital for half of the jurisdictions. Of the remaining, three spent more on O&M and four spent more on capital projects.

Woodinville is notable in that they had no capital expenditures during 2019. This is likely a consequence of past underinvestment due to low SUF rates. The longer revenue is stagnant as costs rise, the larger the gap between needs and available funding grows, and the more difficult it becomes to fund capital expenses (FCS Group 2020, FCS Group 2021). In some scenarios, as seen with Woodinville, revenue may eventually only be sufficient to cover O&M. Woodinville is in the process of increasing SUF rates, but FCS Group (2021) concluded that it will take years to build up enough revenue to support capital investments. It is not known how many other jurisdictions in the Puget Sound region are facing similar shortfalls.

Median per capita expenditures were \$150 in 2019. This is a sharp increase over the Visitacion et al. (2009) estimate of \$100 per capita.

² For example, see page 28 of Oak Harbor’s 2019 report accessible at <https://www.oakharbor.org/finance/page/financial-reports>

Figure 3. Breakdown of operations and capital expenditures in 2019



3.4 Is local stormwater program funding increasing?

Development of the *Local Capacity Strategy* occurred in 2017. At that time, IDT members raised concerns about SUF rates that had been set years prior and were too low given inflation and new requirements from the 2013 reissuance of NPDES Municipal Stormwater permits. This input was corroborated by then-recent data. Futurewise (2016) compiled SUF information for jurisdictions in King County and found that several cities had not increased their rates in 8 to 15 years. The IDT's recommended action was to update rates that had not been increased recently.

However, it appears that SUF rate increases may have become more common in the time since the strategy was developed. Snohomish County Public Works (2018) compiled data for 48 jurisdictions region-wide and documented increases in 81% of them between January 2016 and January 2018. They found that only 4 jurisdictions had not had a rate increase within the previous 10 years.

Our data show that between 2019 and 2020 there were: fee increases in 67 jurisdictions; no change in 29 jurisdictions; and fee decrease in 2 jurisdictions.

88% of the increases were less than \$1 per single-family parcel per month and only four were more than \$5 per parcel per month. The largest increase for single-family parcels was \$10.88 per month, which nearly doubled the 2019 fee.

The adequacy of the observed increases (i.e., extent to which they corrected past underinvestment and/or are they enough to meet future revenue requirements) is not known. We therefore recommend that this IDT-identified priority be reframed to also focus on SUF increases that provide adequate revenue, rather than time since a previous increase alone.

3.4.1 IMPLICATIONS FOR LOCAL CAPACITY STRATEGY

Supporting local government decision-makers to utilize best practices in setting their SUF rates to ensure revenue adequacy appears to be the most promising type of social marketing intervention for the Stormwater Strategic Initiative to pursue.

We recommend that formative research conducted to identify specific motivators for SUF increases and barriers jurisdictions face in raising rates consider the following factors noted during our review of the stormwater finance literature:

- Quality of long-term capital planning (Black and Veatch 2021a)
- Extent of past under-investment and existing maintenance backlogs (Allen 2020, FCS Group 2021)
- Extent of flooding and drainage problems (Visitation et al. 2009)
- Role of private consulting firms in SUF policy diffusion (Chalfant 2018)

We recommend considering consultants involved with rate studies as social marketing influencers. There may be an opportunity to influence what is considered a minimum level of service to meet MS4 permit requirements as part of rate studies. FTE assumptions in the rate studies we reviewed did not appear to include staff necessary for newer LID code integration and watershed planning requirements.

Political challenges associated with a recent local rate increase may provide insights into barriers associated with raising SUFs. In December 2020, the Snohomish County Council voted against a 2.8% increase in the annual surface water fee. Newspaper reports indicated that the Council wanted to give ratepayers who were struggling financially during the COVID-19 pandemic a break.³ The County Executive vetoed the Council vote to reject the planned increase.

³ <https://www.heraldnet.com/news/county-executive-vetoes-fee-break-to-save-environmental-work/>

3.4.2 AFFORDABILITY

The Snohomish County example mentioned above highlights the importance of considering affordability when advocating for SUF rate increases. Achieving a significant increase in SUF revenue as recommended by the *Local Capacity Strategy* could potentially have adverse unintended consequences on the equity outcomes we evaluated. Median SUFs for single-family residential properties in Washington are higher than any other state (Campbell 2020). And national utility surveys indicate that drinking water and sewer rates in Seattle are among the highest in the country (Mack and Wrase 2017, Teodoro 2018, Walton 2019, Black and Veatch 2021b).

A commonly used method for assessing affordability of water utility fees is to calculate the percentage of Median Household Income (MHI) needed to pay average household bills for water services. When costs exceed 4% MHI they are considered, at the utility level, to have a high impact on residents (Mack and Wrase 2017, Teodoro 2018). This method is based on an EPA (1997) framework for assessment of local government financial capability used to inform schedule negotiations for combined sewer overflow corrective measures. EPA (2014) subsequently expanded this framework for use in influencing compliance schedules for other infrastructure improvements mandated by the Clean Water Act. Stormwater costs are easily included when they are billed along with other water services based on metered usage, but it is more difficult to calculate the impact of SUF as part of combined water utility service when they are billed via property taxes (as occurs in most Puget Sound jurisdictions).

Reliance on MHI as a measure of affordability has been criticized because it understates financial impacts to low-income households (Congressional Research Service 2017, Teodoro 2018). EPA has responded by proposing new indicator metrics in their revised financial capability assessment guidance (EPA 2021). One of the new indicators is based on Lowest Quintile Income (LQI), which is the upper boundary of the household income range for the lowest 20% of a community's households as determined by annual U.S. Census Bureau American Community Survey. Teodoro (2018) proposed that affordability for low-income households could also be gauged by calculating the number of hours working at minimum wage that would be necessary to pay for basic water/sewer service and suggested 8 hours as an upper limit beyond which costs would constrain low-income households.

We compiled data on these three affordability metrics for water utility services in Seattle (Table 2). Results indicate that, based on exceedance of the LQI and hours minimum wage benchmarks, drinking water and sewer costs have the potential to overburden low-income households. SUFs represent a large enough percentage of LQI that they further exacerbate this burden. The region-wide median SUF as a percentage of MHI from our 124-jurisdiction dataset was 0.2% MHI.

Table 2: Affordability of combined water utility services in Seattle

	Average Annual Cost (2020)	Percentage of MHI	Percentage of LQI	Hours of minimum wage per month
Basic use water and sewer bill	\$1,413.72	1.5%	3.6%	8.7 hours
Stormwater Utility Fee	\$485.00	0.5%	1.2%	3.0 hours
Combined water utility service	\$1,898.72	2%	4.8%	11.7 hours
Affordability benchmarks		high impact at >4% (EPA 1997)	high impact at >2% (EPA 2021)	below 8 hours recommended (Teodoro 2018)

Average annual basic-use drinking water and sewer cost from Bureau of Labor Statistics Consumer Expenditure Survey via Black and Veatch (2021b); average SUF based on calculated fees for 154,676 single-family residential parcels as part of the 11-jurisdiction dataset; MHI of \$94,108 and LQI of \$39,310 from U.S. Census Bureau American Community Survey via Black and Veatch (2021b); \$13.50 minimum wage from City of Seattle's (2014) \$15 minimum wage implementation schedule.

3.4.3 IMPLICATIONS FOR OTHER IMPLEMENTATION STRATEGIES

The results of our affordability evaluation also have implications for the Marine Water Quality (MWQ) IS's *Reduce Wastewater Loads Strategy*. This strategy suggests that nutrient loads from wastewater treatment plant effluent should be reduced through infrastructure upgrades and the use of advanced nutrient reduction technology. Such upgrades would be at least partially funded through increase service fees. Relying on service fees to fund nutrient reduction technology upgrades would further exacerbate affordability concerns. We recommend additional economic and basic water/sewer use data be collected for more jurisdictions so that a broader affordability assessment can be conducted to inform funding pathway development as part of the MWQ Implementation Strategy.

Since these results indicate that water utility service fees may contribute to housing affordability challenges in the region, this should be considered a cross-cutting issue for the Land Development and Cover IS. The financial impacts of one-time impact fees (e.g., stormwater connection charges for new housing units) versus recurring service fees on housing affordability should be evaluated. Seattle has declined to charge impact fees for new stormwater hookups, citing concerns about housing affordability at the time of purchase.⁴ Yet escalating monthly fees could have a much larger financial burden over the life of a housing unit.

⁴ <https://www.seattletimes.com/seattle-news/politics/seattle-plan-would-boost-water-sewage-waste-and-drainage-rates-23-by-2026-heres-why/>

3.4.4 POTENTIAL INTERMEDIATE PROGRESS MEASURES

Though our results suggest a fairly rapid escalation in SUF rates, they are a snapshot in time and systematic collection of standardized time-series data is needed to better document regional rate increase trends. The number of jurisdictions that have conducted formal rate studies could be a potential indicator for revenue adequacy.

3.5 How does SUF rate structure affect program outcomes?

We calculated SUFs applied to individual parcels in 11 jurisdictions to explore: (1) the impact of rate structure (e.g., are SUF charged as a flat rate per parcel, on a tier schedule based on parcel size, or per Equivalent Residential Unit) on the amount of revenue raised, and (2) the extent to which SUF charges are proportional to the quantity of stormwater generated by a parcel. Results relating to the first topic indicated that the fee charged per the assessment unit selected by a jurisdiction is the dominant factor affecting revenue generation. Impacts of rate structure were not detectable. Results relating to the second issue inform consideration of IDT input on rate setting for different customer groups.

3.5.1 ARE SINGLE FAMILY PARCELS CONTRIBUTING A LESS-THAN-FAIR SHARE?

The B-IBI IDT indicated that stormwater fee structures don't capture the single-family residential land base adequately (i.e., single family parcels are underpaying for stormwater programs) and recommended encouraging jurisdictions to restructure stormwater utility and/or development impact fees.

Figure 4 shows our results for median annual SUF charges by parcel type. Commercial/industrial and multi-family landowners do pay much higher fees than single-family parcels on a per parcel basis. This result seems to support the IDT's input. However, commercial/industrial and multi-family parcels are often much larger and have a higher percentage impervious area compared to single-family parcels. Once we controlled for this difference by normalizing SUF based on ft² impervious area, a different picture emerged. The normalized SUF values allowed us to compare across a large range of parcel size and imperviousness. Figure 5 shows that single-family residential customers pay the same or a higher rate per ft² of impervious surface in 5 jurisdictions. Commercial/industrial customers pay the lowest rate per square foot impervious in 5 jurisdictions. For 6 out of 11 jurisdictions, single-family rates brought in more than half of the total annual SUF revenue.

Figure 4: Median annual SUF charges by parcel type

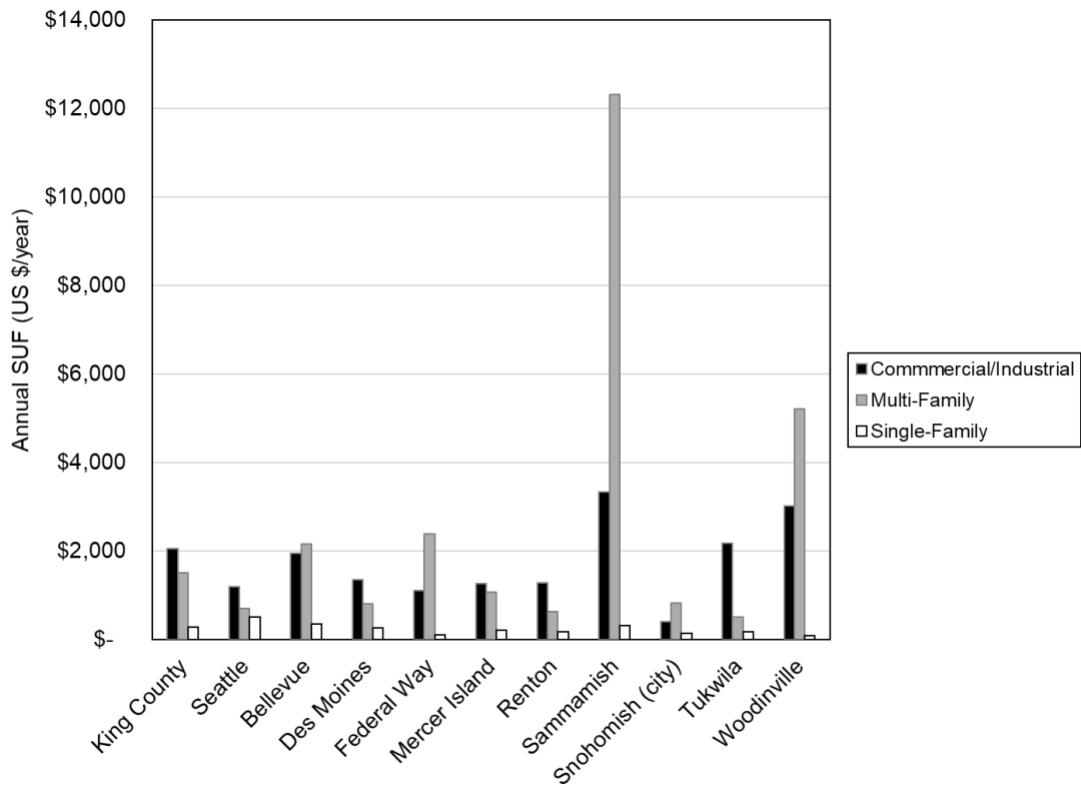
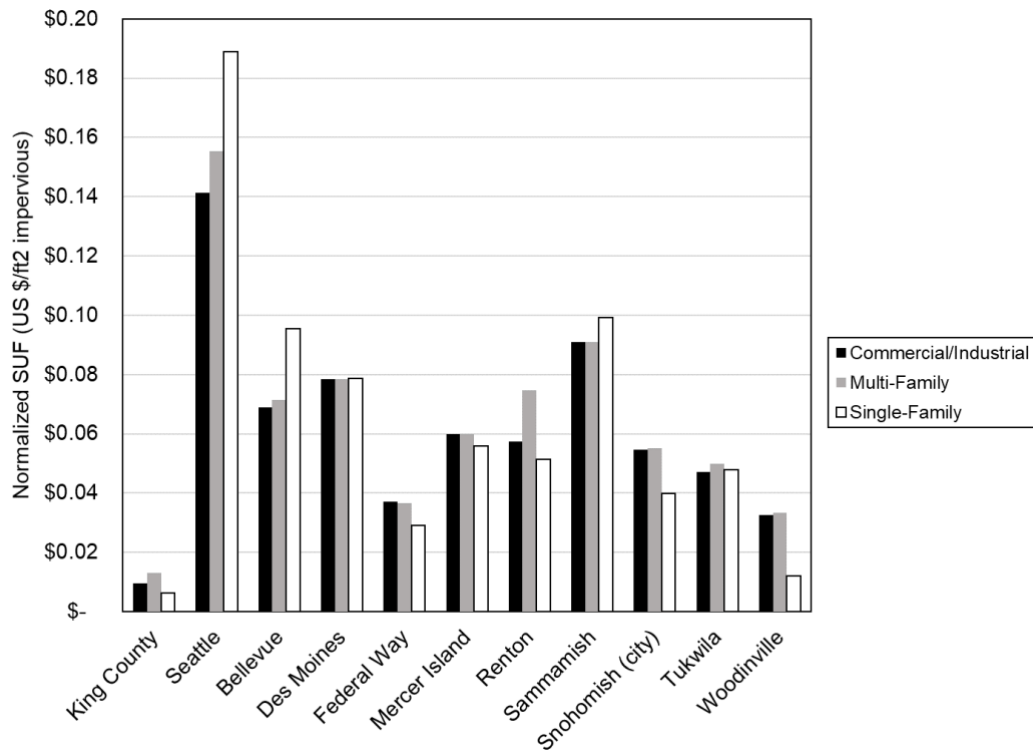
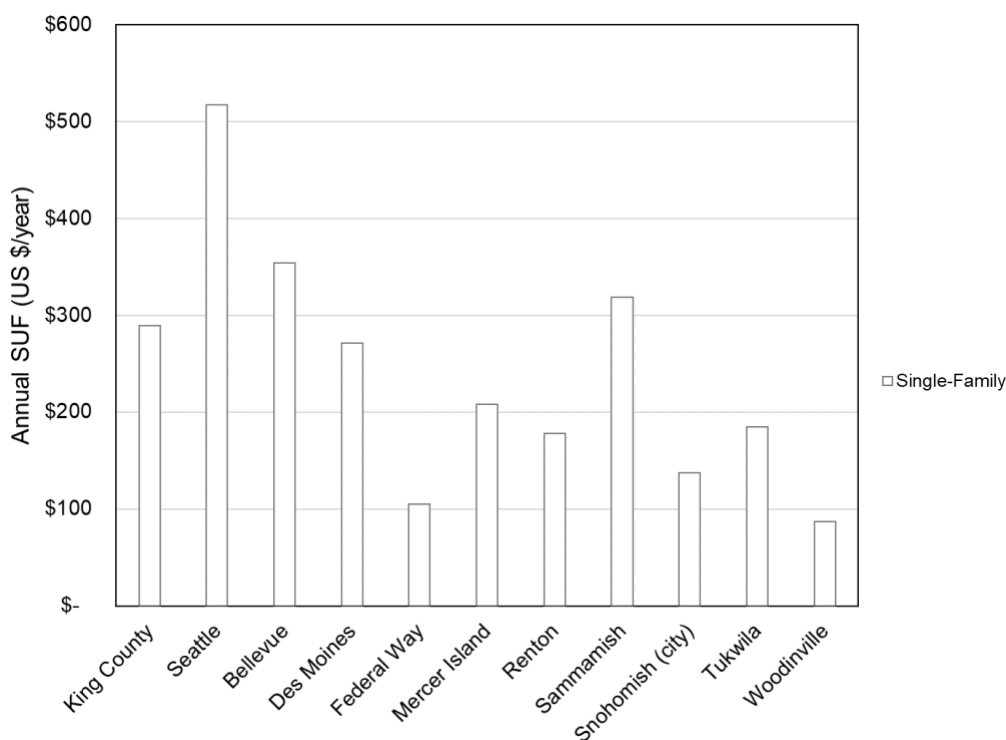


Figure 5: Median annual SUF charges normalized by ft² impervious surface



We took a closer look at the SUF values for single-family parcels from Figure 4 to compare how much residents pay in SUFs across the 11 jurisdictions. Figure 6 shows that median charges for single-family properties ranged from \$87 to \$517 per parcel (\$0.01/ft² to \$0.19/ft² area-normalized). A wide range of service fee payments was also observed in the 80-jurisdiction dataset. SUF revenue ranged from \$42 to \$1,007 per housing unit and \$17 to \$328 per capita. Residents in some jurisdictions pay much more for stormwater services, indicating that there are inequities in how SUFs are applied on a regional basis.

Figure 6: Median annual SUF charges for single-family residential parcels



3.5.2 IMPLICATIONS FOR THE LOCAL CAPACITY STRATEGY

Our data do not indicate that single family parcels are underpaying for stormwater programs. This could potentially be an isolated issue in a few jurisdictions, but it does not appear to be a widespread problem that should be a focus of the *Local Capacity Strategy*.

Our data demonstrate that there is enormous regional variation in SUF charges for single-family parcels on a per ft² impervious surface, per capita, and per housing unit basis. The Stormwater Strategic Initiative and Puget Sound Partnership should take care with messaging about the need to raise rates. Broad generalizations about locals not paying enough may be objectionable to leaders and residents of jurisdictions with higher fees. Development of more tailored messaging is recommended.

3.6 Are higher “Nature’s Scorecard” grades associated with more SUF funding?

The 2013 NPDES Municipal Stormwater permit revisions required permittees to integrate Low Impact Development (LID) provisions into local development codes for new development and redevelopment, and to remove barriers to implementing LID practices. LID integration involves extensive review and complex updates to a wide variety of codes, ordinances, standards, and plans. The Puget Soundkeeper Alliance and Washington Environmental Council began tracking the LID integration process via a “Nature’s Scorecard” in 2017. The Scorecard grades cities and counties based on 5 important elements of LID code integration: impervious surface limits, protection of native plants and soils, improving filtration, native tree requirements, and maintaining buffers. By 2019, several jurisdictions had made meaningful progress. Twelve jurisdictions (Table 3) were awarded “Green Stars” in the 2019 Scorecard. These jurisdictions went above and beyond permit requirements and truly embraced LID in their codes.

We compared SUF summary statistics for these jurisdictions with regional median values to determine if higher grades are associated with more SUF funding. Results, provided in Table 3, show that there does not appear to be a relationship between SUF funding and high scores. Only five of the 12 jurisdictions had SUF revenue/total revenue at or above regional median values.

Table 3: SUF summary statistics for “Green Star” jurisdictions

Jurisdiction	% SUF in Total Revenue	SUF Revenue per capita	Total Revenue per capita
Bellingham	69%	\$89	\$129
Kitsap County	95%	\$59	\$63
Lacey	99%	\$72	\$73
Lynden	49%	\$42	\$86
Monroe	99%	\$98	\$99
Oak Harbor	99%	\$83	\$84
Olympia	89%	\$98	\$110
Port Orchard	97%	\$109	\$111
Puyallup	59%	\$118	\$196
Renton	86%	\$115	\$135
Seattle ⁵	23%	\$189	\$814
Tacoma	99%	\$170	\$171
Phase I Median	89%	\$164	\$171
Phase II Median	95%	\$89	\$111
% at/above median	42%	73%	45%

⁵ The total revenue figure used for this calculation includes \$467 million of total revenue in the 2019 budget to address combined sewer overflows.

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