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Diane Caviezel Clausen/mm
SPU Strategic Business Plan RES
August 4, 2014
Version #2

CITY OF SEATTLE

RESOLUTION 31534

A RESOLUTION relating to Seattle Public Utilities; adopting a 2015-2020 Strategic Business Plan for Seattle Public Utilities and endorsing a six-year rate path required to support the Strategic Business Plan.

WHEREAS, the 2013-2014 Seattle City Council Statement of Legislative Intent 27-1-A-1 directed Seattle Public Utilities (SPU) to develop a Strategic Business Plan to guide utility investments, service levels, and rate paths over the next six years; and

WHEREAS, Resolution 31429, adopted by the Council on March 4, 2013, described the goals of SPU's 2015-2020 Strategic Business Plan (the Plan) and established a Customer Review Panel to provide input to the Plan; and

WHEREAS, the primary goal for the Plan is to set a transparent and integrated direction for all of SPU's business lines that reflects customer values, provides rate predictability for utility customers, and results in best value for customer dollars; and

WHEREAS, a Customer Review Panel was created in April 2013, composed of nine members from among SPU's customers, five appointed by the Mayor and four appointed by the Council, and each member confirmed by the Council; and

WHEREAS, the Customer Review Panel has been meeting since April 2013 to review the Plan's assumptions and policy directions, provide suggestions and feedback during Plan development, and ultimately provide to the Mayor and City Council comments on the Plan concurrent with delivery of the final proposed Plan to Council; and

WHEREAS, the strategic planning process included extensive employee in-reach and public outreach, including stakeholder meetings, public meetings, non-English speaking outreach, online surveys, advertising, and direct mail; and

WHEREAS, the resulting 2015-2020 Strategic Business Plan contains a six-year rate path for water, drainage, wastewater and solid waste rates that was developed by identifying, evaluating, and recommending reductions and priority additions to current utility expenditures; and

WHEREAS, the City Council has reviewed the 2015-2020 Strategic Business Plan, the associated six-year rate path, the recommendation of the Customer Review Panel, and the results of the public outreach; NOW, THEREFORE,

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF SEATTLE, THE MAYOR CONCURRING, THAT:

CITY CLERK

Section 1. The City Council adopts Seattle Public Utilities' proposed 2015-2020 Strategic Business Plan (the Plan), a copy of which is attached as Attachment A and incorporated by reference, with the following amendments:

A. The Plan's labor efficiency target will be $6.4 million per year in savings by 2020. No labor efficiency target for number of positions will be set. SPU is requested to establish the 2014 baseline of funding spent on consultants and contracts for outside labor and establish a means of tracking these expenditures during the course of the Plan. Both the number of positions and consultant spending will be tracked and reported to evaluate progress toward the labor efficiency goal.

B. Spending in the Plan's Energy Management & Carbon Neutrality Action Plan will be for emission-reduction measures and offsets in the City of Seattle if possible, or King County first and Washington State second if no options are available within the City limits, instead of carbon offsets outside Washington State. A deadline for achieving carbon neutrality should be removed from the Plan.

C. The SPU Director, before reallocating any more positions to SPU human resource functions in 2018, is requested to consult with the Seattle Department of Human Resources Director and consider any changes made to human resource functions citywide in assessing the need for additional SPU human resource positions. This consultation and assessment should be addressed in the 3-year Plan update. It is the Council's expectation that the departments will work together to ensure efficient and effective human resource functions.

D. The Plan's rate revenue requirement and rate path will be reduced by $1.5 million per year to reflect the lower interest associated with 2014 solid waste and drainage/wastewater bond sales and bond refunding.

Section 2. To achieve the goals of the Plan, an average annual system rate increase of 4.6% percent is anticipated over the period of 2015-2020 across all lines of business.

CITY CLERK

Section 3. The City Council requests that absent justifiable circumstances, the Executive submit budgets for 2015 through 2020 that are in support of, and consistent with the Plan and do not result in rates higher than the Plan's rate path as amended by this resolution.

Section 4. The City Council requests that the Executive submit rates for 2015 through 2020 that are in support of, and consistent with the Plan and are no higher than the Plan's average annual rate path as amended by this resolution and shown in the lower right corner of the table below:

Projected 6-year Rate Path	2015	2016	2017	2018	2019	2020	2015-20 Average
Drinking Water	0.0%	5.2%	5.2%	4.1%	4.4%	2.6%	3.6%
Sewer	0.8%	3.7%	2.3%	3.8%	6.1%	7.9%	4.1%
Drainage	9.8%	10.2%	8.2%	8.2%	8.1%	8.4%	8.8%
Garbage and Recycling	4.5%	4.7%	5.1%	3.8%	2.9%	2.4%	3.9%
Combined	2.7%	5.3%	4.7%	4.6%	5.1%	5.2%	4.6%

Section 5. Actual rate changes for each of Seattle Public Utilities' lines of business are subject to approval by the Council via passage of rate ordinances.

Section 6. Seattle Public Utilities will complete an overall review and update the Strategic Business Plan every three years, adding three years to the Strategic Business Plan and re-evaluating the subsequent six-year rate path. The next complete review and adjustment of the Strategic Plan will be finalized in 2017 and will encompass the years 2018-2023.

Section 7. By March 31, 2015, Seattle Public Utilities will propose a reporting framework to the Council to track progress in achieving the goals of the Plan, including efficiency initiatives, programmatic reductions, and action plan goals. The proposal should include milestones and deliverables.

BRS CITY CLERK

Adopted by the City Council the ____ day of _____, 2014, and signed by me in open session in authentication of its adoption this_____ day of _____, 2014.

_____

President _____of the City Council

THE MAYOR CONCURRING:

_____

Edward B. Murray, Mayor

Filed by me this ____ day of _____, 2014.

_____

Monica Martinez Simmons, City Clerk

(Seal)

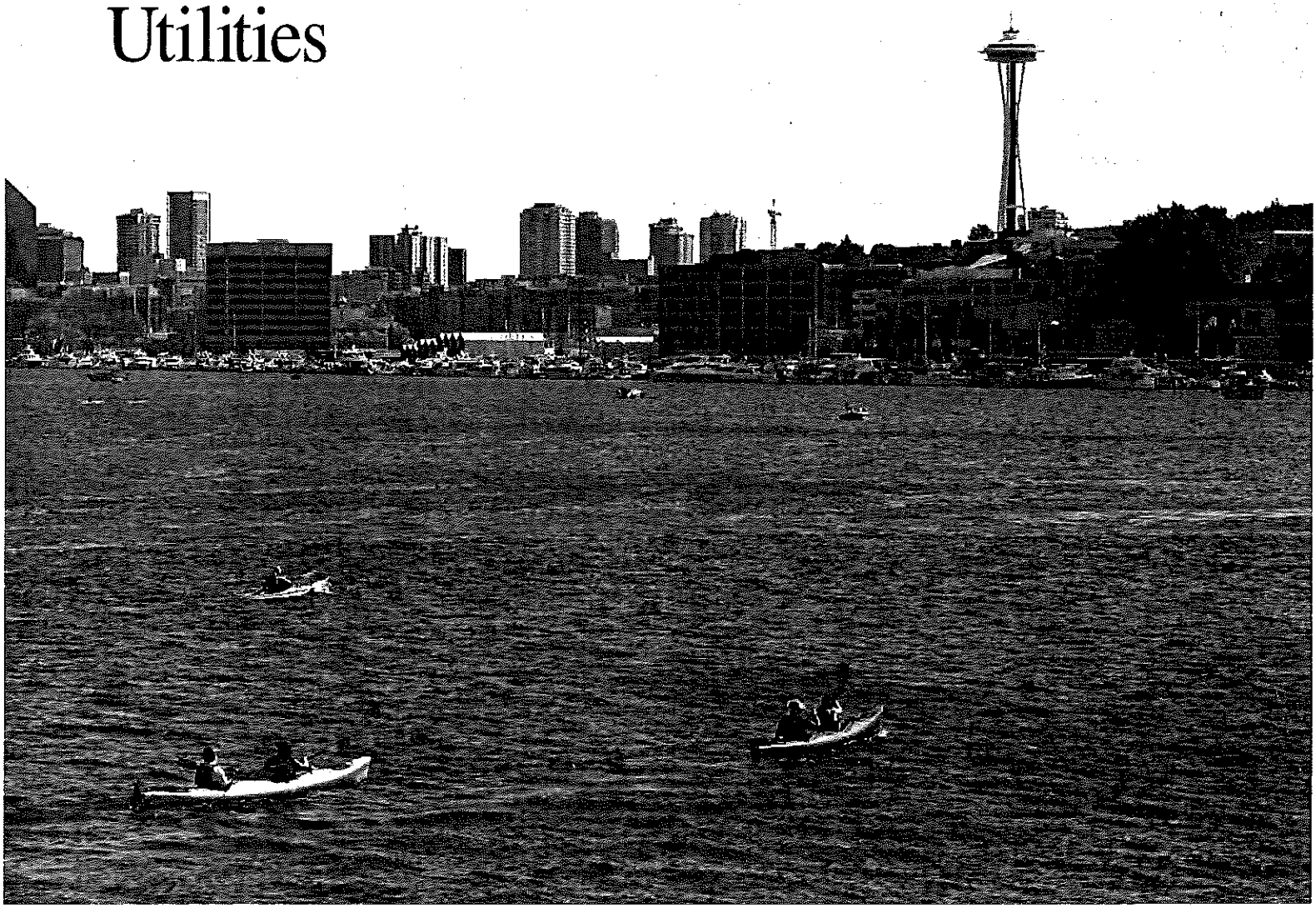
CITY CLERK

Attachment A:	Seattle Public Utilities 2015-2020 Strategic Business Plan
Exhibit 1:	Customer Review Panel Comment Letter
Exhibit 2:	Frequently Asked Questions
Exhibit 3:	Seattle Public Utilities Financial Forecast Overview and 2015- 2020 Financial Baseline
Exhibit 4:	Action Plans
Exhibit 5:	Benchmarking and Workplace Efficiency Study (See Booklet)
Exhibit 6:	Efficiency Savings from Efficiency Initiatives and Programmatic Reductions
Exhibit 7:	Customer Outreach Report
Exhibit 8:	Seattle Public Utilities Promise

DOS CITY CLERK

Attachment A

Seattle Public Utilities



Proposed Strategic Business Plan

2015 - 2020

Efficient and forward-looking utility services that keep Seattle the best place to live.

seattle.gov/util/strategicbusinessplan

BOS CITY CLERK

What makes Seattle a great place to live?

We live in a city where...

... you can drink mountain-fresh water from your tap anytime you want it.

...businesses and residents have reliable and efficient water, garbage, recycling, sewer and drainage services and are protected from flooding.

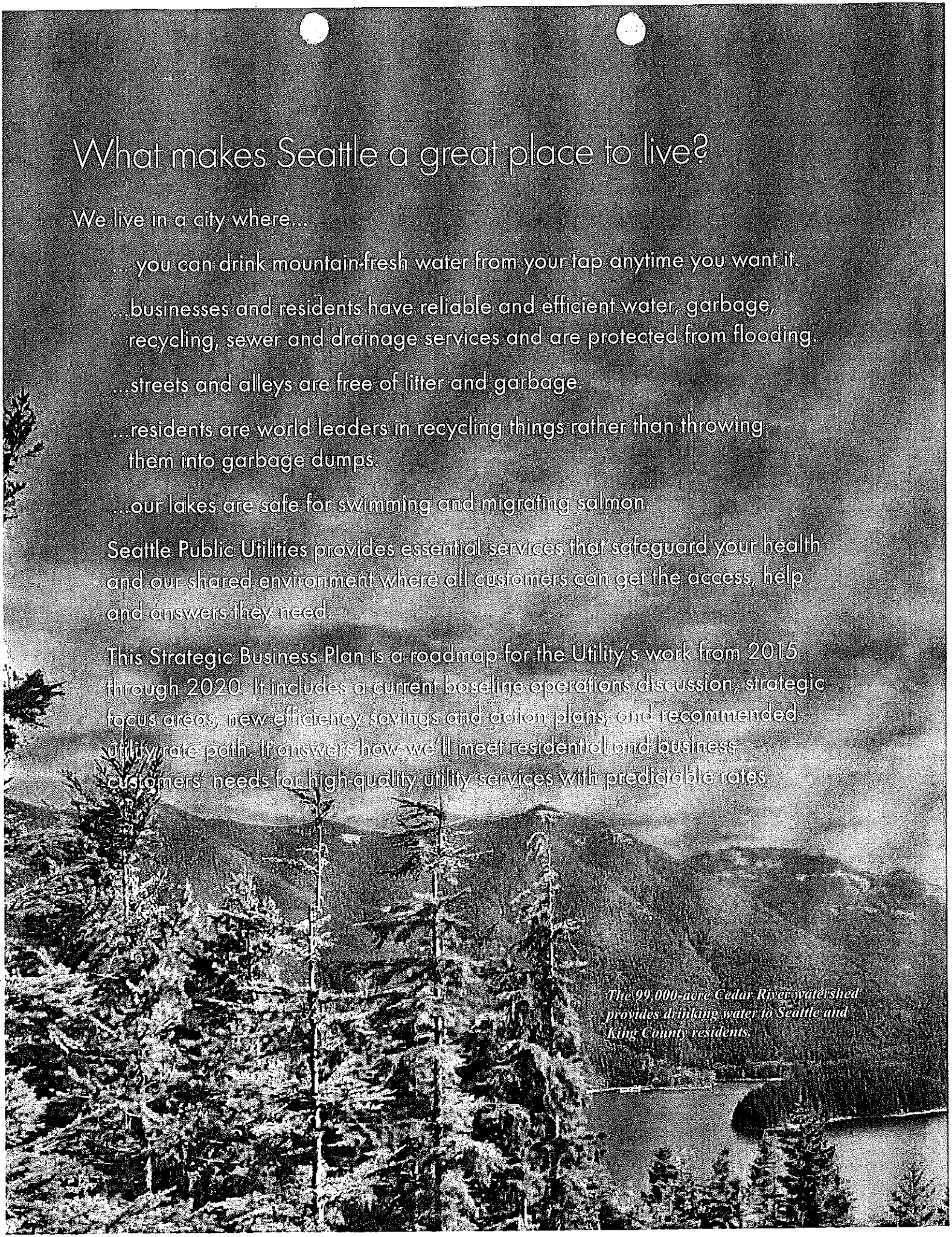
...streets and alleys are free of litter and garbage.

...residents are world leaders in recycling things rather than throwing them into garbage dumps.

...our lakes are safe for swimming and migrating salmon.

Seattle Public Utilities provides essential services that safeguard your health and our shared environment where all customers can get the access, help and answers they need.

This Strategic Business Plan is a roadmap for the Utility's work from 2015 through 2020. It includes a current baseline operations discussion, strategic focus areas, new efficiency savings and action plans, and recommended utility rate path. It answers how we'll meet residential and business customers' needs for high-quality utility services with predictable rates.



The 99,000-acre Cedar River watershed provides drinking water to Seattle and King County residents.

Seattle Public Utilities

Contents

Letter from the Mayor and SPU Director 2

Where We've Come From 4

Introduction and Executive Summary 6

The Starting Point: Our Promise 9

Challenges and Opportunities in Current Baseline Operations 10

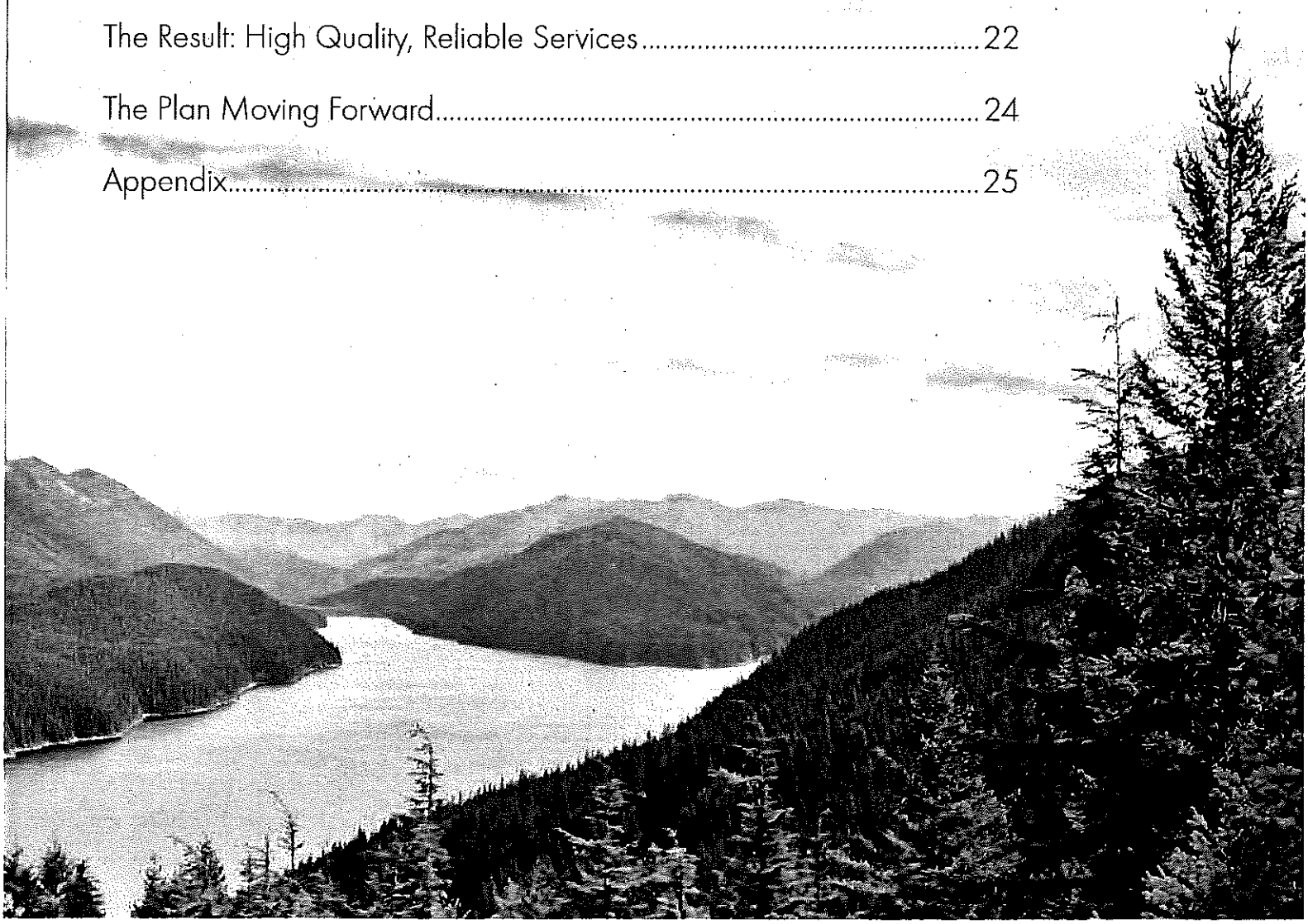
Focus Areas, Efficiency Savings and Action Plans 12

The Bottom Line: Utility Rates and Bills 2015-2020 18

The Result: High Quality, Reliable Services 22

The Plan Moving Forward 24

Appendix 25



Ed Murray, Mayor

Ray Hoffman, Director, Seattle Public Utilities

Letter from the Mayor and SPU Director

Seattle is a growing city with qualities that attract people looking for a great place to live and work. Our customers tell us they value the essential services the Utility provides: drinking water from mountain sources, recycling and composting that leads the nation, and sewer and drainage to protect our local waterways. Our customers depend on us to be there for them—to deliver these services reliably and spend their dollars wisely.

This work is not simple or easy.

We manage and maintain over 3,700 miles of water, sewer and drainage pipes and related systems that connect to every house and building in the City.

We are the unseen structure, often underground, that makes the City work—we continually upgrade and maintain our systems to ensure that you have 24/7 utility services.

And, we are planning for the future, sometimes even decades ahead of time.

Our Strategic Business Plan

Seattle Public Utilities has developed its first Strategic Business Plan that links utility rates to actions based on direction from City Council. It will serve as our guide from 2015 through 2020. The Plan reflects difficult choices: We must keep rates as low as possible while providing services that protect public health and our environment while meeting regulatory challenges.

A rigorous process

Creating the Plan was a very inclusive process. We reached out to our many residential and business customers. We also worked closely with employees, elected officials, and an independent Customer Review Panel.

We identified four strategic focus areas, 14 efficiency saving actions and 27 action plans where we'll focus improvements over the next six years. These address working more effectively, public health and our environment, customer service, and the workforce. We will provide regular updates on our progress and revise the Plan every three years.

Billing rates through 2020

Developing predictable rates was a key Plan goal. On average, current baseline operations will require a 4.6% increase per year. We then looked for efficiency savings across the Utility and what critical actions we'll need to take to fill gaps in our services. After subtracting efficiency savings from current baseline operations and adding in the costs of new action plans our recommended rate path will remain at 4.6% per year. While this looks like where we started, it's not business as usual—our customers will receive more value across all services. This is a significant reduction from the almost 7% cumulative average annual rate increase over the previous decade.

We recognize that we can't achieve affordability for everyone. This is why we offer a Utility Discount Program to help our qualified, lower-income customers through bi-monthly bill discounts.

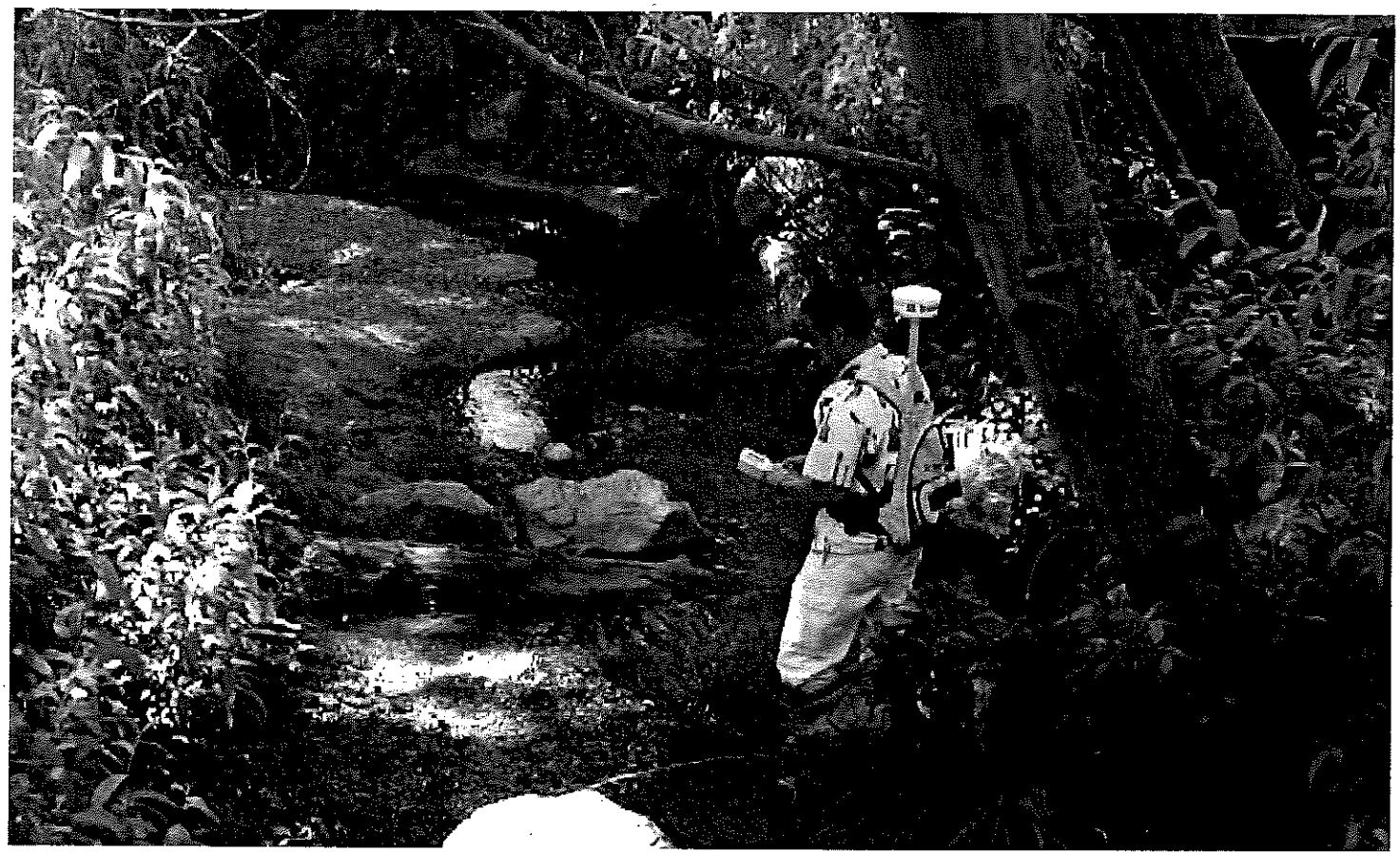
We want to thank the Customer Review Panel members for dedicating many hours of service and giving us great input and guidance. We also want to thank the employees of Seattle Public Utilities who have done the hard work of turning ideas into actions. Finally, we want to give a big thank you to the many community advisory committee members, community leaders and residential and business customers who provided feedback.

We're excited about this Plan. It delivers our promise of keeping Seattle the best place to live while putting us on a path to realize greater efficiencies. We have a lot of work ahead, but now we have a detailed map to help get us there.

Sincerely,

Mayor

Director



Geographic information system (GIS) mapping of West Seattle's Longfellow Creek.

From left to right: Carl Pierce, Solid Waste Division Operations Manager for Seattle Housing Authority; Walter Reese, Controller for Nucor Steel Seattle; Bruce Lorig, Lorig Associates; Suzie Burke, President of the Fremont Dock Co.; David Gault, Director of Engineering for The Fairmont Olympic Hotel; Laura Lippman, Physician and Environmental Steward; Noel Miller, Retired City of Edmonds Public Works Director; Tara Luckie, Executive Director of the Environmental Science Center; David Layton, Professor at the Evans School of Public Affairs, University of Washington.

Customer Review Panel

The all-volunteer Customer Review Panel's nine members are representative of our customer base. They were appointed to act as a constant customer voice during Plan development. They've been with us for each step of the process.

The process to develop the Plan has been very thorough, transparent and collaborative. The Plan represents a major step forward for the Utility in terms of rate predictability and accountability.

Noel Miller, Customer Review Panel Chair

Where We've Come From

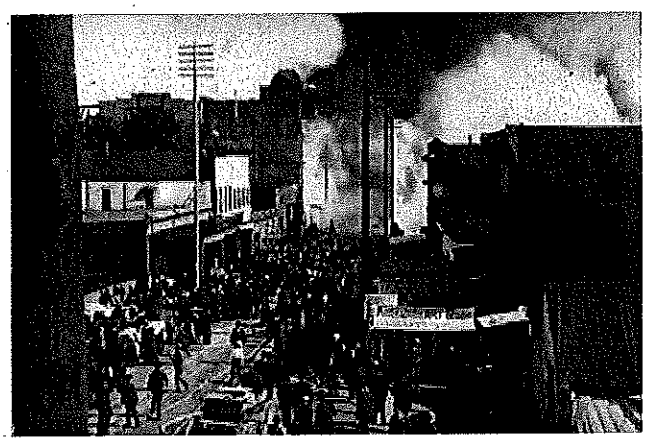
Seattle Public Utilities was created in 1997 from Seattle Water and Engineering Departments. However, the core utility services that make it up weren't built all at once—they're part of Seattle's history. A brief look back may provide you with some perspective on how utility services benefit you.

Drinking water history

It's 1889. The Great Seattle Fire has left downtown in ruins. Seattle's water supply, provided by the privately owned Spring Hill Water Company, couldn't provide enough water pressure to put the fire out. Meanwhile, residents drink contaminated Lake Washington water and typhoid fever outbreaks are not uncommon. Voters overwhelmingly approve a bond issue to provide clean, mountain water from the Cedar River Watershed and build protected reservoirs throughout the City. This solves the City's drinking water and fire protection challenges.

Where we are today

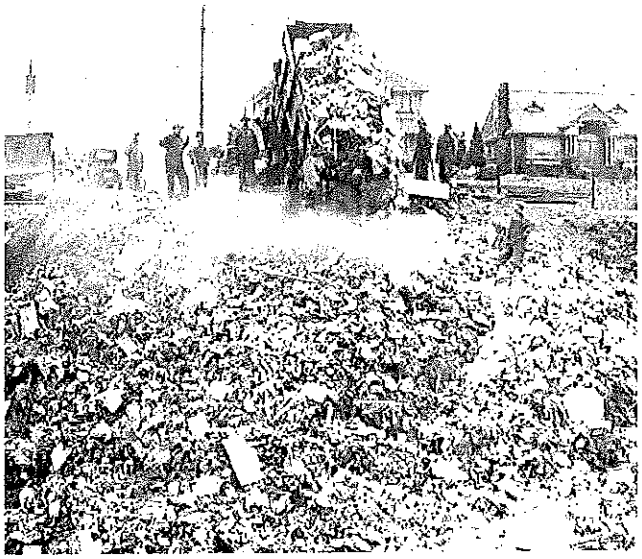
Seattle has some of the safest and best tasting water in the nation with sufficient pressure to effectively fight Seattle fires. Residents take conservation seriously and consume less water now than in 1959 when the City was half the size. We have a protected clean water supply that will take us well into the middle of this century.



The Great Seattle Fire, 1889.

Garbage and recycling history

Until 1970, Seattle had open-air garbage dumps. These were breeding grounds for rodents and disease, polluted the soil and resulted in dangerous levels of explosive methane gas.



South Park dump (circ. 1929), one of twelve dumps the City operated.

The City built two garbage transfer stations in the mid-1960s to replace the dumps. In 1988, Seattle began the first stage of its current curbside-recycling program.

Where we are today

Since 1988, the City's garbage and recycling efforts have:

- Saved more than 9 million trees through paper recycling.
- Saved more than $68 million in landfill fees.
- Reduced greenhouse gases by 3.1 million metric tons.
- Become the nation's recycling leader at 70% for single-family-home residents and 61% for businesses.

Sewage history

From Seattle's founding until the 1960s, untreated sewage flowed into Lake Washington, the Puget Sound and our other waterways. This poisoned our drinking water, our marine environment and made local beaches unsafe for swimming.

By the 1950s, Seattle had discontinued the practice of building combined storm drains and sewers, opting instead to lay separate pipes to handle sewage and stormwater. The completion of multiple treatment plants by King County in the mid-1960s radically changed our quality of life by making it safe to swim in lakes and play on beaches while improving fish and wildlife habitat.

Where we are today

Seattle Public Utilities maintains more than 1,870 miles of sewers that connect to King County sewage treatment plants. The problem is not completely solved yet: In heavy rains, some City neighborhoods still experience sewer backups. We're addressing this problem with sewer and drainage upgrades in some of the City's most problem-prone neighborhoods in response to a federal consent decree. The Utility has entered into a long-term agreement program to greatly reduce sewer overflows as required by the Environmental Protection Agency.

Drainage history

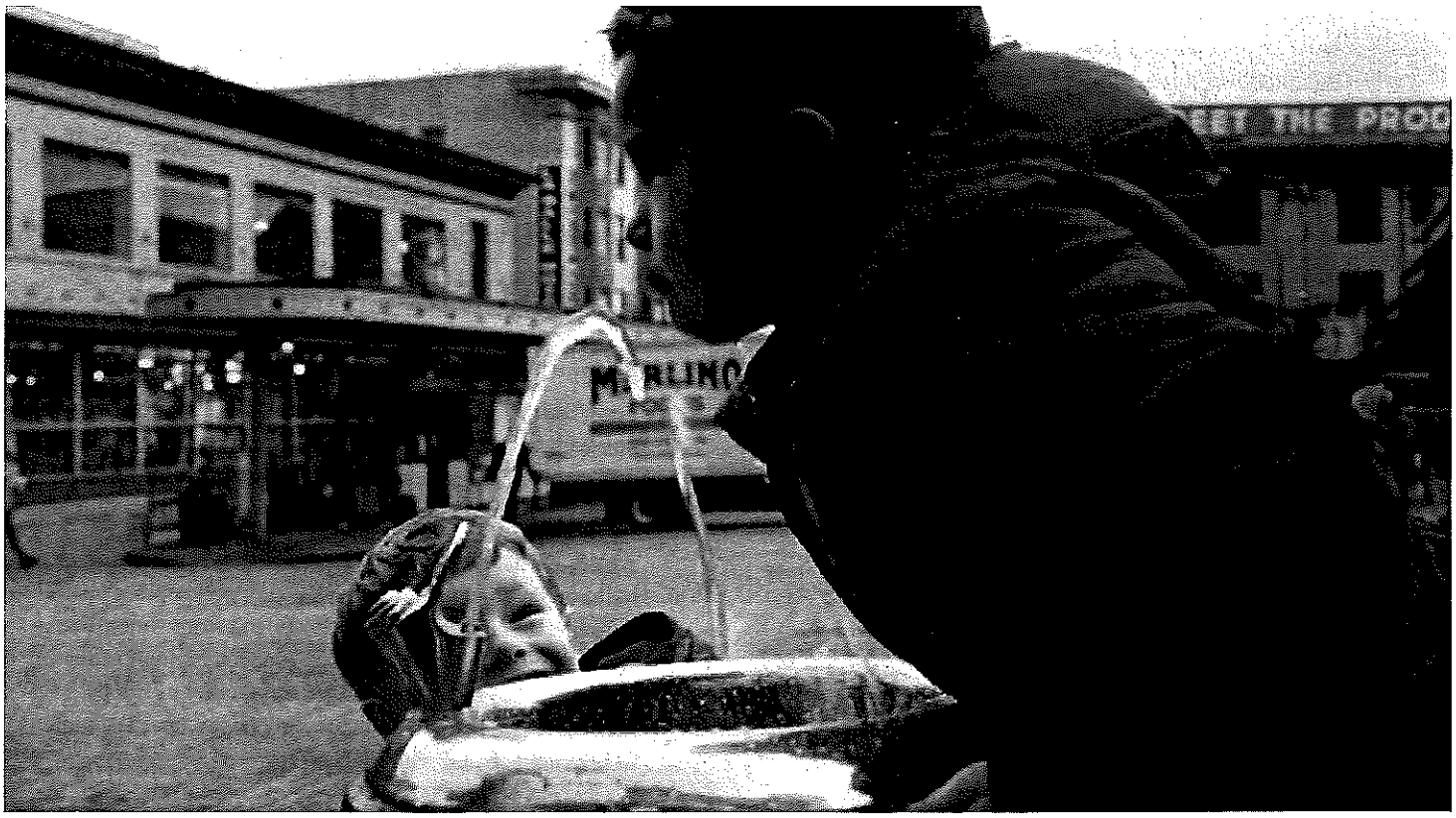
Since the early 1900s, hard surfaces that don't absorb rainfall have gradually replaced trees, fields and dirt roads. In Seattle, more than 55 percent of the land area is covered with roads, sidewalks, driveways, patios, and roofs. This means hundreds of millions of gallons of stormwater runs off these hard surfaces into 85,000 storm drains each year.

Where we are today

Polluted rainwater carries motor oil, heavy metals, pesticides, algae-growing nitrogen, plastics, and Styrofoam from our streets into our waterways. We're working with customers to keep these substances from reaching our drains through education, appropriate treatment and street cleaning.

Excavating by hand for a new sewer line in 1912.

But there's more to be done. Where stormwater and sewage flow through the same pipes, 113 million gallons of sewage overflow and polluted stormwater drains directly into our waterways each year.



Fresh mountain water is available to everyone in Seattle 24/7.

Introduction and Executive Summary

INTRODUCTION

Seattle Public Utilities has developed its first Strategic Business Plan that links utility rates to actions based on direction from City Council. The Utility faces significant challenges including a growing and increasingly diverse population, constantly changing regulations, aging systems, and threats from earthquakes and climate change.

The Plan will address these challenges through the lens of its Promise—**providing you with efficient and forward-looking utility services that keep Seattle the best place to live**. We developed the Promise to create accountability to our customers.

Who we are

Seattle Public Utilities serves 652,000 Seattle residential and 64,000 business customers—that's every house, building and business in Seattle with drinking water, sewer, drainage, garbage and recycling. We also supply over 700,000 customers in other Puget Sound area cities with drinking water.

We own two mountain watersheds, 193 miles of drinking water transmission pipelines, 1,680 miles of distribution mains, and 400 million gallons of transmission and distribution reservoir storage. When you turn on your tap in the kitchen, or need a reliable source of clean water for your business, you can be assured that the drinking water is safe, clear and good tasting.

Our sewage system includes 448 miles of regular sanitary sewers (sewage only) and our combined sewers (sewage plus stormwater). We protect you, your family, neighborhoods and businesses from disease by safely transporting sewage to treatment facilities.

> The Utility needs to take a business approach—focus on efficiency, streamlining and cross-training employees. It can't just be service at any cost.
>
> *Seattle Business Customer*

When we get one of our trademark Pacific Northwest rains, 460 miles of drainage pipes and our combined sewers carry the water away to help protect your home or business from flooding.

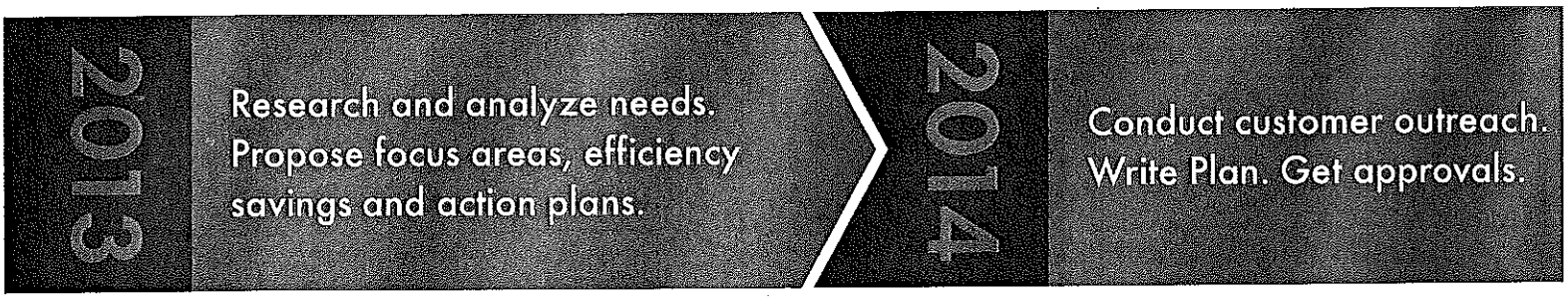
Every week we pick up 6,127 tons of garbage throughout the City or collect it from customers at our two garbage and recycling transfer stations. This helps keep our City clean, protects health and reduces waste. We are also responsible for painting over graffiti in certain public places, keeping the downtown core free of litter, and offering many customer education programs.

EXECUTIVE SUMMARY

What is the goal of the Plan?

There are several:

- Create predictable billing rates while controlling costs.
- Find new ways to be more efficient.
- Ensure continued high quality, reliable services.
- Meet federal and state regulatory mandates.
- Develop more effective ways to communicate and partner with customers, neighborhoods and communities.



The Plan was the result of an intensive two-year process. The Utility gathered customer and employee input and spent many hours looking at operational needs and vulnerabilities to determine where it should focus and what actions it should take. The Plan includes:

- The Utility's Promise to customers.
- Challenges and opportunities.
- Current baseline operations.
- Focus areas.
- Efficiency savings.
- Action plans.
- Recommended rate path and bills.
- High quality and reliable services that result from the Plan's work.

Focus areas, efficiency savings and action plans

Our four focus areas include:

- **Better protecting your health and our environment.**
- **Improving how we work to deliver consistent, high quality services.**
- **Enhancing our services by continually updating employee skills.**
- **Making it easier to get help and find answers.**

In the summer of 2013, an independent efficiency expert reviewed all operations. Based on this, the Utility is recommending 14 efficiency saving actions that will reduce baseline operating costs by $125 million through 2020. We will achieve efficiency savings through better alignment around our core services, improved systems and strategies, and increased productivity. This will enable us to reach 2020 with the same number of employees that we have in 2014.

Our action plans will strengthen the Utility so it can meet the demands for increased service. The Utility is recommending 27 action plans costing $169 million through 2020. Action plans will help prevent flooding and sewer backups, prepare for emergencies, use technology to improve efficiency in the workforce and improve service for all customers.

2015

Begin Strategic Business Plan work.

WHAT WE LEARNED FROM OUR CUSTOMERS

We received input from 843 customers who reflect our City's diversity including businesses, seniors, environmentalists, developers, low-income, youth, African Americans, Spanish-speaking and limited-English-proficiency residents. Customer responses fell into several categories that directly tie to the Plan's focus areas, efficiency savings and action plans.

Environment and health. Protect public health, improve the environment and explain what customers can do to help.

Efficiency. Explain how the Utility is becoming more efficient.

Equity. Ensure all customers are engaged and have full, equitable access to our services.

Investing for the future. Be prepared for future challenges.

Partnership. Educate and partner with customers to help them save money and improve our environment.

During public outreach, customers supported the Plan's focus areas, efficiency savings and action plans. They asked that any rate increase be accompanied by improvements for greater value, and efficiency savings for greater affordability. See Appendix: *Customer Outreach Report* for more information.

Seattle Public Utilities

Because of efficiency savings, new investments won't raise rates above the current baseline-operations level.

See *Focus Areas, Efficiency Savings and Action Plans* for more details.

Rate paths

The recommended billing rate path for the Utility is a 4.6% average annual increase and represents a blended rate for our core services of drinking water, sewer, drainage, and garbage and recycling. The rates are 31% higher in 2020 than they are in 2014 with greater than 50% of that increase resulting from inflation. See *The Bottom Line: Utility Rates and Bills 2015-2020* section of this Plan for more details.

IMPORTANT TERMS

Action plans: The actions the Utility will take from 2015-2020 to improve service quality and reliability.

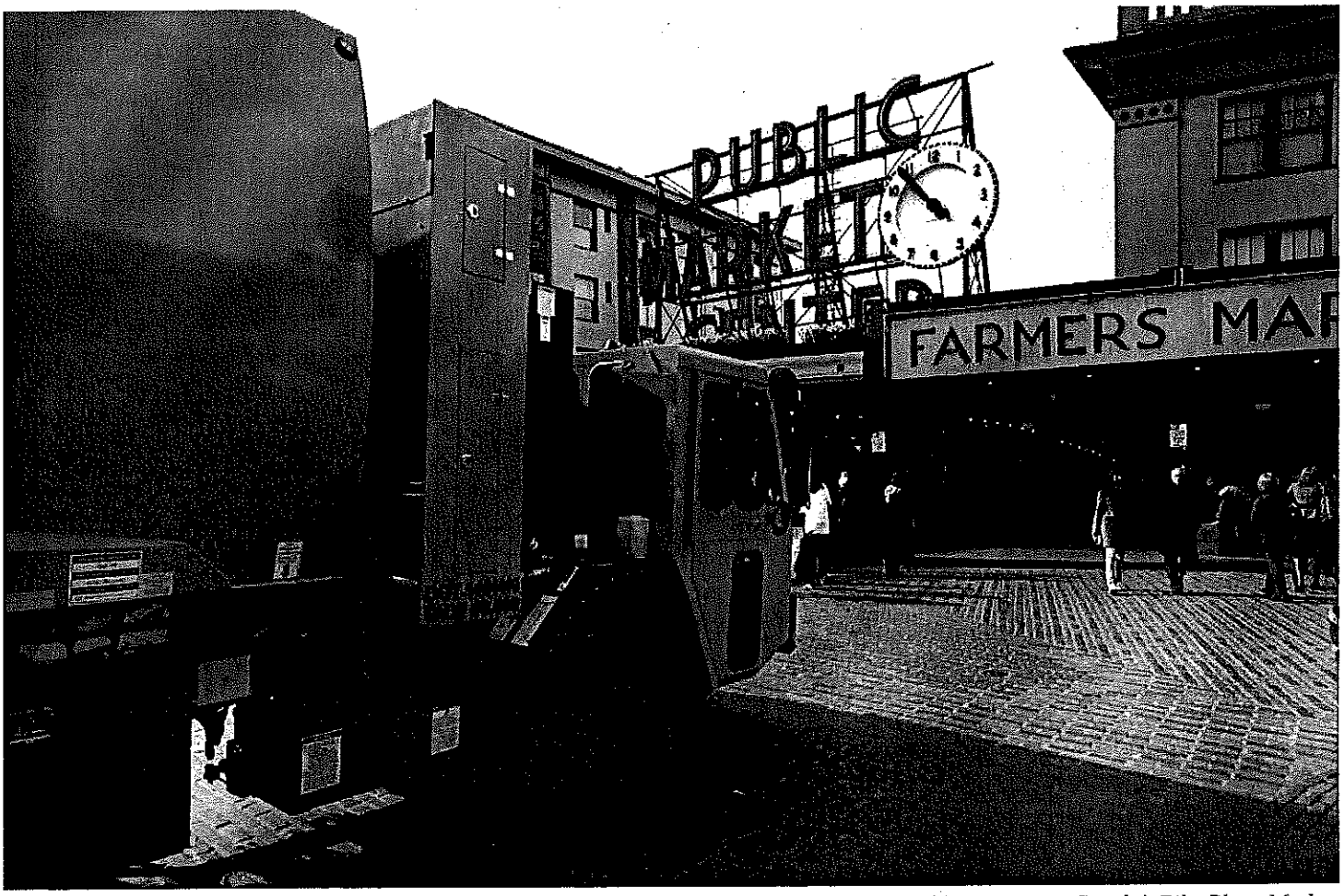
Current baseline operations: Day-to-day operations and projects not including Plan improvements.

Efficiency savings: Actions or processes that will allow us to get more done with less work and save money.

Focus areas: Strategies used to determine which action plans and efficiency savings we'll accomplish.

We are striving to make it as easy as possible for our customers to do business with us.

Susan Sánchez, Customer Service Deputy Director



Collecting compostable organics at Seattle's Pike Place Market.

The Starting Point: Our Promise

The Plan delivers the Utility's Promise of **efficient and forward-looking utility services that keep Seattle the best place to live**. Our Promise focuses on what's important to our residential and business customers.

We'll turn our Promise into action by:

Being efficient. Keeping efficiency top-of-mind and measuring results.

Being forward-looking. Planning ahead to meet challenges and take advantage of opportunities.

Keeping Seattle the best place to live. Ensuring our customers continue to enjoy the benefits of public health and environmental protection.

The Utility will also be working to meet its vision of **helping customers see how their utility dollars sustain and improve their quality of life.**

Our employees use the following values to guide their work:

Customer-focus. We are accountable to our customers.

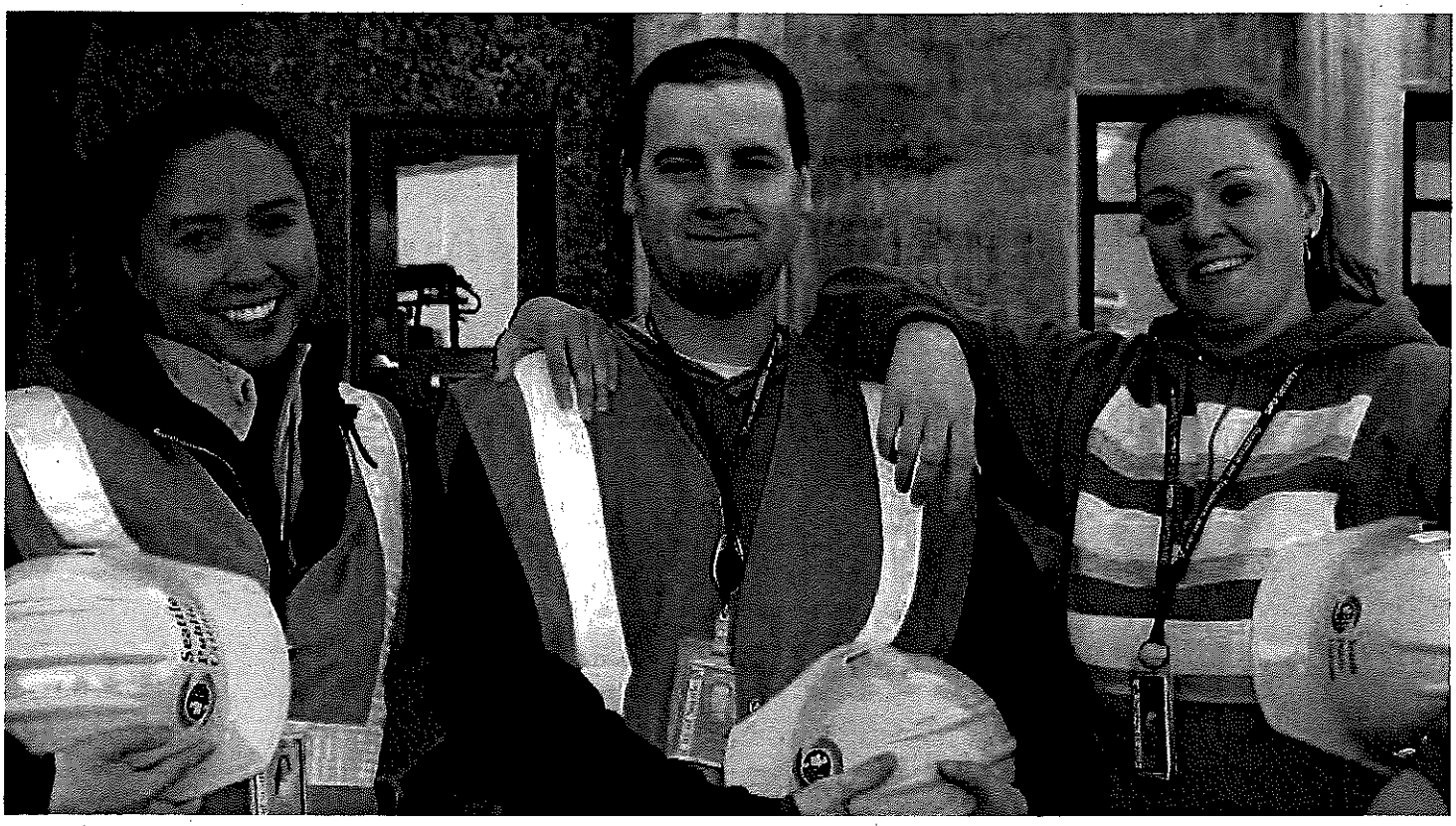
Safety. We provide a safe environment for our employees and customers.

Innovation. We encourage employees to explore new ideas and challenge traditional viewpoints.

Inclusion. We listen and collaborate to ensure our actions are equitable and improve quality of life.

Value for money. We make effective decisions based on financial, social and environmental costs and benefits to achieve the best value for our customers.

> We are making promises to our customers, because we believe in what we are doing.
>
> *Tim Croll, Solid Waste Director*



Every day our 1,400 employees deliver reliable services to your home or business.

Challenges and Opportunities in Current Baseline Operations

We run a big operation, reflected by a budget of $925 million in 2014. Additionally, between 2015 and 2020, the Utility plans to spend $1.4 billion on projects including:

- Significant investments in reducing sewer overflows into the Sound, Lake Washington and other waterways.
- Cleaning up polluted sediments and rehabilitating and improving water, drainage and sewage systems.
- Pump facilities upgrades at Chester Morse Lake (near North Bend) to upgrade water storage access.
- Building the South Park Pump Station to address longstanding South Park flooding and water pollution.
- Making improvements to the Broadview sewer and drainage system that will reduce chronic sewer backups and stormwater flooding.
- Constructing the new North Transfer Station.

The size and complexity of Utility operations and projects, as well as external events, create the challenges and opportunities that we address in this Plan.

CHALLENGES

Why are we asking our customers to invest more money now? Part of the answer is to simply keep up with the increased cost of doing business. We also have many pressing needs that, if ignored, will result in significant customer service disruptions or threats to public health and our environment.

Our system of pipes and valves are aging and need replacement. We have neighborhoods that are still prone to flooding and sewer backups. Population growth and new City utility requirements from the waterfront tunnel, seawall and other projects also impact costs. We have several customer groups that don't currently have full access to our services due to language barriers and other factors. Climate change and disaster recovery are also important considerations. Finally, regulations to protect public health and the environment can get more stringent and costly over time.

What We Do

Action plan investments and efficiency savings will result in better services and a leaner Utility. While some improvements are specific, most will make our entire operation more efficient and effective. The following is a list of the current baseline operations that these actions will improve.

Drinking Water

- Manage, treat, and reliably deliver high quality drinking water 24/7.
- Promote wise water use, manage the Cedar and Tolt watersheds, dams and water storage facilities.
- Ensure the system meets growth and development needs.

Drainage and Sewer

- Manage sewage and stormwater to protect public health as required by the Environmental Protection Agency and state regulatory agencies.
- Inspect, clean, and maintain systems and educate customers to keep things out of the system that contribute to flooding and runoff pollution.
- Ensure the system meets population growth and development needs.

Garbage and Recycling

- Manage garbage, recycling and yard waste collection and educate customers to encourage composting of yard waste and organics, recycling, and garbage reduction.
- Operate Seattle's two garbage and recycling transfer stations.
- Clean up graffiti, illegal dumping and street litter in the downtown core.

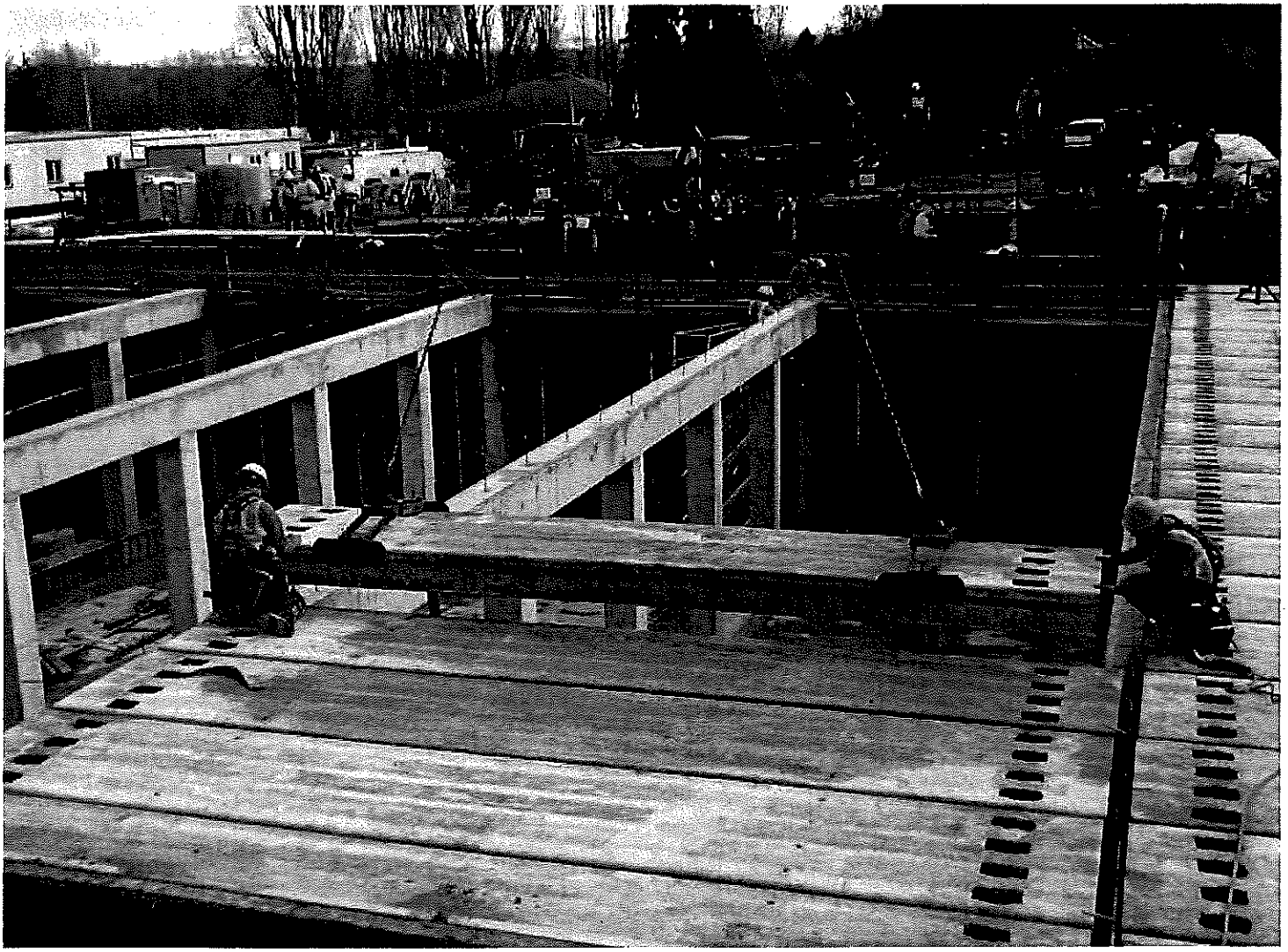
OPPORTUNITIES

We also see several opportunities to reduce costs and improve services. Delivering our services well requires a highly productive workforce. The Plan will focus on employee talent development and training for productivity gains.

We'll also focus on making our relationships with outside service providers and federal and state regulators stronger to hold down costs and meet regulatory requirements. We'll focus on helping customers to better understand and enjoy full access to our services. We'll be working with individual communities to meet their needs. We'll also work with landlords to improve our service delivery to renters in multi-family buildings.

Action plans that reflect opportunities include the need to speed up work to prevent sewer backup and flooding in the South Park and Broadview neighborhoods, prepare for future system threats, improve technology and workforce productivity, increase street sweeping to reduce runoff pollution and flooding, and improve valve maintenance. See Appendix: *Action Plans* for more information.

> One of our greatest challenges is to deliver services equitably across a city with diverse topography, cultures and demographics.
>
> *Michael Davis, Environmental Justice and Service Equity Division Director*



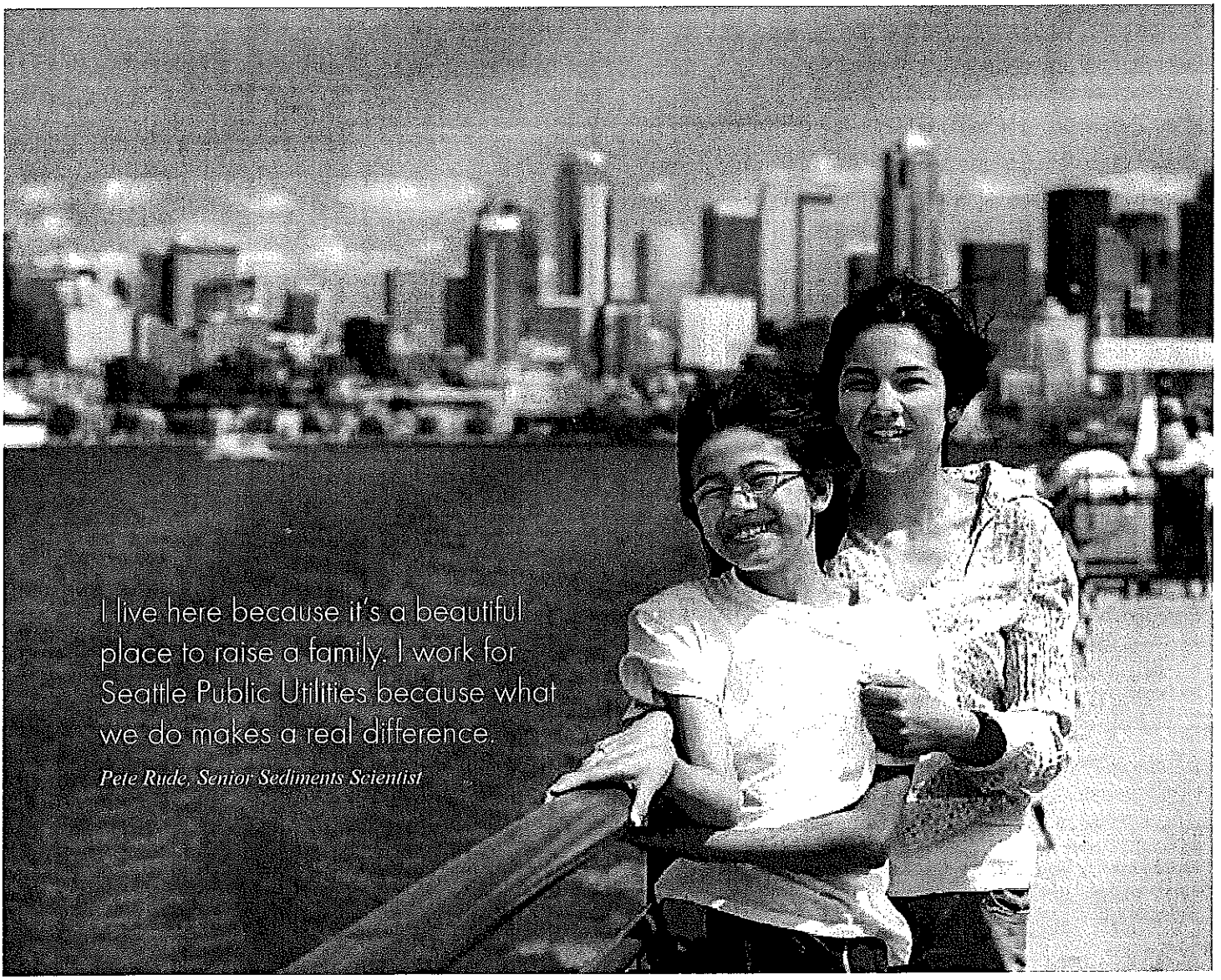
Construction of a storage tank in the Windermere neighborhood that will capture sewage and stormwater during heavy rains.

Focus Areas, Efficiency Savings and Action Plans

Focus areas, efficiency savings and action plans represent the new improvements the Utility will make in 2015 through 2020 beyond our current baseline operations. These resulted from a comprehensive look at where we can get the best results and eliminate service vulnerabilities and gaps. These improvements were supported by the Customer Review Panel, our customers and employees during outreach.

For more detail see Appendix: *Customer Review Panel Letter, Customer Outreach Report,* and *Efficiency Savings From Efficiency Initiatives and Programmatic Reductions.*

The Utility is recommending 27 action plans which will cost $169 million through 2020. It's also recommending 14 efficiency saving actions that will reduce baseline operations costs by $125 million through 2020. Because of efficiency savings, new investments won't raise rates above the current baseline-operations level.



Enjoying a summer day in Seattle.

FOCUS AREA #1: BETTER PROTECTING YOUR HEALTH AND OUR ENVIRONMENT

Goal: We will provide utility services in a way that makes Seattle cleaner, greener and healthier.

Six-year efficiency savings: $8.1 million in operations; $51.4 million in projects.

Six-year action plan investment required to meet goals: $8.2 million in operations; $5.6 million in projects.

How we'll take action: We need our Plan to address water pollution and future impacts from climate change. We manage all water from its source, through use, before sending it into the Puget Sound, lakes and streams.

Efficiency savings

- In drainage and sewer, update project cost estimates and reduce outside support for policy development and regulatory compliance.
- Reduce expenditures on sewer behavior-change campaigns.
- Reduce expenditures on garbage prevention work.
- Align budget to actual expenses for historic landfills.
- Reduce implementation costs for the Habitat Conservation Plan.
- Achieve efficiency gains through better alignment around our four lines of business, improved systems and strategies, and increased productivity.

Action plans

Action plans address major environmental and water pollution threats, prepare for climate change effects and reduce the Utility's carbon footprint.

Action plan example: Street sweeping is important to health and the environment because it effectively reduces flooding while keeping harmful pollutants from reaching the Puget Sound and other waterways. Over the six-year Plan period, the Utility will remove 40 tons of pollutants from our streets annually.

For complete details see Appendix: *Action Plans*.

Make it easier to find information and solve problems online and with mobile.

Seattle Residential Customer

Action Plan	Measure	Service Improved
Prepare for water supply and Utility system threats that may occur from climate change.	Increase reliability of drinking water supply through system improvements.	Planning for the future
Develop policies to respond to "green" decentralized service alternatives like rain capture.	Develop decentralized utility system policies.	Planning for the future
Implement a program so the Utility can achieve carbon neutrality.	Carbon neutrality by 2015.	Planning for the future
Maintain roadways in the Cedar River Watershed for Utility and tribal purposes.	Maintain identified roadways.	Mountain-fresh drinking water
Expand exisiting street sweeping to remove pollutants from our streets and drains so they do not flow into puget Sound and Lake Washington.	40 additional tons of harmful metals and organic compounds removed from our streets annually over a five-year period.	Drainage that reduces flooding and pollution

FOCUS AREA #2: IMPROVING HOW WE WORK TO DELIVER CONSISTENT, HIGH QUALITY SERVICES

Goal: We will increase value delivered to customers.

Six-year efficiency savings: $44.4 million in operations; $19.2 million in projects.

Six-year action plan investment required to meet goals: $32.2 million in operations; $109 million in projects.

How we'll take action: We'll develop more efficient and effective operations resulting in greater reliability, consistency and quality. We'll focus on continually improving services and eliminate projects, programs or services that aren't a priority.

Efficiency savings

- In drainage and sewer, update project cost estimates and reduce outside support for policy development and regulatory compliance.
- In garbage and recycling, update project cost estimates including those for transfer station operations.
- Reduce the budget for technical studies in drinking water, drainage and sewer.
- Take miscellaneous Utility-wide cuts to equipment purchases, consultant contracts and supplies.
- Achieve efficiency gains through better alignment around our four lines of business, improved systems and strategies, increased productivity and service agreements with other City departments.

Action plans

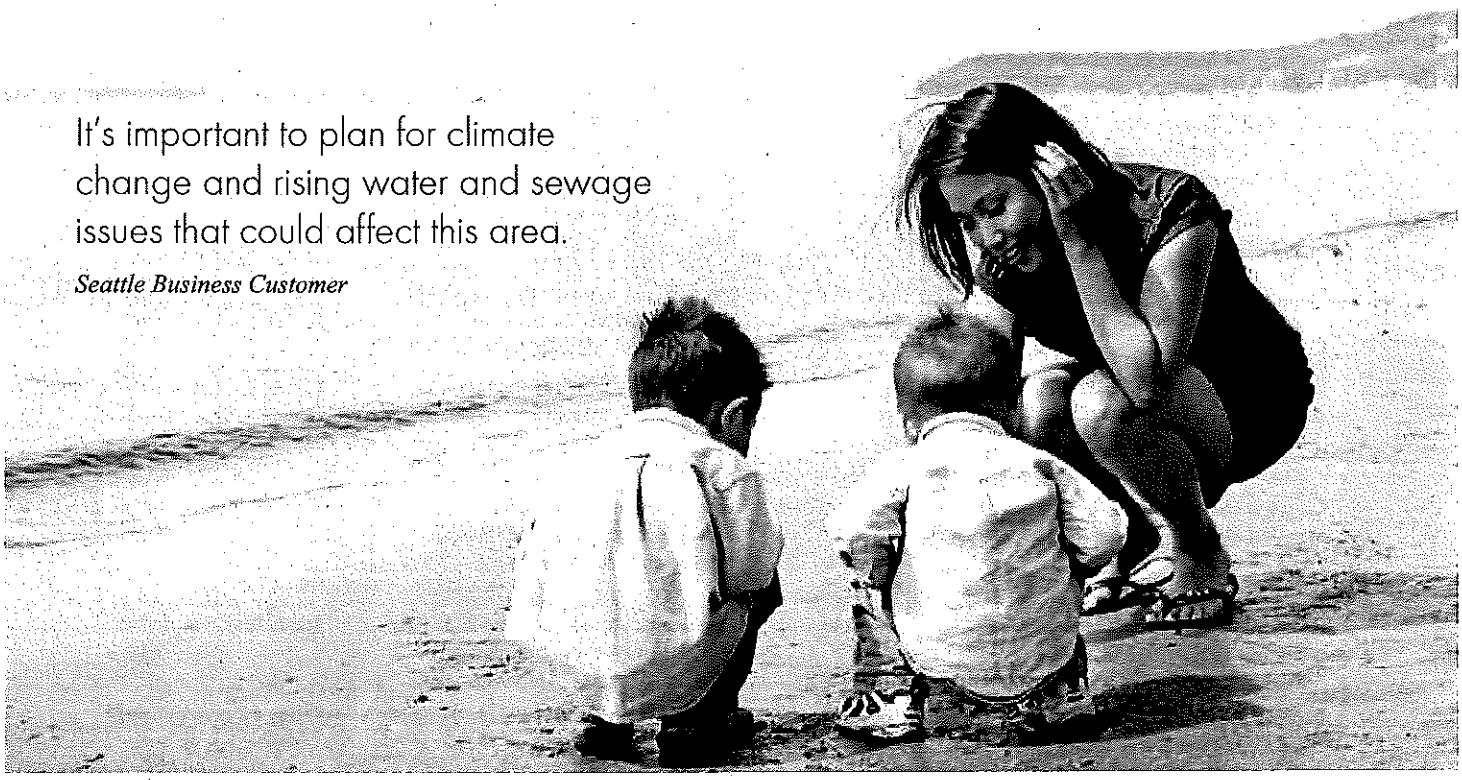
Action plans improve facilities, data, and revenue management; keep us ahead of maintenance issues; and fix major service delivery issues.

Action plan examples: The Broadview and South Park neighborhoods are very susceptible to flooding and sewer backups during heavy rains. This presents a health and economic hazard for area residents and businesses. These action plans will let us bring South Park roughly half-way to standard levels for flood prevention and make significant progress in Broadview. Both projects require large investments in new sewer and drainage collection, and pumping facilities and will create more equitable service for our customers.

For complete details see Appendix: *Action Plans*

Action Plan	Measure	Service Improved
Improve the quality of drainage and sewer services through accelerated mapping, planning and policy development.	Develop master plans for 4-6 drainage basins in the City.	Planning for the future
Accelerate flooding and sewer backup prevention projects in the Broadview and South Park neighborhoods.	By 2020, address 50% of Broadview's sewer and drainage problems; bring South Park roughly half way to standard service levels for flood prevention.	Drainage that reduces flooding and pollution
Increase sewer pipe inspection and rehabilitation to reduce sewer backups and overflows.	Rehabilitate a total of 335 miles of pipe from 2015-2020.	Safe sewage transport to King County treatment facilities
Increase sewer pipe cleaning to reduce sewer backups and overflows.	50% of all sewer pipes will be on a proactive cleaning maintenance schedule by 2020.	Safe sewage transport to King County treatment facilities
Create a comprehensive emergency plan for maintaining and restoring essential services in emergencies.	Reduce recovery and response time through project design that lessens impacts on Utility facilities.	Ready for emergencies
Develop a plan to protect the drinking water system from major regional earthquakes.	Plan in place to minimize the impacts of water outages after earthquakes.	Ready for emergencies
Improve maintenance and operation of the approximately 60,000 valves in the drinking water system.	100% of critical valves are on a routine maintenance program.	Ready for emergencies

Action Plan	Measure	Service Improved
Require new developments to pay for a share of the Utility's systems to help fund the needs resulting from growth.	Design and put in place system development charges.	Planning for the future
Centralize meter management within the Utility and improve testing, replacement, and repair services.	Increase meter accuracy to industry standards.	Effective customer service
Create a more comprehensive approach to collect non-rate-related revenues such as water connection and other development-related fees.	The Utility has consistent and transparent non-rate fee structures that increase accountability and reduce the risk of missed revenue collection.	Effective customer service
Improve use of technology and data to create business knowledge to support core utility services.	Information technology plans help guide improvements to utility planning and operations.	All services
Develop a centralized facility management program to improve the efficient use of energy and utility resources in existing facilities.	Plan and measurements are in place for energy and utility resource use.	Planning for the future
Implement a data and quality assurance program so the Utility can more effectively use its information.	A formal structure and tools are in place to measure information as an asset.	All services
Continue to implement a centralized materials management system for everything from procuring to inventory to use.	Standard inventory management principles are consistently applied.	All services



Discovering the wonders of Puget Sound along Alki Beach.

FOCUS AREA #3: ENHANCING OUR SERVICES BY CONTINUALLY UPDATING EMPLOYEE SKILLS

Goal: We will have a high-performing, engaged workforce focused on customer outcomes.

Efficiency savings: Shown under other three focus areas.

Six year action plan investment required to meet goal: $8.8 million in operations; no additional investments in projects.

How we'll take action: To be most effective and efficient requires investments in employee skills and performance. We'll continue to build a culture of committed and passionate employees, and develop workforce flexibility.

Efficiency savings

In this focus area, there was nearly a one-for-one overlap in the actions identified to generate efficiency savings, and the action plan investments to improve employee skills. We've shown the efficiency savings throughout the other focus areas, as we expect these efficiency savings to be utility-wide.

> Worker capacity, tools, equipment, good salaries and good benefits are all needed to support the workers and make sure the Utility does a good job.
>
> *Residential Customer*

Action plans

Action plans here improve employee productivity and reduce safety issues and absences.

Example action plan: The Utility depends on its people and what they know to perform at a high level. We'll invest in performance through developing effective systems, tools and practices that continuously enable employee productivity.

For complete details see Appendix: *Action Plans*

Action Plan	Measure	Service Improved
Develop effective data and tools to support improved employee performance.	Develop database of job competencies and current employee skills and identify gaps.	All services
Develop effective systems, tools and practices to continuously improve employee performance to deliver higher quality services at lower costs.	Integrated performance management system in use.	All services
Develop leadership skills at each level of management to improve project and service delivery.	Leadership development programs in use.	All services
Implement a comprehensive talent management system to keep critical knowledge in the Utility and empower employees to achieve more.	Talent management system used utility-wide.	All services
Develop a system for managing and preventing employee absences and disabilities.	Annual percent reduction in incident rates, absences, claims, and medical costs.	All services

FOCUS AREA #4: MAKING IT EASIER TO GET HELP AND FIND ANSWERS

Goal: We will achieve internal and external customer expectations.

Six-year efficiency savings: $1.6 million in operations; no additional investments in projects.

Six-year action plan investment required to meet goal: $2.8 million in operations; $2.0 million in projects.

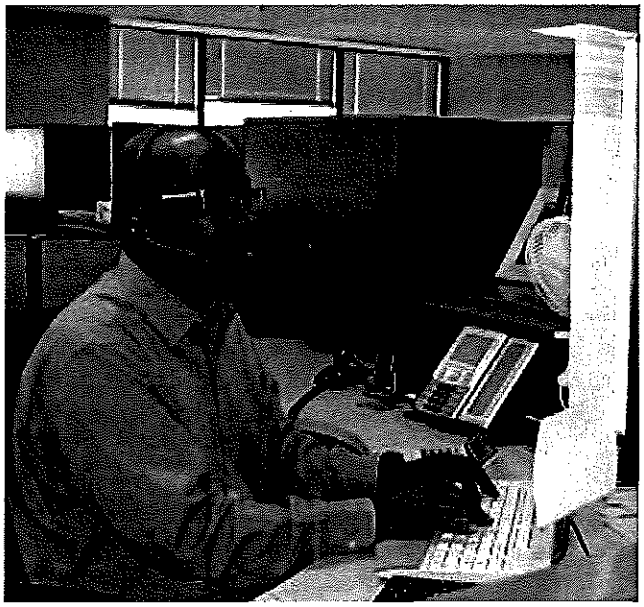
How we'll take action: We'll help customers gain better access to our services. We'll create a one-stop experience, use technology to interact more with customers, find ways to ensure all customers receive equitable service and add more assistance for low-English-proficiency speakers. We'll also partner with communities and neighborhoods to create more effective customer access.

Efficiency savings

- Achieve improvement in the collection of past due accounts.
- Reduce water quality education and outreach expenditures.
- Achieve efficiency gains through better alignment around our four lines of business, improved systems and strategies, increased productivity, and service agreements with other City departments.

Action plans

Action plans here eliminate the barriers to getting utility services and quickly solving problems.



Seattle Public Utilities customer service representatives handle 600,000 calls per year.

Action plan example: Some customers have trouble getting access to services or help with problems. Service equity is the concept that all customers must have access and help to fully benefit from our services. We've already made good progress towards achieving this goal over the past decades. Now we'll ensure a more systematic application of service equity tools.

For complete details see Appendix: *Action Plans.*

Action Plan	Measure	Service Improved
Actively ensure that all communities and customer groups have equal access, service delivery and ability to use services.	Customers from all backgrounds and communities feel they have access to the same services.	Effective customer service
Develop a website where customers can easily accomplish their tasks, whether it's to look up information, pay a bill, or submit a request.	Customers are easily able to complete the top ten tasks they wish to perform.	Effective customer service
Centralize and streamline the Utility's permit, service and sales functions for development customers.	Percent of customers who rate overall customer effort as 3 or less on a 1-7 scale where 7 is most effort.	Effective customer service

The Bottom Line: Utility Rates and Bills 2015-2020

We recognize that our customers' bills represent a significant expense. We are continually looking for ways to make your bills more affordable. Predictable rates and bills that keep costs tightly focused are a key outcome of this Plan. Because we are a public utility, all of your money goes into supporting or improving your services. With private utilities, a significant portion goes back to shareholders as profit.

The following is a detailed explanation of how we determine billing rates.

Significant costs and efficiencies that drive rates

As the chart below illustrates, the Utility has to periodically make new, large investments to ensure continued service quality. The Utility is entering a new cycle of drainage and sewer investment. Meeting regulations to prevent sewer overflows and clean up historically polluted waterways will account for most of the growth in your drainage and sewer bills during the Plan period. Other large investments include rebuilding the North Transfer Station, and preventing sewer backups and flooding in Seattle neighborhoods.

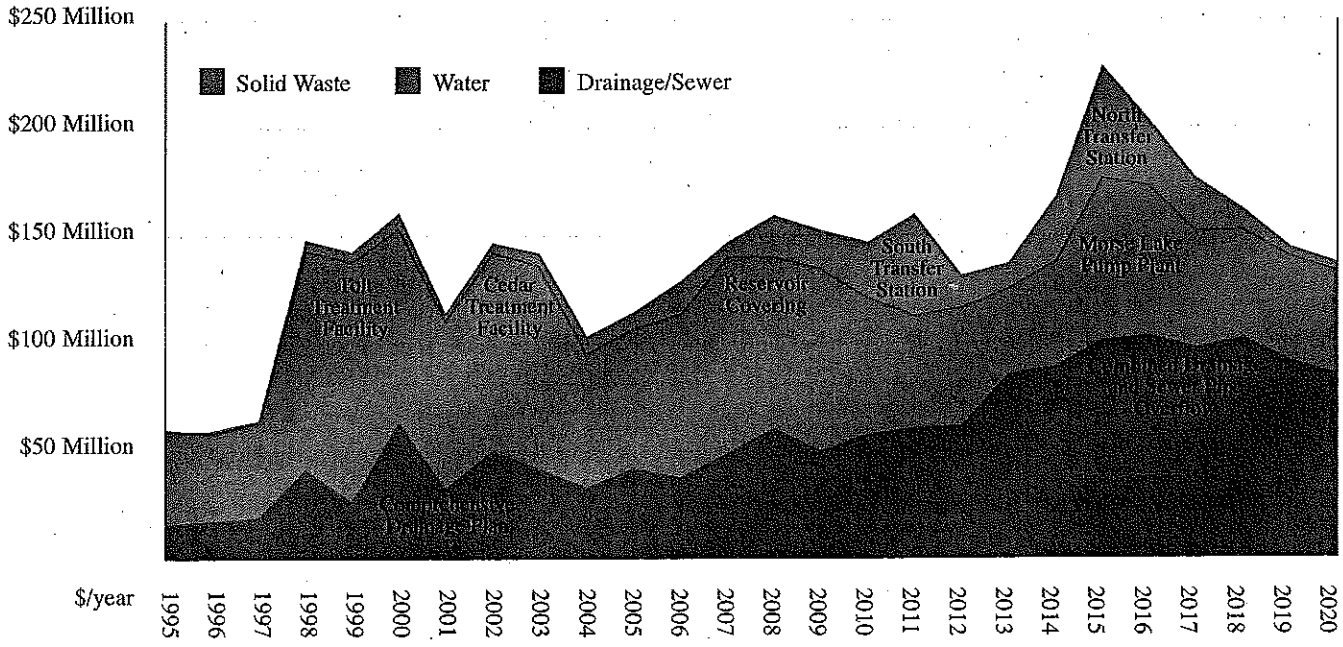
How we determined billing rates from 2015-2020

We used a three-step process to determine billing rates:

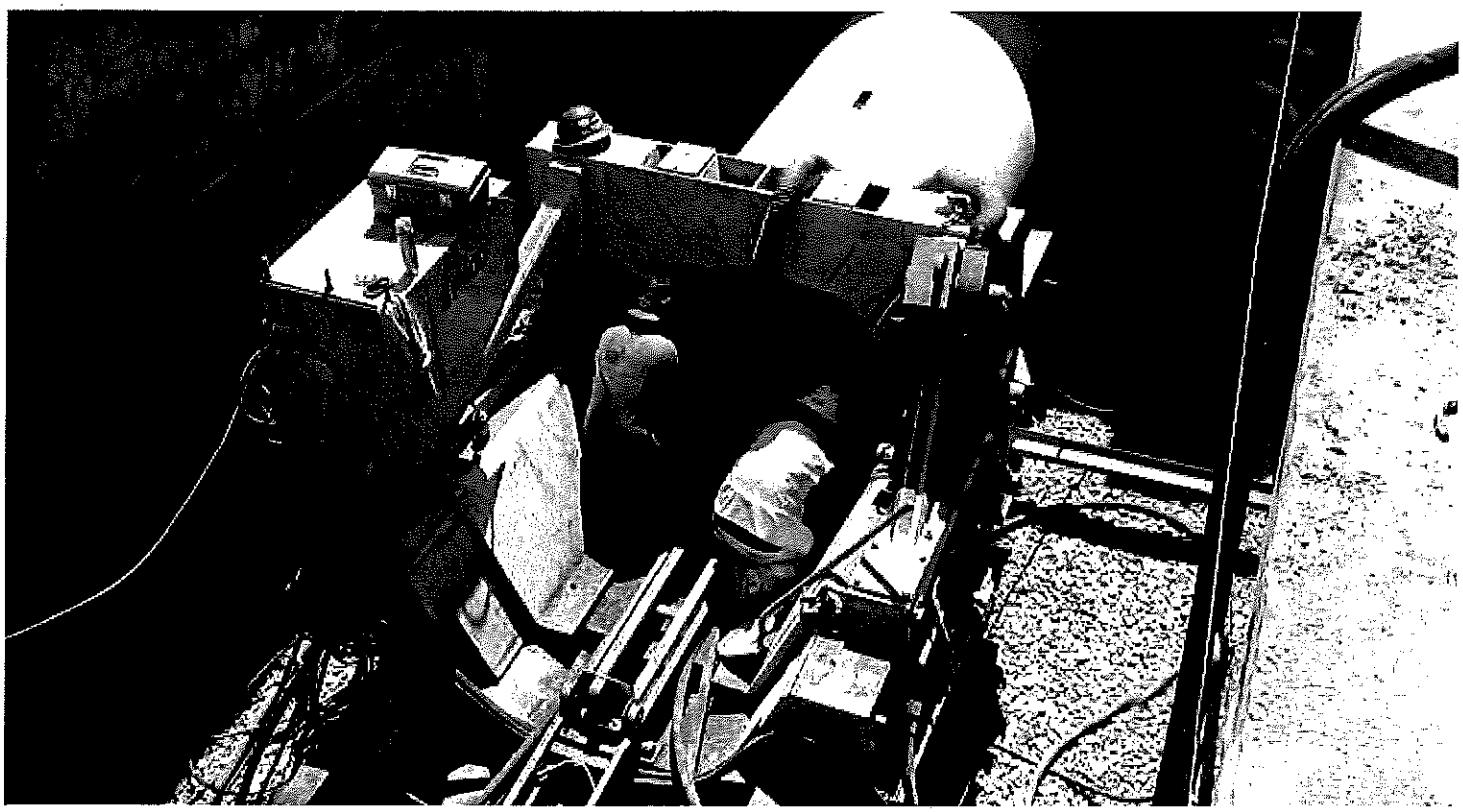
- **Current baseline operations.** We started with what the Utility would cost to run if it didn't change anything.
- **Efficiency savings.** We then looked for efficiencies in the way we do our work including ways to cut costs in lower priority areas.
- **Action plans.** Finally, we identified focus areas and action plans to improve services and maintain our systems for future generations. Improvements will increase billing rates.

The Utility created three rate-increase options based on efficiency savings and action plan choices.

Total Project Investments 1995-2020



This chart shows the large investment cycles necessary for the Utility to meet service quality and regulatory needs.



Installing a new section of pipe for the Madison Valley Stormwater Project.

We considered a lower rate option that didn't meet current maintenance needs, solve neighborhood flooding problems or help us plan for future challenges. We also looked at higher increases, which would have put more money into worthwhile projects, mostly in drainage and sewer improvements.

We recommend investing in a middle rate path. Our recommended path starts with current baseline operations, and includes all possible efficiency savings and action plan investments. It will allow us to maintain quality and reliability and meet regulatory requirements.

Current baseline operations rate drivers

If we do nothing differently, our estimated average per-year billing rate increase over the next six years is 4.6%. We determined this by estimating future costs of current services, plus regulatory requirement costs through 2020.

This is 2.2% per year higher than the projected Seattle inflation rate of 2.4% for that time period. Here's why:

Building new systems and replacing old ones. The Utility is replacing worn out pipes, valves, pumps, etc. and building new systems to meet regulatory requirements. These costs are rising 0.6% per year above general inflation. This is because we issue new debt to pay for these projects while continuing to pay on existing investment debt.

Increasing cost of doing business. Basic operations and maintenance costs are rising more rapidly than general inflation adding 1.1% per year due to:

- Rising employee costs, including health care and retirement costs, and higher skill requirements that translate into higher wages.
- Rising costs in other City departments, from which we purchase many services.
- Taxes.

Together, inflation, the increasing cost of doing business, and building/replacing systems account for a 4.1% average increase in costs each year.

Two other factors increase current baseline operations' rates:

Increasing participation in the City's Utility Discount Program. The Utility's services meet basic human needs. A healthy city must make these services accessible to everyone. To support this, Seattle offers rate assistance to Seattle Public Utilities and Seattle City Light customers with incomes below 70% (family of four = $4,905/mo) of the state median income.

Currently there are 14,650 households participating and the Mayor has committed to doubling this by 2018. This won't increase overall costs, but will shift costs from low income participants to all other customers, resulting in increased rates averaging 0.2% per year.

Decreasing demand. Despite population growth and a rebounding economy, demand for our services is expected to decline slightly. But system costs do not fall with declining demand—the pipes and pumps still need to be maintained and replaced, the garbage trucks still need to pick up the garbage, and we must meet all regulatory requirements. This will add 0.3% to an average customer's bill if demand patterns remain the same.

> I'm happy to pay for changes that mean healthier communities and climate change preparation.
>
> *Seattle Business Customer*

Here's the math for all increases:

Current Baseline Operations

2.4%	Inflation
0.6%	Replacing/building systems
1.1%	Increasing cost of doing business
0.2%	Utility Discount Program support
0.3%	Lost revenue from decreasing demand
4.6%	Total

After determining this starting point, we then looked at how efficiency savings and action plans would impact rates.

Efficiency savings and action plans

To arrive at the recommended middle rate path, we identified $54 million in savings on operations, and an additional $71 million in project savings over the six-year period. These savings lower rates on average by 0.5% per year.

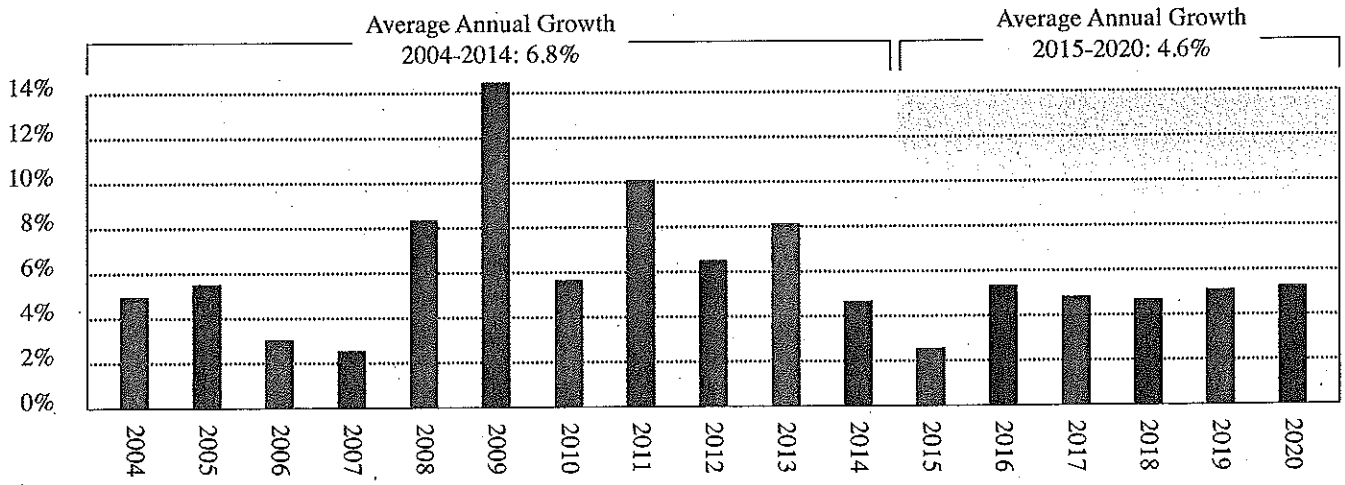
Finally, we identified action plans that will cost $169 million to improve services and maintain our systems for future generations.

The final, average annual billing rate looks like this:

4.6%	Current baseline operations
(0.5%)	Minus efficiency savings
0.5%	Plus action plans
4.6%	Total Average Annual Rate Increase

The rates are 31% higher in 2020 than they are in 2014 with greater than 50% of that increase resulting from inflation. This average annual increase is significantly lower than the almost 7% per year average increase during the previous

Average Annual Rate Growth in the Past Decade and in the Six-Year Planning Period



The Plan is projected to create more predictable, lower rate increases than during the previous 10-year period.

decade. See Total Project Investments 1995–2020 on page 18 for detail on what projects helped drive these higher rates.

How the recommended rate path affects billing

Table A shows how the rate increases affect the bill of a typical residential customer in a single family house for each service type.

We can't provide a commercial customer rate table because there is no such thing as a "typical" commercial customer. However, you can get a good idea of the impact of these rate increases on commercial bills by using the projected annual percentage changes in Table B, below.

> Improvements are necessary for a growing, world-class city.
>
> *Seattle Residential Customer*

Releasing salmon fry in Lake Washington.

Table A

Typical Monthly Residential Bill for a Single Family House	2015	2016	2017	2018	2019	2020
Drinking water	$38.93	$40.97	$43.09	$44.86	$46.83	$48.05
Sewer	$50.93	$52.81	$54.02	$56.07	$59.49	$64.19
Drainage*	$29.18	$32.16	$34.80	$37.65	$40.70	$44.12
Garbage and recycling	$42.49	$44.61	$46.98	$48.76	$50.15	$51.35
Combined	$161.53	$170.55	$178.89	$187.34	$197.17	$207.71

**Customers are billed every two months. Drainage fees paid separately with property taxes.*

Table B

Projected 6-Year Rate Path	2015	2016	2017	2018	2019	2020	2015-2020 Average
Drinking Water	0.0%	5.2%	5.2%	4.1%	4.4%	2.6%	3.6%
Sewer	0.8%	3.7%	2.3%	3.8%	6.1%	7.9%	4.1%
Drainage	9.8%	10.2%	8.2%	8.2%	8.1%	8.4%	8.8%
Garbage and Recycling	4.5%	4.7%	5.1%	3.8%	2.9%	2.4%	3.9%
Combined	**2.7%**	**5.3%**	**4.7%**	**4.6%**	**5.1%**	**5.2%**	**4.6%**

**The solid waste rate path represents average annual increases assuming new rates are effective April 1st of each year. Actual rate changes for each of Seattle Public Utilities' lines of business are subject to approval by the Council via passage of a rates ordinance. The blended rate increase for each year is based on the relative cost of each service.*

The Result: High Quality, Reliable Services

The Strategic Business Plan will ensure the future reliability and quality of your Utility services.

Our core services include drinking water, sewage, drainage, garbage and recycling. The consequences of missing a service goal could have a significant negative impact on our customers, public health and the environment. Our action plans will help us limit this risk.

The Utility needs to educate the public about what you do so people can better understand your services.

Seattle Residential Customer

Seattle single-family home customers recycle and compost over 70% of their waste—the highest rate in the nation.

Services	Your Benefit	Measure	2013 Performance
Dependable solid waste pickup	Solid waste collected on time week-in and week-out.	One missed pick-up every 10 years for all customers (less than one per 1,000 stops).	Met goal. Reported 0.16 missed pickups per 1,000 stops.
Effective recycling and composting	Less garbage in landfills, saving costs and reducing water and land pollution.	Recycling 70% of all solid waste citywide by 2022.	Recycled 56.2% of all solid waste in 2013.
Mountain-fresh drinking water	Tap water that's better than bottled water, reliably delivered with enough supply for all conditions, other than severe drought.	100% compliance with Department of Health regulations.	Met goal.
Drainage that reduces flooding and pollution	Better protection of your health, safety, home and our environment through regular system maintenance.	40% increase in pollutant removal from roadways via street sweeping for water quality.	100 tons of pollutants removed by street sweeping per year.
Safe sewage transport to King County treatment plants	Reduce sewer backups onto customer properties and public spaces.	No more than four sewer backups per 100 pipe miles.	Met goal. 3.3 sewer backups per 100 miles of pipe.
Efficient and safe garbage and recycling transfer stations	Convenient way to dispose of garbage and recycle a variety of items.	Transfer stations cleared of garbage within 24 hours 90% or more of days in operation.	Met goal.
Effective customer service	Timely responses to customer problems and questions.	Respond to 90% of water, sewer, and drainage priority calls within one hour.	Met goal. Responded to priority calls within one hour 98% of the time.
Ready for emergencies	24/7 emergency response for water and drainage.	Assess Utility's Emergency Response Plans and update as needed.	Response plans developed for system disruptions, seismic events and shortages.
Planning for the future	Utility systems that are climate resilient and environmentally friendly.	Manage 700 million gallons of runoff annually with green stormwater infrastructure by 2025.	100 million gallons managed with green stormwater infrastructure.
Providing educational opportunities to all customers	Customers and communities have access to education programs for utility services.	Assess participation rates and accessibility for key customer programs and set targets for improvement.	N/A – new goal.
Efficient graffiti removal	Graffiti removed from Utility public spaces.	90% removal within six days/10 days for roadway structures.	Met goal. 94% removal within six days.

The Plan Moving Forward

We believe this Strategic Business Plan will meet the needs of our customers for high quality, reliable services while controlling costs. We'll periodically update you on:

- Action plans and efficiency savings.
- Current baseline operations.
- Recommended rate plan increase assumption changes.
- Other changes to the Strategic Business Plan.
- Service performance.

Check out our publication, At Your Service, atyourservice.seattle.gov/ for Plan updates, tips, advice, rebates and information on ways to partner with us.

Partnering with customers to protect public health and the environment

The work of keeping Seattle a great place to live and work takes everyone's support. Every day, our customers participate in activities that contribute to the quality of life in our city:

- Recycling paper and plastics and compost food waste at home and work.
- Practicing wise water usage through everything from using low-flow toilets to turning off the water while shaving.
- Keeping storm drains clear to prevent flooding during heavy storms.

Our customers have created one of the highest recycling rates in the country. They conserve water to the point where we're using as much water as we did in the late 1950s, with twice the population.

We're committed to giving you the information and support you need to make more good things happen.

The Utility also partners with businesses, communities, not-for-profits, schools and other governments through its environmental stewardship programs. These include Adopt A Street, Spring Clean, Take Winter by Storm, Friend of Recycling/Composting, Salmon in the Classroom, graffiti paint-out programs and others.

For more details on how you can help see www.seattle.gov/util.

> It's important to plan for climate change, rising water, and sewage issues that could affect this area.
>
> *Seattle Business Customer*

Seattle Public Utilities' Graffiti Rangers paint out the equivalent of 11 football fields each year.

Appendix

Customer Review Panel Letter

Answers to Frequently Asked Customer Questions

Seattle Public Utilities Financial Forecast Overview and 2015-2020 Financial Baseline

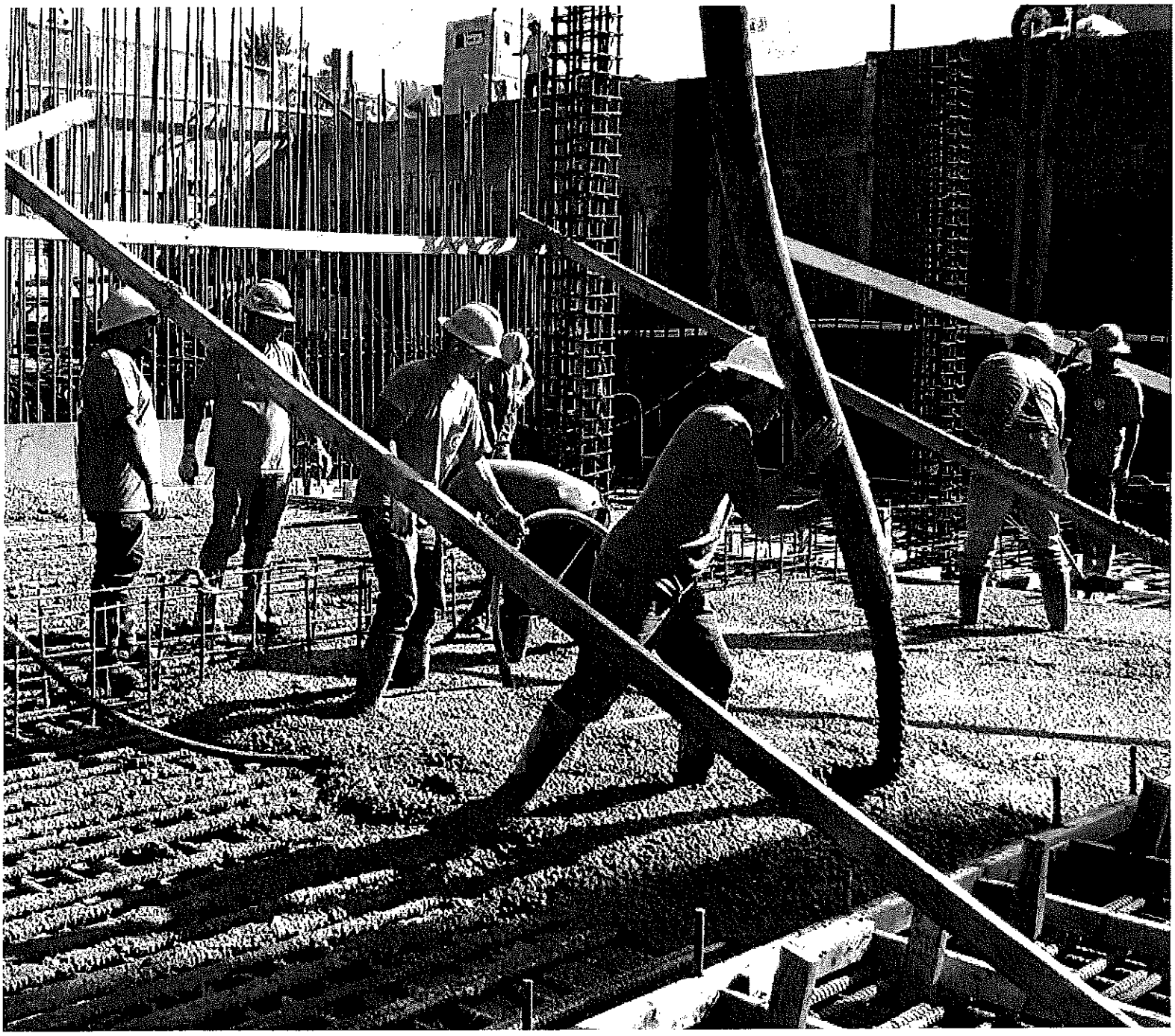
Action Plans

Seattle Public Utilities Benchmarking and Workplace Efficiency Study

Efficiency Savings From Efficiency Initiatives and Programmatic Reductions

Customer Outreach Report

Seattle Public Utilities Promise



Pouring the foundation for a 2-million-gallon storage tank to keep pollution from reaching Lake Washington.

Seattle Public Utilities

Seattle Public Utilities
700 Fifth Avenue, Suite 4900
P.O. Box 34018
Seattle, WA 98124-4018

For interpretation services please call 206-684-3000.

如需要口譯服務, 請撥電話號碼206-684-3000.

통역 서비스를 원하시면 206-684-3000 으로 전화하세요.

Wixii turjubaan afka ah ku saabsan, Fadlan la soo xariir taleefoonka: 206-684-3000.

Para servicios de interpretación por favor llame al 206-684-3000.

Para sa serbisyo ng tagapagpaliwanag, tumawag sa 206-684-3000.

Về dịch vụ phiên dịch xin gọi 206-684-3000.

Exhibit 1

Seattle Public Utilities Customer Review Panel
c/o D. Clausen, Seattle Public Utilities
P.O. Box 34018, Seattle WA 98124-4018

June 10, 2014

Mayor Edward B. Murray
The City of Seattle
600 Fourth Avenue
P.O. Box 94749
Seattle, WA 98124-4749

Dear Mayor Murray:

As members of the Seattle Public Utilities Customer Review Panel, we are pleased to convey our strong endorsement of SPU's 2015-2020 Strategic Business Plan ("Plan") and specifically, the "Recommended Path" outlined in the Plan. We believe that the Recommended Path represents a responsible and important investment in infrastructure and services provided by Seattle Public Utilities, benefitting both current and future generations of customers.

Our role in this effort, per Council Resolution 31429, has been advisory. The Panel has met 27 times since April 2013, deliberating with and advising the Utility's executive team. The Utility has been highly responsive to our many questions and ideas, and we commend their knowledge, commitment and initiative. We have sought to provide a *customer perspective* to the Utility's work on the Plan. Our nine members have a broad range of experience and views. Two of our members have worked for years as public utility professionals. The remaining seven members have experience ranging from construction management, small business, finance, environmental economics, medicine, facilities management, and managing nonprofit agencies providing programs for low-income communities and youth.

The Strategic Business Planning Process

SPU has conducted an impressive and thorough process to develop the Plan. The Utility's leadership team has been fully involved in the effort from beginning to end. Hundreds of SPU employees participated at various stages of the Plan's development. An extensive public outreach process successfully engaged many residents and businesses throughout the community. The process was also supported by Council and City Budget Office staff, who were at the table with us throughout the process. Councilmembers Godden and Bagshaw each attended a Panel meeting, and the City Council's SPU and Neighborhoods Committee received briefings over the last several months.

The Value of a Strategic Business Plan

SPU is a large organization that supports vast, critically important infrastructure systems. The issues the Utility faces are highly complex. The combination of four lines of business – water, drainage, sewer and solid waste -- into a single department also appears to be highly unusual amongst public utility organizations nationally, contributing to the challenge of developing the Plan.

In our view, the Plan represents a planning and policy tool of significant value different from that provided by either typical six-year capital improvement plans or a two-year budget process. This is the first time the Utility has completed a comprehensive strategic *business plan* that ties proposed actions to the budget and rates. The Plan is a critical self-examination by the Utility of its organizational, service delivery and infrastructure issues. The Plan:

- Improves transparency of SPU's operations, illuminating the "drivers" behind rate increases: regulatory requirements; projects underway; inflation; central services costs; labor, pension and benefit costs rising faster than inflation; and declining demand.
- Incorporates findings from an independent study of potential SPU efficiencies—the first such comprehensive study by the Utility.
- Provides important predictability for customers as to where rates will go over the next 6 years.
- Is a powerful accountability tool, in that the Utility has committed to deliver specific projects within a defined rate path.
- Includes specific, achievable goals and milestones, and addresses each line of business both individually *and* in an integrated manner so as to manage the overall rate impacts for customers.

We applaud the City's leadership for directing the Utility to undertake this planning effort.

Recommended Path

The Plan recommends, and the Panel endorses, the Plan's "Recommended Path" for 2015-2020 that will result in an annual average rate increase of 4.6% across all four lines of business combined. As stated at the outset of this letter, we believe the Recommended Path is a responsible investment in the infrastructure and services provided by Seattle Public Utilities for both current and future generations of customers. The Recommended Path will address specific gaps in current operations and is an important commitment to the future of Seattle.

The foundation for the Plan is a "Baseline" study: a forecast of the costs to support current service levels (both operating and capital), under current operational practices, while also meeting new regulatory requirements. The Baseline includes over 90% of the projected costs to ratepayers in the 2015-2020 planning period under the Recommended Path. It is a critical piece of analysis incorporating both technical and policy assumptions. The Baseline projects year-to-year rate increases of 4.6% over the planning period. From there, the Utility engaged in an exploration of ways to reduce the projected growth of rates by challenging assumptions and identifying programmatic reductions and efficiencies in current operations – resulting in a reduced rate path requiring approximately 4.1% in average annual rate increases. But stopping at that point leaves significant service and operational challenges unanswered: the Recommended Path incorporates a set of investments targeted to address compelling challenges and results in a final projected rate path with average annual rate increases of 4.6%.

We are pleased that the projected rate path is well under the 7% average annual increases of the last decade. That said, we recognize that the 4.6% average annual rate increase represents a rate of increase above the expected growth in household income for most in our community. Affordability of utility services has been a recurrent theme at our meetings since we first convened. Our concerns about the affordability of utility service prompt us to offer some additional observations and recommendations below under the section captioned "*Affordability Challenges*."

Efficiencies & Programmatic Reductions

Both the Panel and the Utility were very focused on finding ways to reduce the increase in rates over the six-year planning period. In the Panel's view, a credible effort at implementing efficiencies is a prerequisite to proposing significant cost increases, and we feel the Utility has met this test. We have reviewed and support the suite of proposals for efficiencies and programmatic reductions offered by the Utility. The efficiency proposals reflect the recommendations from an independent consulting firm, and a thorough and thoughtful response to the consultant's report by the Utility. The commitments outlined in the Plan should generate significant and measurable reductions in SPU's Baseline costs.

The efficiencies outlined the Plan are an important starting point. That said, the search for efficiencies needs to become an integral part of the culture of the SPU organization. It should be an ongoing priority to find additional efficiencies -- and implement a tracking system to document savings achieved. Benchmarking with other comparable utilities should be part of this effort. We encourage SPU to produce an annual "report card" on efficiencies, showing the magnitude and source of savings, benchmarking costs to industry standards, and identifying future potential savings opportunities.

The Utility has proposed to meet many of its efficiency targets through a "zero-net FTE" pledge. This reflects a commitment to capture savings from many of the proposed investments in the Plan and should not impact overall service levels. We applaud Director Ray Hoffman's creative approach, and his willingness to be held accountable to this target; we encourage the City to give him latitude to choose how he meets this goal.

One of the major efficiency recommendations from the independent consultant was for SPU to realign its organizational structure. We strongly support Director Hoffman's decision to pursue this recommendation. SPU's current structure is complex by necessity but is also overly confusing. A realignment offers the opportunity both to increase accountability and streamline decision-making to help deliver the targeted efficiencies and improvements. Related to this, we would note a silver lining associated with an aging workforce: retirements offer an opportunity to simplify the overall organizational structure.

We also emphasize the importance of rigorous management of the Utility's capital project delivery program as a means of becoming more efficient. Director Hoffman has recently launched an impressive initiative in this regard. We believe it is extremely important to continue to focus on improving SPU's delivery of capital projects.

Strategic Business Plan Focus Areas

The Plan identifies four "Focus Areas:"

- "Protecting your health and our environment"
- "Improving how we work to deliver consistent, high quality services"
- "Enhancing our services by improving employee skills"
- "Making it easier to get help and find answers"

Placing these Focus Areas at the forefront of the Utility's attention in the next six years will improve organizational efficiency and the quality of service delivery. The Focus Areas are based on an analysis of

the Utility's current operations and were developed with input from the entire Department—important to securing the needed buy-in to move forward.

The Utility has proposed specific investments, or "Action Plans," to address identified gaps within each Focus Area. The Panel has reviewed information about each of these Action Plans and has offered feedback to the Utility about scaling some back, increasing others, and incorporating some into the Baseline. The Utility responded to several of our suggestions in shaping its final proposal.

We believe the "Action Plan" investments will add value exceeding their cost, in terms of improved operational effectiveness and efficiency. The Panel endorses the proposed "Action Plans," which combined will cost about $52 million in new operating expense and $116.5 million in new capital improvement dollars over the six-year planning period. In total, these investments raise the annual average rate increase from about 4.1% to 4.6% -- a 0.5% increase per year. We offer below some additional comments about these Focus Areas and some key investments:

- **Focus Area: "Protecting your health and our environment" (16%[1] of new operating expenses; 5% of new capital investments)**

The City of Seattle has a strong commitment to the environment. It is one of the things residents value most highly about living here. The Utility's existing programs in this area are extensive--and many of them are required by federal and state regulators. Federal regulations impacting SPU operations have been getting much more stringent in recent years, particularly for the drainage and wastewater lines of business: complying with these regulations is a major cost driver for the Utility and is a central focus of SPU's activities. The major regulatory requirement (included in the Baseline) driving investment in 2015-2020 is the consent decree with Environmental Protection Agency requiring SPU to increase the capacity of its combined sewer systems in order to reduce incidents when heavy rains result in raw sewage spills into our lakes and the Sound.

Carbon Neutrality. The Panel encourages SPU to pursue efficiencies in its use of vehicles in order to reduce carbon emissions. We are skeptical of proposed City policies that would require SPU to invest heavily to reduce SPU's carbon emissions, given the unacknowledged contribution of SPU's forested watersheds to carbon neutrality calculations, and our concerns about affordability.

Street Sweeping. We also are strongly supportive of expanding street sweeping programs as a low cost-high impact way to reduce pollutants flowing into the City water bodies. The Panel hopes that the Environmental Protection Agency will accept this very cost effective tactic as a component strategy of the Combined Sewer Overflow consent decree.

- **Focus Area: "Improving how we work to deliver consistent, high quality services" (62% of new operating expenses; 93.5% of new capital investments)**

Sewer Pipe Inspection, Cleaning and Repair. This is the most costly of the proposed Action Plans, calling for accelerating the rate of sewer inspection and rehabilitation. The Panel strongly supports this effort, together with a related Action Plan to increase the rate of sewer pipe cleaning. The City's sewer pipes

[1] Percentages in these captions are rounded to the nearest .5%.

are on average over 85 years old. As they age, we can expect to see increased costs associated with repair and replacement: it will be critical to keep pace with this aging system to avoid higher costs of major system failures in the future.

Accelerating Projects to Mitigate Chronic Flooding in South Park, Broadview and elsewhere. The severity of recurrent flooding in City neighborhoods is not an acceptable level of service. We support action to correct these problems sooner than Baseline levels of funding will allow.

Facilities Management. Several key maintenance facilities used by SPU staff are well over 50 years old and are in poor condition. These need to be rehabilitated, and a management plan and capital needs assessment developed, so that SPU can be ready to serve its customers over the next 50 years.

Information Technology (IT). The Plan includes sizeable investments in IT systems. We support these because we view them as necessary to getting critical information to management and employees in order to better manage the Department. We appreciate management's cautious approach to how IT projects are implemented in order to control costs and secure desired benefits.

Forward-Thinking Planning. We commend the Utility's focus on planning for the future. There are several planning initiatives in the Plan, for example, that deal with climate change and seismic issues. Proactive planning is important to allow SPU to shape its future, rather than being shaped by it.

- **Focus Area: "Enhancing our services by improving employee skills" (17% of new operating expenses)**

This Focus Area is the Panel's top priority. We strongly believe that the quality of SPU's employees determines the quality of service provided, as well as the ability to innovate and respond to changing circumstances. The independent efficiency consultant emphasized to us that SPU has high quality employees. We certainly found this to be true in our work with the Department's leadership staff over the last many months: they are a dedicated team focused on high performance. But there are serious challenges ahead in terms of an aging workforce, and major issues in current human resources systems that need to be addressed. We urge your support for the proposed Action Plans that strengthen the Utility's workforce because we believe that success here is necessary to help reduce future rate increases. We appreciate that these Action Plans may require some complex union negotiations. We offer the following observations:

  - SPU employee surveys conducted in 2012 identified a desire for greater accountability and greater efficiency in the organization: the Action Plans address this directly.
  - By 2020, approximately 62% of the SPU workforce will be eligible to retire: succession planning and developing a pipeline of talent must be a priority.
  - Existing human resource systems in the Department have major gaps and require an overhaul and updating. A strong supervisor training program is something we see as being particularly important to pursue. Again, the proposed Action Plans will target these areas.
  - SPU is part of the larger City organization and has limited ability to affect important cost and process rules related to its employees (for example, "step" increases, pensions, and sick-leave pay).

- Employee injury and re-injury rates are high and are expensive to the Utility. Employee safety should be a priority. We encourage the Utility to be aggressive in addressing this problem. We commend efforts to reduce injuries and get employees back to work sooner in jobs where re-injury risks are reduced.
- If due to injuries or age an employee cannot perform the required skills for his/her job, the Utility needs to consider ways to assign employees to alternative jobs where they can perform the required skills.
- Promoting internal mobility for employees is a practice that can reap benefits over time.
- We support initiatives to increase field and office productivity.
- We also encourage the Utility to consider "multi-skill job classifications," where appropriate, as a means to achieve efficiencies.

We commend the Utility for its transparency regarding workforce challenges, and strongly support its request for funding for improving workforce systems and practices.

- **Focus Area: "Making it easier to get help and find answers" (5% of new operating expenses; 2% of new capital investments)**

Improving SPU's Website. The Plan includes a modest investment to upgrade the SPU website. This is the first point of contact for many customers. We strongly support this Action Plan.

Service Equity. The Utility's efforts in the area of race and social justice are commendable and we support the Action Plan that will expand upon this work.

Coordination of Outreach. We encourage City departments to consider how they can coordinate outreach to various communities to reduce both the expense to the City and the commitment of time it takes for customers to participate.

Affordability Challenges

With this Plan, SPU's rates will increase over 30% between now and 2020.[2] The rate of increase is well higher than inflation and higher than we would like; however, we believe the Plan includes important investments in critical basic infrastructure and services and we support it. If we don't make these investments now, the problems will not go away and will cost more to resolve later. Beyond the planning period, we are convinced that aging systems and an evolving regulatory environment mean customers can expect continuing SPU rate increases but that these will be mitigated by the investments and initiatives outlined in the Plan.

At the same time, City Light rates are projected to go up a similar amount over the next six years. And there are several other initiatives under discussion or recently implemented that will also drive up the cost of living in the City during this period. In other words, SPU's rates are just one part of an overall picture of increasing affordability challenges in Seattle. We encourage the Mayor and City Council to consider the larger context of this affordability challenge. There must be a continual effort to balance

[2] While the average annual rate increase is 4.6% across all lines of business, each year the percentage increase is applied to a larger base cost, so as compounded, total rates will increase over 30%.

our collective desire for strong City services and our equivalent desire to keep Seattle affordable to households of all income levels, with a positive climate for businesses that employ our residents.

We expect the Utility's continued focus on efficiencies, and on keeping pace with the demands of an aging infrastructure, will be the major ways SPU can act to keep rates affordable over time. We offer the following additional comments and recommendations with respect to this difficult issue:

First, we acknowledge that affordability is a concept that can be difficult to measure and is somewhat subjective. And, it is best measured in context. None of the Panel members would advocate for low quality, unreliable utility services in lieu of the safe, high quality, reliable services we now receive from SPU.

Second, we support expanding participation in the low income rate assistance program, which provides rate discounts of 50% to qualified households, while noting that this program expansion will correspondingly increase the cost of utility services for customers not participating in the program.

Third, it is important to recognize that several of the major cost drivers that the Utility is experiencing are not within its control. The largest uncontrollable cost item is regulatory requirements: while the state and federal government are responsible for most of these, there are also some city-imposed requirements. Overall labor costs—including salary, pension and benefits costs—are determined to a large extent by a combination of City policy decisions, market forces and demographic reality, and are currently growing at rates well above inflation (but fortunately represent only about 16% of SPU's annual budget). The Utility is required to purchase administrative services from City departments (for example fleet and Information Technology) and the costs of these services are also projected to rise at rates well above inflation. We hope other parts of the City organization will be asked to pursue planning efforts similar to the SPU Strategic Business Planning effort, in order to secure greater efficiencies elsewhere in the City.

Fourth, the City has chosen to raise a significant portion of its General Fund revenues through taxes on utility services. These taxes are calculated as a percentage add-on to customer bills. Seattle's utility tax rates on SPU operations are at least 50% higher than the median rate imposed by all other cities in Washington State, according to a 2012 survey by the Association of Washington Cities. The highest Seattle utility tax rate in place currently is on water, at 15.54%. In 2012, Seattle collected $73.6 million from SPU's customers to support General Fund programs (police, fire, human services, etc.). We acknowledge the importance of this revenue source to the General Fund and the importance of General Fund programs. We know alternate sources of revenue would need to be found to replace a loss of utility tax revenues. However, we encourage the City to consider whether there are options to reduce reliance on this regressive tax on basic necessities. For example, if the City gradually scaled back utility tax rates over the next six years to the rates in place in 2004, it would be a major improvement in affordability. Alternately, perhaps the growth of utility tax revenues could be capped at the general rate of inflation. At a minimum, we encourage the City to increase transparency on utility bills so that customers understand this is an add-on to their bills that supports general City operations.

Other Items of Note

- **Rate Design & Connection Charges**

We encourage the City to undertake a broad review of rate design for each of SPU's lines of business. While this is not within the scope of our mission, rate design issues came up several times in our deliberations. Successful conservation efforts have resulted in declining demand for SPU's services, contributing to the increase in rates. Virtually all of SPU's revenues are recouped from volumetric charges – despite many costs of operation being fixed. Thus, even if SPU's cost of doing business doesn't change, as demand goes down rates must go up. The issues here can be very complex, but it seems appropriate to consider whether adjustments in rate design structures are advisable.

One action we think is appropriate to pursue now is greater use of connection charges to pay for some system expansion costs. The Plan includes a proposal to institute connection charges for sewer service and increase connection charges for water service. This "growth-pays-for-growth" tool is common practice in the industry and we think it should be implemented more broadly by SPU. There are several approaches to implementation and use of revenues collected. More work must be done to select a specific path here.

- **Every-other-week Garbage Collection**

A majority of the Panel agree it is not appropriate to implement every-other-week garbage collection at this time. However, the City could reconsider this concept at the next renewal of the hauler contracts. If the decision is made to pursue the program, it must be proven that the reduction in collection service is worth the cost. It will be critical to fund a serious public education outreach and to address equity issues, given results of the pilot program.

- **Tracking Delivery on the Commitments of the Strategic Plan**

The Strategic Business Plan calls for the investment of millions of dollars to improve service and address gaps. It is important for the Utility to focus on the results of these expenditures and report the outcomes. Progress in implementing programs and capital projects, cost savings, and efficiencies achieved should be documented and shared with the Mayor, Council and the public at least annually. The City should hold the Utility's leadership accountable as appropriate for delivering on the commitments in this Plan. Periodic employee surveys should be a part of this effort as well.

Accurate and comprehensive data collection and reporting here can help communicate the value of SPU's services to the public and also help target actions in the next Strategic Business Plan Update. We support a 3-year cycle for updating the six-year Plan.

The Panel is very invested in the success of this Plan. For this reason, the Panel offers to reconvene in a year to review the Utility's progress and to offer our comments to you on this important work. We also encourage the Utility to engage the three existing Community Advisory Committees in the work of overseeing implementation of the Plan.

- **Acknowledgements**

We wish to thank Director Ray Hoffman and his entire team, as well as the project manager, Diane Clausen, and our facilitator, Karen Reed, for their excellent work in supporting us over the last sixteen months. The Utility's approach throughout this effort has been extremely collaborative and it has been a pleasure to work with them. We also thank Council, Mayor and Budget Office staff for their support of this effort.

In closing, the Strategic Business Plan represents an enormous investment of the Utility's time. Implementing this Plan will result in a stronger and more efficient Utility, benefitting the residents and businesses in Seattle. The Plan should serve as a catalyst for the organizational change that will be necessary to accomplish the aggressive goals outlined—helping to get everyone on the same page and providing a framework for measuring accomplishments. That said, the challenges ahead should not be underestimated. There are corporate culture challenges to be addressed here—becoming a more performance driven organization, focusing on efficiencies and service outcomes. Successful implementation will require ongoing support from the Mayor and Council.

We are pleased to have had a role in the development of SPU's Strategic Business Plan, and we thank you for this opportunity. We encourage your support for the Plan and the Recommended Path. We would be pleased to meet with you to discuss our recommendations.

Sincerely,

Members of the Seattle Public Utilities Customer Review Panel

Noel Miller Panel Chair	Carl Pierce Panel Vice-Chair	Suzie Burke
David Gault	David Layton	Laura Lippman
Bruce Lorig	Tara Luckie	Walter Reese

cc: Seattle City Council
Director Ray Hoffman, SPU
Ben Noble, Central Budget Office
Meg Moorehead, Council Staff

Exhibit 2

Seattle Public Utilities

Answers to Frequently Asked Customer Questions

During the first Outreach, customers asked us a lot of questions about how the Utility works and how our services impact their bills. Below are answers to some of the most frequently asked customer questions.

What is covered under the Utility's current baseline operations?

We run a big operation, reflected by a budget of $925 million in 2014. Additionally, between 2015 and 2020, the Utility plans to spend $1.4 billion on projects including:

- Significant investments in reducing sewer overflows into the Sound, Lake Washington and other waterways.
- Cleaning up polluted sediments, rehabilitating and improving water, drainage and sewage systems.
- Pumping facilities upgrades at Morse Lake (near North Bend) to upgrade water storage access.
- Building the South Park Pump Station to address longstanding South Park flooding and water pollution.
- Making improvements to the Broadview sewer and drainage system that will reduce chronic sewer backups and stormwater flooding.
- Constructing the new North Transfer Station.

The size and complexity of Utility operations and projects, as well as external events, create the challenges and opportunities that we address in this Plan.

What is a Strategic Business Plan?

The Strategic Business Plan details what strategic focus areas, efficiency savings, and action plans the Utility will focus on from 2015 through 2020. These will help the Utility provide high quality services while keeping costs tightly focused. The Plan includes a 6-year projected rate path that will result in predictable customer billing rates.

What's the goal of the Plan?

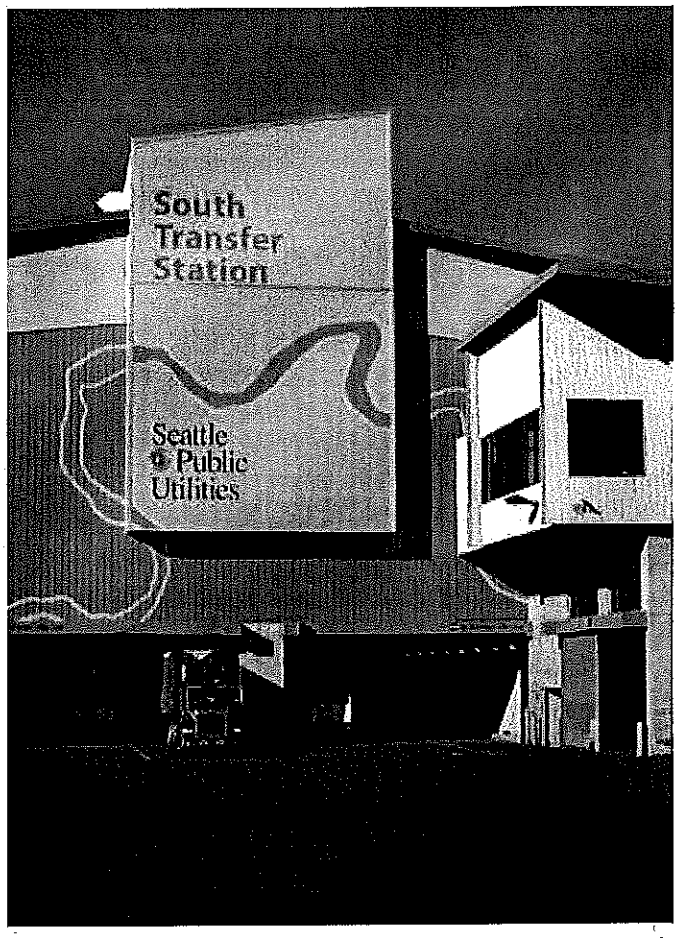
There are several:

- Find new ways to be more efficient.
- Ensure continued high quality services.
- Meet federal and state regulatory mandates.
- Develop more effective ways to communicate and partner with customers, neighborhoods and communities to serve them better.

How was the Plan created?

The Plan was the result of an intensive, two-year process. The Utility:

- Gathered customer and employee research to create our customer Promise.
- Used our Promise as a guide to shape all Utility actions.
- Analyzed opportunities and challenges in light of our strengths and weaknesses to determine focus areas and action plans.
- Reviewed all areas of the organization for efficiency savings.
- Developed detailed action plans.
- Worked with our employees, Customer Review Panel, and elected officials to improve the Plan.



What are the challenges addressed by new action plans?

Our system of pipes and valves are aging and need replacement. We have neighborhoods that are still prone to flooding and sewer backups. Population growth and new City utility requirements from the tunnel, seawall and other projects also impact costs. We have several customer groups that don't currently have full access to our services due to language barriers and other factors. Climate change and disaster recovery are also important considerations. Finally, regulations to protect public health and the environment can get more stringent and costly over time.

The Plan will address these challenges through the lens of its Promise—providing you with efficient and forward-looking utility services that keep Seattle the best place to live. We developed the Promise to create accountability to our customers.

The Utility is recommending 27 action plans which will cost $169 million and will add, on average, 0.5% to customer bills, per year, through 2020.

How do action plans relate to our customer services?

The consequences of missing a service goal could have a significant negative impact on our customers, public health and the environment. Our action plans will help us limit this risk and improve the ease of working with us. Each action plan impacts either the quality or reliability of a given service. You can see which service is improved by each action plan in the action plan tables under *Focus Areas, Efficiency Savings and Action Plans.*

What is the Utility doing to become more efficient and reduce costs?

The Utility analyzed its operations to look for efficiency savings. This is a best practice for any organization of our size and complexity. We'll realize $125 million over the next six years without sacrificing service quality.

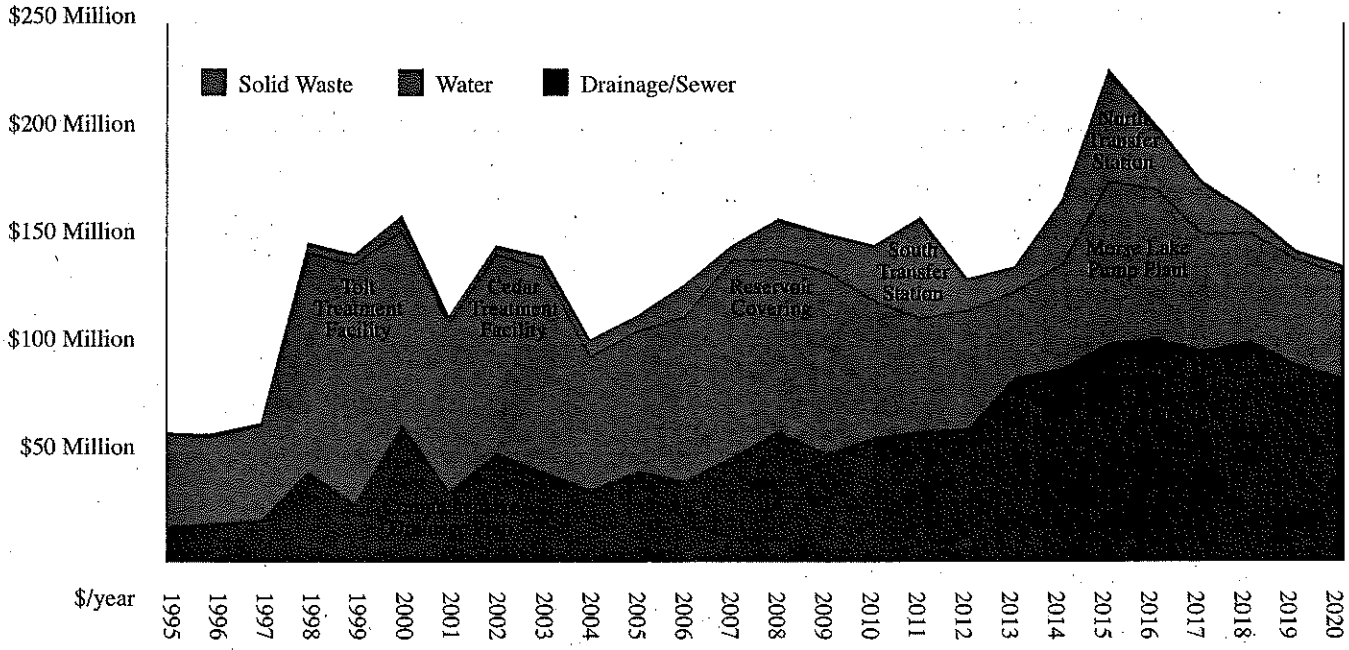
This will save customers, on average, 0.5% on their bills, per year, over the 2015 through 2020 period.

Why do we need to make such big investments?

The Utility has a very large system of pipes, valves, pumping stations, watersheds, reservoirs, and sewer overflow holding tanks to maintain.

In addition, the Utility has to periodically make new, large investments to ensure continued service quality. The Utility is entering a new cycle of drainage and sewer investment. Meeting regulations to prevent sewer overflows and clean up historically polluted waterways will account for most of the growth in your drainage and sewer bills during the Plan period. Other large investments include rebuilding the North Transfer Station, and preventing sewer backups and flooding in Seattle's neighborhoods.

Total Project Investments 1995-2020



Why do rates keep going up even after great customer participation in water conservation and recycling?

Despite population growth and a rebounding economy, demand for our services is expected to decline slightly. But system costs do not fall with declining demand— the pipes and pumps still need to be maintained and replaced, the garbage trucks still need to pick up the garbage, and we must meet all regulatory requirements. This will add 0.3% to an average customer's bill if demand patterns remain the same.

What's the Utility's past history around rate increases?

In the past decade, rates have increased an average of almost 7% per year. This was the result of major investments, increases in the cost of doing business and continued declining demand due to customers' conservation efforts. Big expenses included:

- Covering in-City water reservoirs.
- Building the Cedar and Tolt River treatment plants and the South Transfer Station.
- Increasing King County sewage and stormwater charges due to the building of the Brightwater treatment plant.
- Ongoing repair/replacement of aging systems.

We're expecting the next six year's increase to be considerably lower— averaging 4.6% per year across all customer types. Yearly increases will vary by core service—the per-year increase represents a blended rate of all core services. Core services include drinking water, sewer, drainage, gabage and recycling.

Why are rates going up faster than inflation?

Our goal is to keep rates as low as possible. Several factors drive the need for annual increases including inflation, basic operations/maintenance, replacing/building systems, Utility Discount Program support and lost revenue from decreased demand.

Current Baseline Operations Average Annual Increases

2.4%	Inflation
0.6%	Replacing/building systems
1.1%	Increasing cost of doing business
0.2%	Utility Discount Program support
0.3%	Lost revenue from decreasing demand
4.6%	Total

How much will the action plans cost customers?

Our 27 action plans will cost $169 million and increase customer bills on average 0.5% per year.

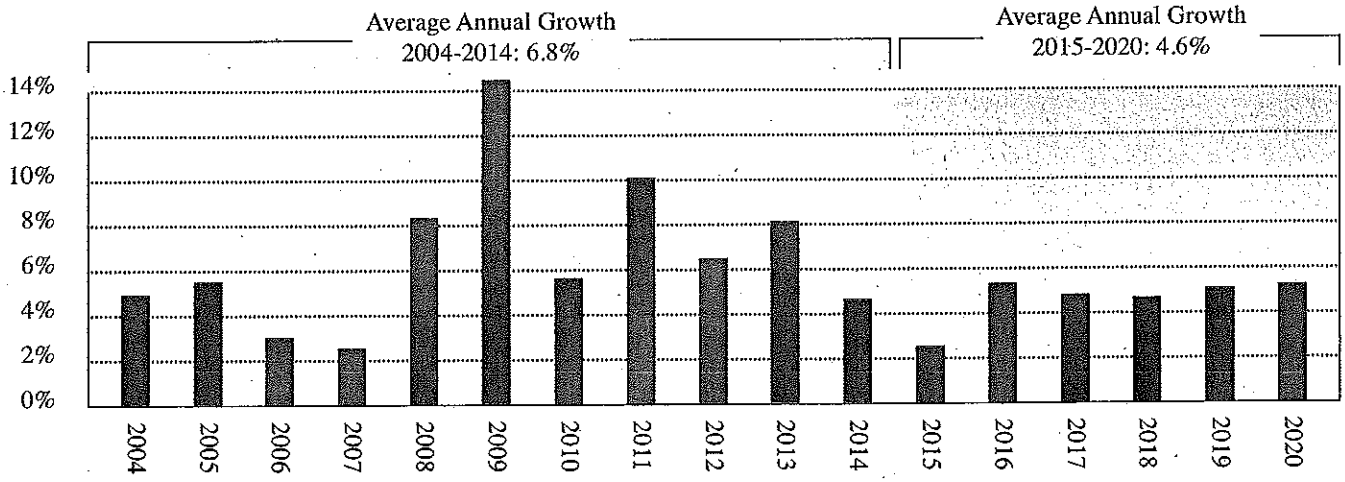
What's the recommended rate increase after all efficiency savings and action plans?

The chart below shows what the average annual rate increase will be for 2015-2020 under our recommended rate increase option. This is the combined total average annual cost increase for water, sewer, drainage and garbage and recycling.

Overall Average Annual Rate Changes for Utility Lines of Business from 2015-2020

Rate Analysis Step	Average Annual Rate Change
Current Operations (Baseline)	4.6%
Efficiency savings	(0.5%)
Action plans	0.5%
Final billing rate	4.6%

Average Annual Rate Growth in the Past Decade and in the Six-Year Planning Period



How will rate increases affect my bill?

The Utility has recommended a rate increase for the 2015 through 2020 of 4.6% per year across customer type that positions us well to meet future needs. This option reflects efficiency savings that include SPU's "no new full-time-employee by 2020" goal.

This shows the average increases under the recommended billing rate option for an average residential monthly bill by service type.

Typical Monthly Residential Bill	2015	2016	2017	2018	2019	2020
Drinking water	$38.93	$40.97	$43.09	$44.86	$46.83	$48.05
Sewer	$50.93	$52.81	$54.02	$56.07	$59.49	$64.19
Drainage*	$29.18	$32.16	$34.80	$37.65	$40.70	$44.12
Garbage and recycling	$42.49	$44.61	$46.98	$48.76	$50.15	$51.35
Combined	$161.53	$170.55	$178.89	$187.34	$197.17	$207.71

**Other services are billed every two months. Drainage fee is included with your annual property tax bill.*

What is the average annual increase by line of business?

Projected 6-Year Rate Path	2015	2016	2017	2018	2019	2020	2014-2020 Average
Drinking Water	0.0%	5.2%	5.2%	4.1%	4.4%	2.6%	3.6%
Sewer	0.8%	3.7%	2.3%	3.8%	6.1%	7.9%	4.1%
Drainage	9.8%	10.2%	8.2%	8.2%	8.1%	8.4%	8.8%
Garbage and Recycling	4.5%	4.7%	5.1%	3.8%	2.9%	2.4%	3.9%
Combined	2.7%	5.3%	4.7%	4.6%	5.1%	5.2%	4.6%

** The solid waste rate path represents average annual increases assuming new rates are effective April 1st of each year. Actual rate changes for each of Seattle Public Utilities' lines of business are subject to approval by the Council via passage of a rates ordinance. The blended rate increase for each year is based on the relative cost of each service.*

How do other rates compare to other municipalities?

Rates by City: 2014	Water	Sewer	Drainage	Garbage	Total
SEATTLE	$38.93	$50.53	$26.58	$40.95	$156.98
Tacoma	$34.73	$47.02	$19.97	$36.55	$138.27
Bellevue	$54.13	$68.64	$21.19	$20.78	$164.73
Issaquah	$31.90	$54.54	$14.08	$15.30	$115.82
Kirkland	$45.31	$72.28	$16.77	$24.59	$158.94
Portland, OR	$27.61	$37.85	$24.88	$28.10	$118.43

How can I lower the cost of my utility bill?

If you are a low-income customer, you may qualify for our Utility Discount Program which discounts your bill by 50%. The Utility recognizes that your bill can represent a significant portion of your income and we want to help in any way possible. Go to http://www.seattle.gov/util/MyServices/MyAccount/Payment_Options/PaymentAssistance/index.htm for more information.

Customers can also lower their bills through reducing garbage can size, composting food and yard waste, and reducing water use.

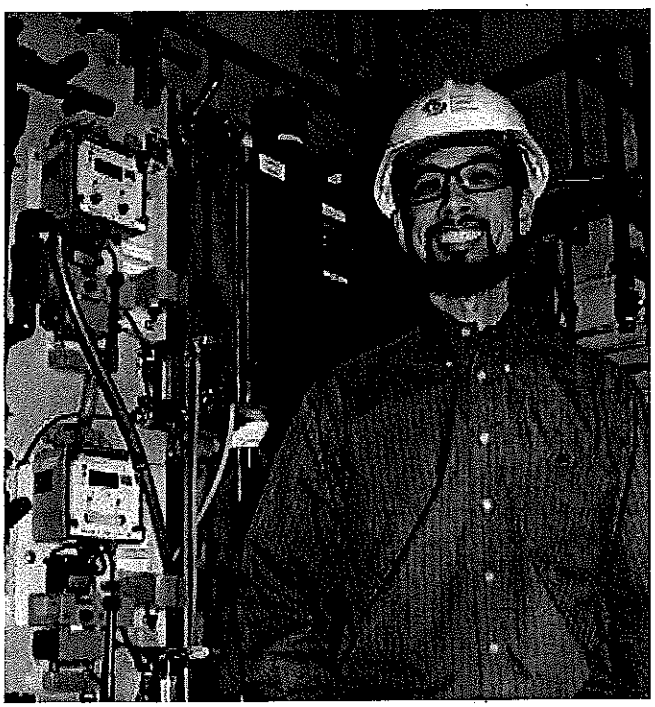
What will the Utility do after 2020?

We will be conducting updates during 2015-2020 to fine-tune the Plan and respond to unforeseen events. We will revise the Plan at the end of 2017 when we'll have three years of results to analyze. At that point, we can begin looking at adding years to the end of the Plan to extend it into the future.

Once the Plan is approved, will you be updating us on progress?

Yes. Check out our publication, At Your Service, http://atyourservvice.seattle.gov/ for Plan updates, tips, advice, rebates and information on ways to partner with us. We'll also be periodically updating you on:

- Action plans and efficiency savings.
- Current baseline operations.
- Recommended rate path increase assumption changes.
- Service measures.



We always welcome your feedback and ideas.

Seattle Public Utilities

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Seattle, WA 98124-4018

For interpretation services please call 206-684-3000.

如需要口譯服務, 請撥電話號碼206-684-3000.

통역 서비스를 원하시면 206-684-3000 으로 전화하세요.

Wixii turjubaan afka ah ku saabsan. Fadlan la soo xariir taleefoonka: 206-684-3000.

Para servicios de interpretación por favor llame al 206-684-3000.

Para sa serbisyo ng tagapagpaliwanag, tumawag sa 206-684-3000.

Về dịch vụ phiên dịch xin gọi 206-684-3000.

Diane Caviezel Clausen
SPU Strategic Business Plan Exhibit 3
June 23, 2014
Version #1

Exhibit 3

Seattle Public Utilities

Financial Forecast Overview &

2015-2020 Financial Baseline

Costs Required to Continue Providing the Current Level of Service

May 2014

Table of Contents

Section I. INTRODUCTION/EXECUTIVE SUMMARY 5

I.A. The Current Situation 6

I.B. Upcoming Challenges 7

I.C. Customer Impacts 8

I.D. Rate Drivers 9

I.D.1. O&M Growth 11

I.D.2. Capital Financing Growth 11

I.E. Service Line Considerations 14

Section II. WATER FUND 18

II.A. "How we got here": Historical Rate Driver Overview 18

II.A.1. Demand Impacts 19

II.A.2. Capital Spending and Financing 21

II.A.3. Financial Policy Impacts 23

II.B. Industry Context 26

II.B.1. Industry Cost Drivers/Trends 27

II.C. Baseline Spending Assumptions 30

II.C.1. Current Service Level 31

II.C.2. Overview of 2014 Spending Requirement (Use of Water Revenues) 33

II.C.3. 2014-2020 Baseline Spending Requirement (Use of Revenues) 37

II.C.4. 2014-2020 Baseline Capital Spending 42

II.D. Financial Baseline Rate Projections 44

II.D.1. Non-rates funding sources 47

II.D.2. Demand Assumptions 50

Section III. DRAINAGE AND WASTEWATER FUND 51

III.A. "How we got here": Historical Rate Driver Overview 53

III.A.1. Capital Spending and Financing 54

III.A.2. Wastewater Treatment Expense 57

III.A.3. Demand Impacts 58

III.B. Industry Context 60

III.B.1. Industry Cost Drivers/Trends 60
III.C. Baseline Spending Assumptions 63
III.C.1. Current Service Levels 64
III.C.2. Overview of 2014 Spending Requirement (Use of Drainage and Wastewater Revenues). 67
III.C.3. 2014-2020 Baseline Spending Requirement (Use of Revenues) 73
III.C.4. 2014-2020 Baseline Capital Spending 82
III.D. Financial Baseline Rate Projections 83
III.D.1 Non-Rates Funding Sources 88
III.D.2. Financial Policy Impacts 90
III.D.3. Demand Assumptions 90

Section IV. SOLID WASTE 93

IV.A. "How we got here": Historical Rate Driver Overview 93
IV.A.1. New Collections Contracts 94
IV.A.2. Capital Spending and Financing 95
IV.A.3. Demand Impacts 98
IV.B. Industry Context 100
IV.B.1. Industry Cost Drivers/Trends 101
IV.C. Baseline Spending Assumptions 103
IV.C.1. Current Service Level 104
IV.C.2. Overview of 2014 Spending Requirement (Use of Solid Waste Revenues) 105
IV.C.3. 2014-2020 Baseline Spending Requirement (Use of Revenues) 109
IV.C.4. 2014-2020 Baseline Capital Spending 114
IV.D Financial Baseline Rate Projections 116
IV.D.1 Non-Rates Funding Sources 118
IV.D.2 Demand Assumptions 119

Section V. AFFORDABILITY 122

V.A. SPU Affordability Studies 123
V.A.1. 2007 SPU Affordability Study 123
V.A.2. 2008 SPU Affordability Study 124
V.A.3. Recent Industry Affordability Review 125
V.B. National Rate Trends 126

V.B.1. Water and Wastewater 126
V.B.2. Drainage/Stormwater 128
V.B.3. Solid Waste 129
V.C. SPU Rate Affordability 129

Appendix A: Capital Financing Context 134

Appendix B: Financial Policy Considerations 138

Policy Metrics 138
Financial Policy Implementation Considerations 139

Appendix C: Solid Waste Contracts 140

Collection Contracts 140
Transfer Contracts 141
Processing Contracts 141
Disposal Contracts 141

Appendix D: Inflation Assumptions 142

Appendix E: Updated Baseline Assumptions 143

Section I. INTRODUCTION/EXECUTIVE SUMMARY

Seattle Public Utilities (SPU) provides City residents with safe **drinking water**; operates the City **drainage** system (which collects stormwater run-off from the streets, driveways, roofs and parking lots), and the **sewer** conveyance system; and oversees operation of the **solid waste** system—garbage, recycling, yard waste, and disposal[1]. The City utilities are *publicly owned*, and fully paid for by those who use these systems: residents and businesses in Seattle.[2]

In order to maintain and improve service levels today and plan for the next generation of customers, SPU is developing a "Strategic Business Plan" for the 2015 to 2020 period. The Strategic Business Plan is composed of three distinct elements:

- The **baseline starting point**, which are the costs, and related financial customer impacts, of doing business at current service levels and complying with regulatory mandates, and
- Identification of ways to **reduce costs**, through efficiencies and prioritization, and
- Definition of **strategic investments** to improve and expand services to our customers, to maintain our infrastructure for future generations, and to become more effective in how we do our work.

Presentation of a detailed analysis and description of the baseline starting point is the focus of this document. The Strategic Business Plan, presented under separate cover, combines the three elements noted above, with a focus on cost reductions, strategic investments, and related customer impacts.

The **Executive Summary** provides an overview of where SPU is today, the challenges SPU faces during the next six years, the estimated impacts to SPU rate payers to meet those challenges and maintain current service levels, the primary drivers of these impacts, and specific service line implications of planned spending.

Sections II (Water Fund), III (Drainage and Wastewater Fund), and **IV (Solid Waste Fund)** dig deeper into each service line, providing: an overview of historical rate drivers, a close look at the composition of current (2014) and planned (2015-2020) expenses, and a detailed breakdown of the impacts on utility rates of meeting the baseline requirements.

Appendices A, B, and **C** provide additional information and context for some of the more complex capital financing, financial policies, and contract elements that impact the financial baseline rate projections. **Appendix D** presents the detailed inflation assumption used to determine planned O&M and capital spending projections.

---

[1] Services primarily carried out by private firms under contract with the City.

[2] The City also supplies water to retail and wholesale customers in many surrounding communities—those communities pay about 31% of the total revenues needed to fund the City water system

Section V examines the issue of affordability of SPU bills, providing an overview of past studies which looked at this issue, followed by a look at national utility trends.

I.A. The Current Situation

Current SPU operations are impressive in a number of respects:

- Seattle and its wholesale customers enjoy some of the best quality drinking water in the nation. To protect the source of this water, the City owns hundreds of thousands of forested acreage in the Cascade foothills.
- SPU is pioneering new "green" approaches to treating street stormwater run-off.
- City sewer and water systems are highly reliable.
- The City partners with others to clean up contaminated sites to be sure costs are shared appropriately.

Equally impressive is the partnership between SPU and its customers in terms of conservation:

- SPU's customers have steadily reduced their rate of water consumption. Despite the population in the city and adjacent service area growing by 15 percent in the last 20 years, less water is now used than in 1959. This trend is expected to continue, ensuring the viability of our water supply in the long term.
- Seattle has one of the highest recycling rates in the country – nearly 56 percent (by weight) in 2012 for *all* customers and 71 percent for *single family residential* customers. Reductions in garbage volumes reduce operating expense as well as the environmental impacts of transporting and disposing garbage in landfills.

Maintaining this system is not without challenges. Customer bills increased by 6.8 percent *a year* on average between 2004 and 2014, primarily due to federal regulatory requirements and replacement of major infrastructure.

The City's water, sewer, drainage and solid waste systems have been in service a long time with water pipes that average 67 years old, and sewer and stormwater pipes that average 85 years old. The City's solid waste transfer station which serves the north half of the City is 47 years old (and will be rebuilt in the next two years). [3]

In addition to general repair and replacement of aging systems, some specific factors contributing to these bill increases have been:

- The replacement of City open water reservoirs with underground structures to protect drinking water safety;

[3] The South Transfer Station was rebuilt and reopened in 2013 after 48 years in use.

- Construction of a new water treatment plant for the Cedar River (one of the City's two main water sources);
- Replacement of the 47-year old solid waste transfer station in South Seattle;
- Payment of a share of King County's new sewage treatment plant in southeast Snohomish County (the "Brightwater Plant")[4];
- Implementation of new solid waste collections contracts; and
- Declining demand for service: the downside of success in water conservation is additional rate pressure on both water and sewer rates--as costs of operations go up and the units of water/sewer service purchased decline, rates must increase to recover costs. The same can be said to a certain degree for declining garbage tonnage.

I.B. Upcoming Challenges

SPU is past many of the major investment hurdles for the solid waste and water systems. However, recent **federal regulations** to protect water quality in streams, lakes and Puget Sound present costly challenges for our sewer and drainage systems. SPU has successfully negotiated with federal regulators to allow a balance between drainage and sewerage investments that is less expensive than other potential alternatives. That said, a major financial investment will still be needed in order to comply with the regulations. In addition, there are other regulatory requirements now under consideration by state and federal regulators that could require significant additional investment.

Aside from regulatory challenges, the City will continue to face the need to **repair, rehabilitate or replace aging pipes** in the systems. Intrusion of tree roots into sewer lines, cracks in pipes, and misaligned joints are continuing problems of an aging system. City water mains also experience significant build-ups of iron deposits that can affect water quality. Much of these systems is well over 50 years old: it's far less expensive to strategically repair, rehabilitate or replace pipes than to wait for them to fail. Also, some City neighborhoods face chronic surface water flooding which requires expensive solutions.

From an operation standpoint, SPU is facing **rising employee costs**, including: additional employees necessary to meet new regulatory requirements and to operate and maintain new infrastructure; health care and pension costs rising more rapidly than general inflation; and a need for higher level skills overall which translates into higher wages. These cost pressures are also present in other City departments from which SPU purchases many services.

Finally, despite population growth and a rebounding economy, **demand for SPU's services is expected to decline slightly over current levels**. But, costs do not fall by as much as declining demand – the pipes

[4] Seattle, like all other customers of the County's regional sewage treatment system, must pay its share of that project through the payment of wastewater treatment fees to King County.

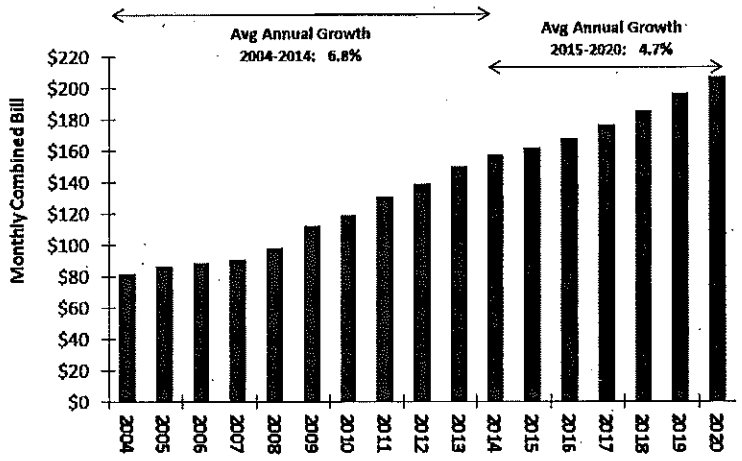
and pumps still need to be maintained, the garbage trucks still need to pick up the garbage, and regulatory requirements must be met.

I.C. Customer Impacts

To address regulatory requirements and maintain our current levels of service, rates will need to go up—but by much less than in the last decade. The projected *average annual* baseline rate increase for SPU's four lines of business is *4.6 percent*[5] *per year* over the six year period from 2015 through 2020, compared to a 6.8 percent per year average between 2004 and 2014.

Figure I-1 presents the growth in the nominal combined SPU utility bill between 2004 and 2020. The table following the chart provides the projected rate increases.

Figure I-1
Growth in Typical Monthly Single Family Residential Combined Utility Bill 2004-2020



Adopted

	2015	2016	2017	2018	2019	2020	*2015-20 Avg*
Water	1.5%	5.9%	6.1%	3.6%	5.2%	3.4%	4.3%
Wastewater	0.8%	1.6%	3.8%	5.0%	6.3%	5.8%	3.9%
Drainage	9.8%	4.8%	9.8%	10.6%	10.2%	7.9%	8.8%
Solid Waste *	2.9%	2.5%	3.9%	2.8%	2.8%	4.3%	3.2%
Combined	**2.7%**	**3.4%**	**5.3%**	**4.9%**	**5.8%**	**5.1%**	**4.6%**

* Solid Waste bill path represents average increase assuming new rates are effective April 1 of each year.
The solid waste rate increases effective 4/1 are as follows:

2015	2016	2017	2018	2019	2020
4.3%	3.4%	5.5%	3.7%	3.7%	5.7%

[5] This is a weighted average rate increase and therefore differs slightly from the average residential bill increase presented in Figure I-1.

Additional details on service line rate paths are found in Section I.E.

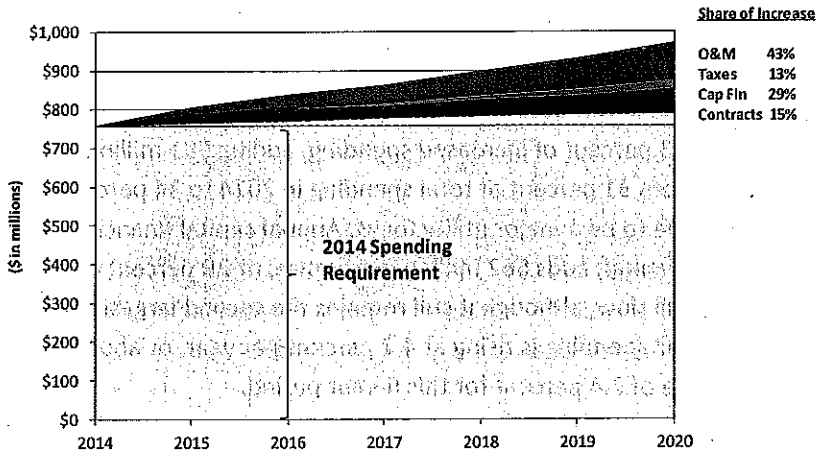
I.D. Rate Drivers

Four factors determine the size of annual rate increases: a) annual spending levels; b) financial policy requirements; c) non-rate sources of funding; and d) demand. The first three factors combined determine how much total revenue must be generated by direct service rates, also known as the rates revenue requirement[6]. Rate increases are required to fund increases in the revenue requirement from one rate setting period to the next. Where demand is constant, the average rate increase will equal the increase in the revenue requirement. Increasing demand (e.g. customers buying more units of water) will reduce the required rate increase and declining demand will increase the rate increase relative to the change in the revenue requirement.

Increased spending is the primary driver of rate increases between 2015 and 2020 across ALL service lines. Financial policy requirements, changes in other funding sources, and demand are also determinants of rate increases, but their impact varies by service line. Sections II.D, III.D, and IV.D provide additional detail on the impacts of non-spending drivers.

Figure I-2 shows the composition of increases to the SPU spending requirement between 2015 and 2020 which is composed of inflationary adjustments to the 2014 proposed budget plus other discrete changes to costs to maintain existing service levels and meet regulatory requirements.

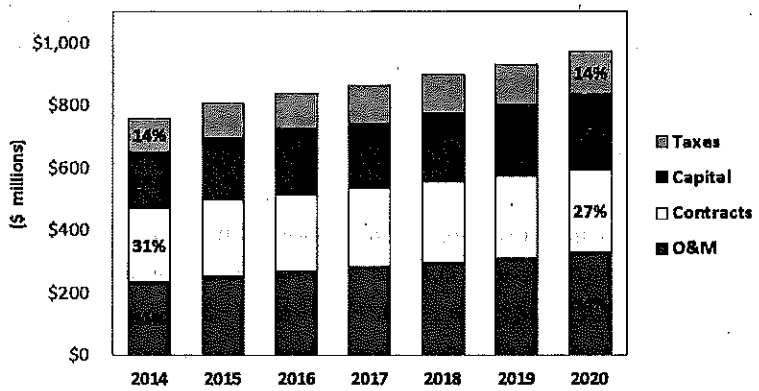
Figure I-2
2015 to 2020 Increases to SPU Spending Requirement



[6] The **revenue requirement** is the amount of revenue required to pay for operating expenses and meet financial policy targets, including funding a portion of current year capital expenditures with revenues. The **rates revenue requirement** is the revenue requirement, less non-rates funding sources including use of cash balances and other operating/non-operating revenues.

Figure I-3 provides a different look at planned SPU spending, showing the components of TOTAL expense, by year, between 2014 and 2020. This figure also shows the percentage each component represents of the base (2014) and in 2020.

Figure I-3
Components of the SPU Spending Requirement, 2014-2020



	2014	2020	2015-20 Increase	% of Increase	Avg annual % Increase
O&M	$236	$328	$92	43%	5.7%
Contracts	$233	$264	$31	15%	2.1%
Capital	$181	$243	$62	29%	5.0%
Taxes	$108	$137	$29	13%	4.0%
Total	**$758**	**$972**	**$214**		4.2%

There are several the **key points** in this data. First of all, costs for SPU's operations will continue to increase. O&M accounts for 43 percent of increased spending, adding $91 million in expense over the six-year period and growing from 31 percent of total spending in 2014 to 34 percent in 2020. Secondly, capital investment will continue to be a major utility focus. Annual capital financing expense (debt payments plus cash-financed capital) adds $62 million in expense, or 29 percent of total increases. Growth in contract expense will slow, although it still remains the second largest component of total expense in 2020. Finally, overall spending is rising at 4.2 percent per year, or about 1.8% faster than the projected general inflation rate of 2.4 percent for this 6-year period.

About 69 percent of the SPU 2015-2020 spending requirement is rising more quickly than the rate of inflation. Only contract expense (King County Treatment and Solid Waste Contracts) is running below inflation, following a period of more significant growth between 2004 and 2014, which averaged 5 percent per year. The following sections describe the major drivers of this growth.

I.D.1. O&M Growth

O&M is the fastest growing component of overall spending, projected to average 5.7 percent per year between 2015 and 2020. By far the largest component of the O&M increase is in the cost of labor. SPU is the second largest department in the City of Seattle, with 1,432 positions in 2014. Budgeted SPU Labor expense in 2014 is about $135 million or 57 percent of total O&M expense. By 2020, labor expense is projected to grow to $192 million or 59 percent of total O&M expense. Driving this growth are:

- An expected seven percent annual increase in health care benefit costs
- Continued growth in the City's contribution to the retirement system
- Real wages risingslightly faster than the rate of inflation[7]
- 12.5 new employees required to meet new regulatory requirements and to operate and maintain new infrastructure
- Above inflationary increases (> two percent) in SPU payment for overhead services from other City departments (such as Information Technology, Law, and Finance) and in certain cost centers such as fuel, professional and technical services, and utilities [8]

See Appendix D for a complete list of Labor, Non-Labor and Services inflation assumptions.

I.D.2. Capital Financing Growth.

SPU is replacing worn out infrastructure, and is building new infrastructure to meet regulatory requirements. SPU pays for these capital investments through a combination of borrowing (think home mortgage) and cash (think down payment). Therefore, annual capital financing expense includes principal and interest payments on borrowed funds (debt service), as well as cash financing of a portion of annual capital spending[9].

Annual capital financing expense is the second fastest growth component of the spending requirement, projected to average 5 percent per year between 2015 and 2020. The primary driver of this rate of growth is increased debt service. SPU will pay debt service on NEW debt issued to pay for projects constructed during this period as well as continue to pay on EXISTING debt for historical investments.

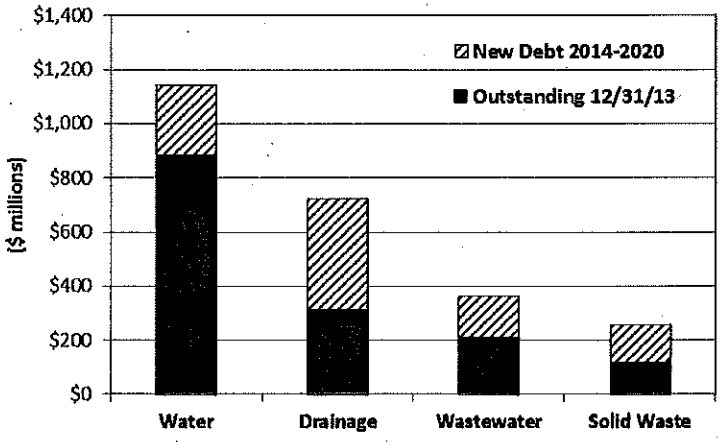
[7] The annual cost of living adjustment (COLA) is assumed to be 2.5 percent for all City employees. In addition to this, changing business needs and more automation result in needing fewer entry-level (lower paid) positions, and more and more new employees are calling for higher starting salaries as a condition of employment.

[8] Estimates based on the 2005-2012 historical growth in these costs..

[9] See Appendix A for more information on the components of SPU capital financing and their impacts on expense and rates.

Figure I-4 presents current debt outstanding and projected new issuances between 2014 and 2020.[10]

Figure I-4
SPU Current Debt Outstanding and Projected New Issuances



The projected increase in debt is significant, with new debt representing a 63 percent increase over current debt outstanding for SPU on aggregate. Even more telling is the distribution of this debt by fund. The drainage share of DWF[11] issuances is both the greatest in dollar terms (about $411 million) and in terms of the percentage increase on debt outstanding (131 percent). While much smaller than drainage in dollar terms (about $116 million), Solid Waste issuances represent a 123 percent increase over that fund's current base. Wastewater issuances (about $150 million) are similar to solid waste but represent a smaller increase (70 percent) due to a larger existing debt base. Finally, while water increases are substantial in dollar terms (about $256 million), they represent a much smaller increase (29 percent) on a very large existing base.

More details on the historic drivers of current debt outstanding by fund are found in Section II.A.2 (Water), Section III.A.1 (Drainage and Wastewater), and Section IV.A.2 (Solid Waste).

So what are the major drivers of projected 2015 to 2020 capital spending?

II.D.2.a Ongoing Regulatory Requirements.

The primary regulatory issues driving capital spending between 2015 and 2020 are:

[10] The outstanding and new debt are combined for illustrative purposes to demonstrate the percentage increase over current debt. However, debt outstanding at 12/31/2020 will be lower than the totals shown for each fund above due to principal payments on current and projected debt across the period which will reduce total current debt outstanding.

[11] Revenue bonds are issued jointly for the drainage and wastewater service lines under the umbrella of the Drainage and Wastewater Fund. The split of debt between drainage and wastewater presented above is based on the split of net book value of outstanding assets and is used in developing the cost of service basis for each service line when setting rates.

- **"Superfund" settlement** related to toxic materials in the Duwamish River and its share of a toxic sediment site in Lake Union near Gas Works Park.

- **Federal and State requirements to reduce combined sewer overflows (CSOs)** into local water bodies. About two-thirds of Seattle is served by a combined sewer system designed to carry both sewage and stormwater runoff. During dry weather, all raw sewage flows to the treatment plant. During larger storm events, the system can become overloaded with polluted stormwater and can overflow into lakes, streams and Puget Sound. The City's Federal Consent Decree and State Wastewater Permit require the City to implement CSO Control measures by 2025 to reduce overflows (to an average of one overflow per year per outfall) to meet Clean Water Act and state regulations.

- **State permits requirements to improve the quality of stormwater runoff** by installing and maintaining filtration systems along roadways, implementing "Green" projects (such as rain gardens that capture and naturally treat run-off), and increasing street sweeping to reduce the amount of contaminated roadway sediments that would otherwise end up in our creeks, lakes and Sound.

- An Agreed Order by the Washington State Department of Ecology to conduct a **Remedial Investigation and Feasibility Study of the historic South Park Landfill** site which covers investigation and eventual remediation of the landfill site to protect human health and the environment.

- **City (Ordinance 120899) and State requirements to replace open finished drinking water reservoirs** with underground structures that will improve water quality and system security. Seismic retrofits are planned for four of the buried reservoirs.

Projects which address these regulatory requirements account for 32 percent of SPU 2015 through 2020 planned capital spending. The Drainage and Wastewater Fund is the most impacted by these requirements, with 52 percent of its 2015 to 2020 capital budget directed towards projects related to Superfund, CSO, and stormwater permit requirements. The South Park Landfill project accounts for 19 percent of 2015 to 2020 Solid Waste Fund capital spending and reservoir covering five percent of Water Fund planned spending.

II.D.2.b Planned Investments in our systems to maintain and improve service levels

Between 2015 and 2020, a significant portion of total planned capital spending will be directed towards building new infrastructure, replacing existing infrastructure and addressing chronic service delivery issues. Some of the major areas of work will be:

Construction of new Solid Waste Facilities. SPU has undergone a multi-year process to replace dated transfer stations. In 2013, it opened the new South Transfer Station. During the next three years, it will:

- Demolish the old south-end transfer station, replacing it with new recycling facilities, and,
- Replace the North Transfer Station (where garbage and recyclables come to be transferred for processing/disposal).

Rehabilitation and improvement of water, sewer, and stormwater system infrastructure. Infrastructure includes:

- Water distribution system. Water mains and appurtenances, pump stations, and other facilities that distributes treated water throughout the City of Seattle to retail customers;
- Water transmission system. The City's large transmission pipelines that bring untreated water to the treatment facilities, and convey water from the treatment facilities to Seattle and to other local utilities that purchase a portion of SPU's supply for their customers;
- Drainage and wastewater pipes. Identifying and correcting defective or deteriorating infrastructure before failure occurs which could result in sewer backups, roadway collapses or landslides.

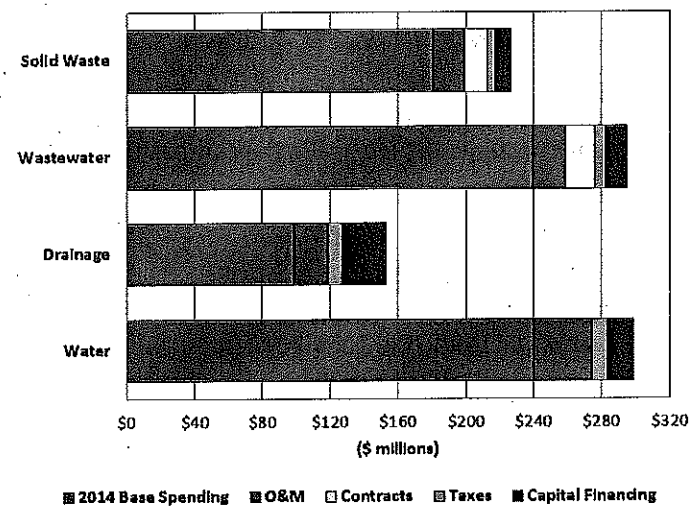
Preventing and alleviating flooding and sewer backups in the City of Seattle. Planning, design, and construction of channels, pipes, roadside ditches, culverts, detention ponds, and natural drainage systems that control and/or convey storm runoff to receiving bodies. This program also involves protecting SPU drainage and wastewater infrastructure from landslides and providing drainage improvements where surface water generated from the city right-of way is contributing to landslides.

I.E. Service Line Considerations

As noted earlier, SPU rates must increase by an average of 4.6 percent per year to maintain current service levels and comply with firm regulatory requirements. However, the impact of increased spending varies between service lines, with drainage average annual increases of 8.8 percent more than double those of water (4.3 percent), wastewater (3.9 percent), and solid waste (3.2 percent). This variance is due in part to the operating and capital requirements of each service line and in part to the level of initial 2014 base spending.

Figure I-5 presents the amount of base spending and the components of increased spending for each service line.

Figure I-5
Components of Base and Increased Spending by Service Line



	Water	Drainage	Wastewater	Solid Waste	SPU-Total
	2014 Base Spending				
2014 Base Spending	$240	$98	$239	$180	$758
	2015-2020 Additions				
O&M	$34	$20	$19	$19	$92
Contracts	$0	$1	$17	$13	$31
Taxes	$9	$8	$7	$5	$29
Capital Financing	$15	$26	$12	$9	$62
Total Additions	**$58**	**$55**	**$55**	**$46**	**$214**

Total increases are similar for Water, Drainage and Wastewater, running between $55 million and $58 million across the 6-year period. Solid Waste increases are somewhat less at $46 million across the same period. There are distinct differences in the composition of those increases.

Capital financing is the dominant driver of expense for drainage, accounting for about 47 percent of total increased spending. As noted in prior sections, regulatory-driven capital investment requirements will be significant for drainage during the next six years. O&M is the dominant driver of increased Water spending, accounting for 58 percent of total increases. O&M and contract expense[12] are the largest components of Wastewater and Solid Waste expense increases, accounting for 66 percent and 69 percent of the respective total spending increases.

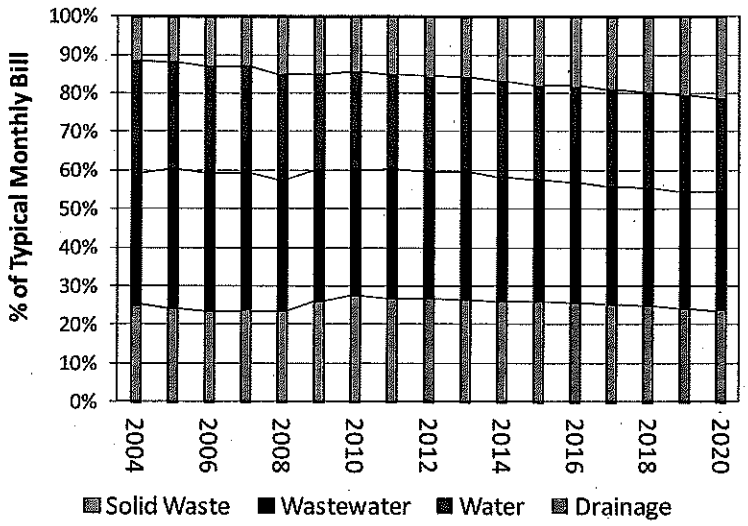
As discussed earlier, all components, with the exception of contracts expense, are growing more rapidly than the general rate of inflation. In terms of rate increases, Solid Waste and Wastewater rates, which

[12] Wastewater contracts are for treatment services and solid waste contracts are for collection, processing, transfer, and disposal services.

have a significant contracts component, are growing more slowly than Water and Drainage rates, which have larger capital financing and O&M components. While increased spending levels for drainage are in line with other service lines, 2014 drainage base spending is less than half of that for all of the other service lines, thus requiring much larger rate increases to recover similar levels of expense.

This prospective average growth in rates by service line follows a similar pattern to that experienced during the past 10 years. Figure I-6 presents the change in the composition of the monthly single family residential bill between 2004 and 2020.

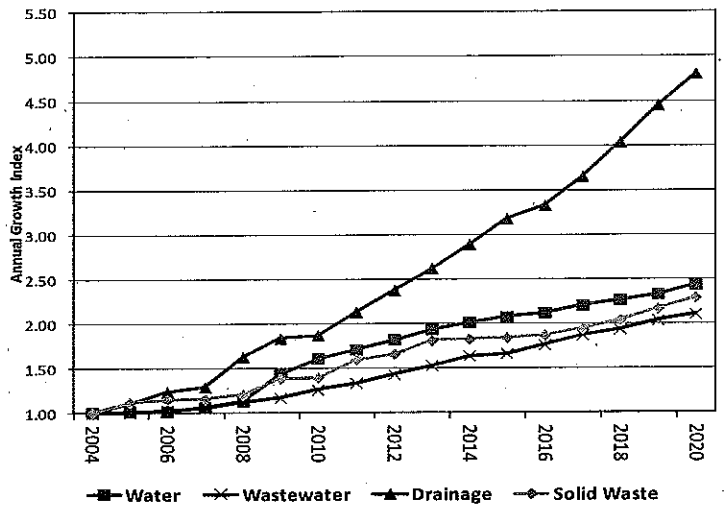
Figure I-6
Composition of Average Monthly Single Family Residential Combined Utility Bill 2004-2020 (nominal $'s)



In 2004, water (29 percent), wastewater (34 percent), and solid waste (25 percent) bills accounted for nearly 90 percent of the total combined bill, with drainage accounting for just over 10 percent. By 2020, the variance in the size of bills between different service lines is projected to shrink considerably with drainage increasing to 21 percent, solid waste holding nearly constant at 24 percent, and water and wastewater shrinking to 24 percent and 31 percent respectively.

While drainage will still be the smallest bill in 2020, it has experienced and will continue to experience the steepest growth, as shown in Figure I-7 below.

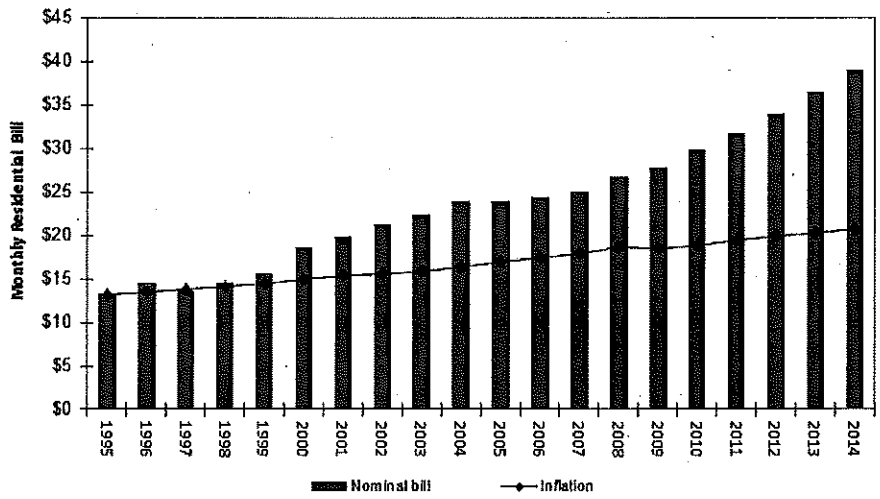
Figure I-7
Indexed Annual Growth by SPU Service Line, 2004-2020



Section II. WATER FUND

II.A. "How we got here": Historical Rate Driver Overview

Figure II-1
Growth in Average Monthly Single Family Residential Water Bill 1995-2014



Water bills have grown more rapidly than inflation for most of the period between 1999 and 2014. Declining demand, capital investments, and financial policy requirements, driven by capital investment choices, were the primary determinants of this real growth.

- **Declines in demand** stemmed from active efforts by the Utility to encourage water conservation, consumption curtailment in response to the 2001 drought, and effects of the 2008 economic recession on water usage and number of new tap installations. Even if there was no change in expense from one year to the next, rates must increase if demand declines to achieve the same revenue as the prior year. Although declining demand increases rates, it also mitigates the impact of these increases on individual bills where ratepayers are using less water.

- The Water Utility recently concluded a two decade period of **capital investment** in major generational assets that responded to regulatory requirements and ensured a reliable supply of high quality drinking water to the region. These assets were primarily debt financed. Interest and principal expense due to new debt can grow more rapidly than the rate of inflation, even if spending increases at a slower rate.[13]

- Sizeable rate increases were required between 2012 and 2014 to bolster the Water Fund's **financial performance**. The combined effects of lower than projected revenues (from lower demand), a high historical debt load, and a change in the structure of certain debt financing

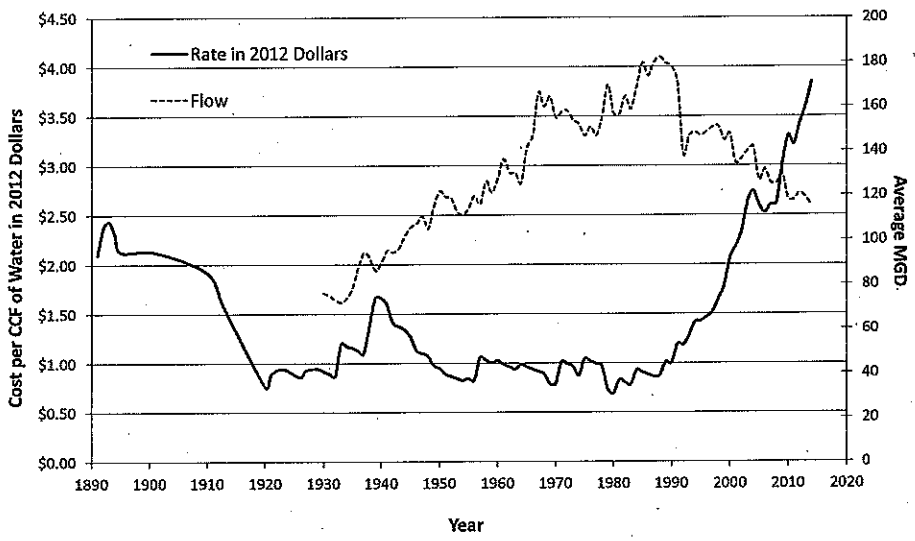
[13] See Appendix A for further discussion.

costs driven by the 2008 financial crisis eroded the fund's debt service coverage performance. The fund could not meet its debt coverage target assuming 2011 debt service expense, necessitating a rate increase even in the absence of any new capital spending.

II.A.1. Demand Impacts

As shown in Figure II-2, sustained decline in water demand is a relatively recent trend within the overall water system history.

Figure II-2
Average Rate for 100 Cubic Feet of Water in 2012 Dollars and Average Daily Flow[14]



Through 1989, increasing demand minimized the increases in rates that would otherwise have been necessary to support significant capital investments. A first round of investment included initial development of the Cedar River source, Cedar River pipelines and distribution reservoirs between 1890 and 1930. A second round of investment included development of the Tolt watershed source and Cedar East Side supply line in the 1950s. In the case of the former, capital costs declined after initial system development while the customer base increased in areas adjacent to the city, which are part of the water system's broader service area. The combination of new customers, decreasing costs, and increasing demand resulted in declining rates. New suburban customers funded expansion of the system in the 1950s, allowing rates to stay relatively flat during this period.

The late 1980s marked the beginning of a third intensive period of capital investment which carried through to 2010 and included construction of major transmission, storage, supply and water treatment assets (further described under II.A.2. Capital Spending and Financing). Increased capital spending and a

[14] Water supplied by the watersheds and wells.

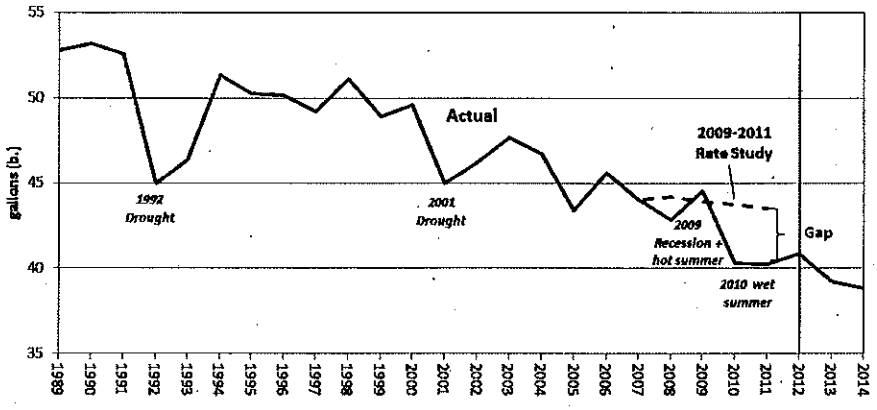
related increase in O&M requirements occurred at the same time as a sharp decrease in demand after the 1992 drought and a continued downward trend in demand thereafter. Rates needed to rise more sharply through this period to pay for increased expense with fewer demand units.

Several factors influence water usage including economic conditions, conservation programs and other water use efficiencies[15], and summer weather conditions. Poor water sales during the summer have a disproportionate effect on annual revenues because more water is used during the summer and summer water rates are higher than winter rates.

In the early and mid-1990's, growth in employment offset some of the decrease in general service demand caused by efficiency gains in water use. However, the downward demand trend accelerated from 2001 forward as a result of the Saving Water Partnership (1% conservation program), slowing population growth and declining employment. Although there were some periods of recovery, consumption never returned to pre-2000 levels.

From 2003 forward, water rates were generally set to account for projected declines in demand. However, 2009 to 2011 retail water rates, developed in the first part of 2008, did not anticipate any demand declines and in fact assumed improving economic condition based on actual improvements to employment between 2004 and 2007. The subsequent demand declines associated with the impacts of the 2009 and 2010 economic downturn were a major component of the water rate increase in the next rate period (2012 to 2014) as rates were "reset" to account for considerably lower demand.[16]

Figure II-3
1989-2014 Billed Water Consumption



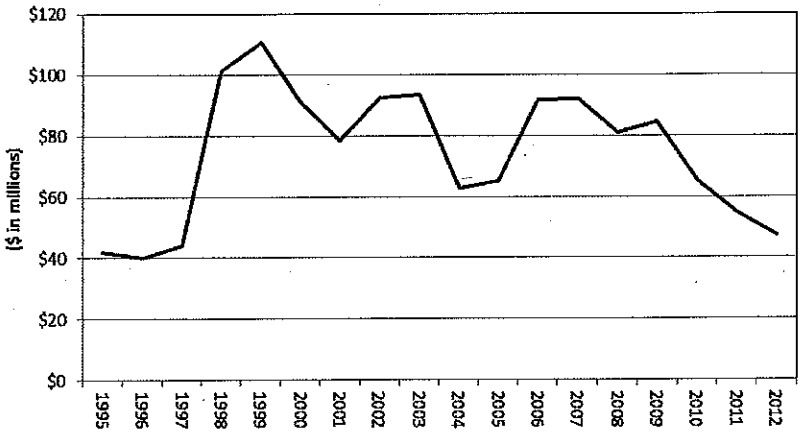
[15] Several factors influence reductions in customer demand. SPU conservation programs are one of these factors. Other examples of factors driving efficiencies include federal and state plumbing codes and transformation of the marketplace (appliances readily available at competitive prices that go beyond code and are heavily promoted through the Energy Star program).

[16] New tap fee revenues paid by developers to connect to the water system were much lower in the 2009-2011 rate recovery period than anticipated in the rate study due to the economic slowdown as well. While not directly linked to demand, lower receipts from these fees also contributed to rate increases in the 2012-2014 rate period.

II.A.2. Capital Spending and Financing

The Water Fund has made $1.6 billion in capital investments since 1987, with $1.2 billion of this being spent since 1998. Annual spending peaked in the late 1990's ($111 million in 1999), with significant levels of annual spending generally occurring through 2010.

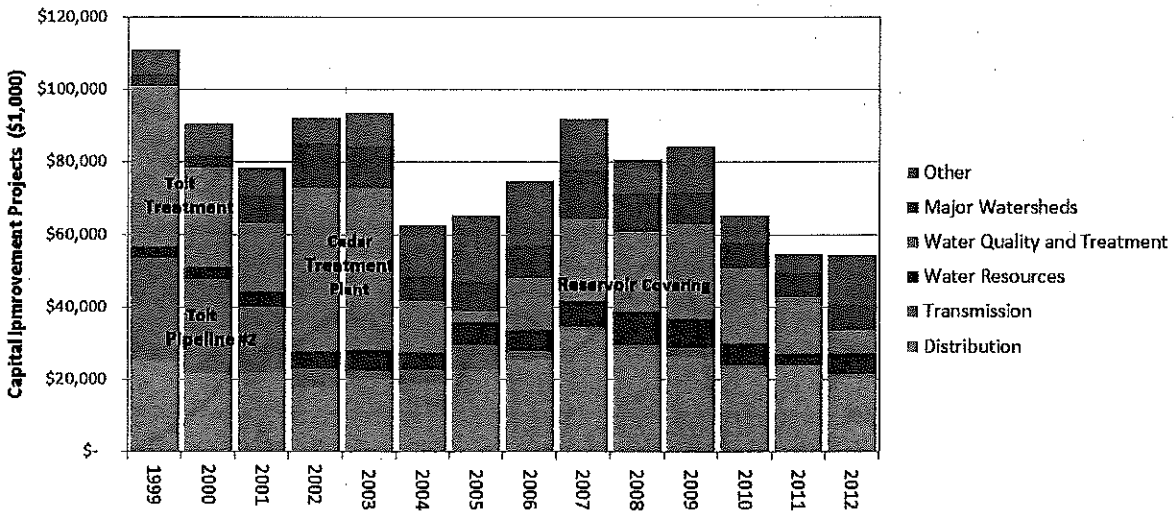
Figure II-4
Water Fund Capital Spending 1995-2012 (nominal dollars)



The Water Utility has concluded a two decade period of investments in major generational assets that respond to regulatory requirements and ensure reliable supply of high quality drinking water to the region. Investments included:

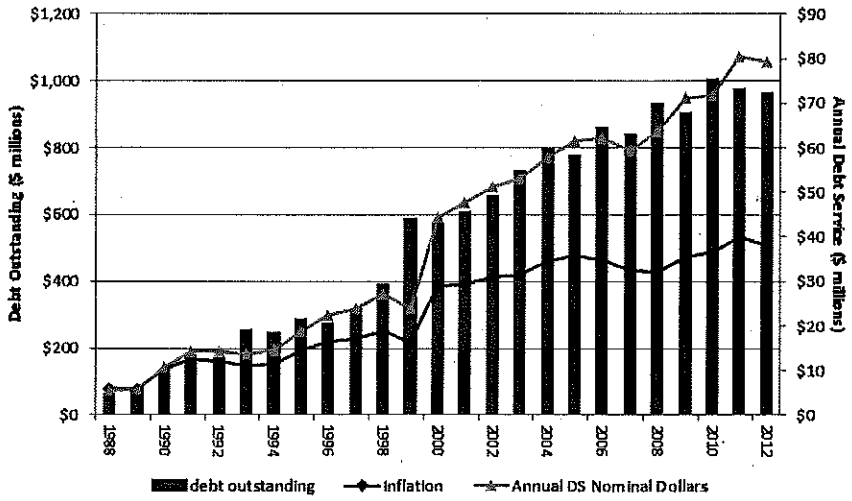
- New water treatment facilities for the Tolt and Cedar River sources;
- A second pipeline from the Tolt River source and improvements to the first Tolt pipeline after it burst in 1987;
- Replacement or covering of eight open reservoirs in response to federal drinking water quality requirements; and
- Investments to secure the supply of water by reaching an arrangement with the federal government defining the Cedar River Watershed Habitat Conservation Program.

Figure II-5
Water CIP Spending by Business Area



Servicing the debt on these large capital projects at a time of declining water consumption has presented a financial challenge to the Water Fund. Figure II-6 presents the growth in Water Fund outstanding debt and annual debt service since 1988.

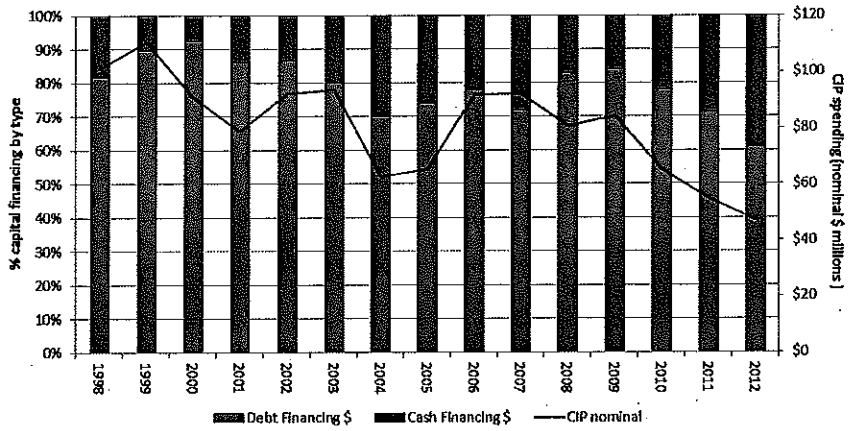
Figure II-6
WF Total Debt Outstanding and Annual Debt Service



Total debt outstanding grew from $61 million in 1988 to $390 million in 1998 and reached $1 billion by 2010 in order to fund the major capital projects discussed earlier in this section.

Total debt service rises in tandem with the increase in outstanding debt, growing in nominal terms from $5.6 million in 1988 to $79 million by 2012. The steepest real growth in debt service occurred after 1998, significantly outstripping inflation. This growth in debt service stemmed not only from high levels of CIP spending but also from a change in structure of a portion of the debt[17] and the fact that the CIP was predominately debt financed during the highest spending periods, as shown in Figure II-7 Water Fund Capital Financing and Spending.

Figure II-7
Water Fund Capital Financing and Spending



Prior to 2002, the Water Fund used very little cash to finance the CIP. Therefore, the record high capital spending levels at the end of the 1990s were funded almost entirely with debt. The 2002 rate study introduced an informal guideline of a 20 percent cash financing policy across a six-year average. In 2005, Council adopted a formal policy target of a 20 percent average across a rate setting period (typically two to three years). This increased cash-financing, combined with lower capital spending, slowed the growth in annual debt payments. However, debt payments on any single bond issue are typically recovered over a period of 30 years, so even as capital spending declines, debt service will increase with each new debt issuance. Consequently, capital financing has been a consistent driver of water rate increases. See Appendix A for additional detail capital funding sources and rate impacts.

II.A.3. Financial Policy Impacts

Financial policies provide a framework for setting rates and measuring financial performance by establishing targets for key operating (i.e. net income, operating liquidity) and debt management (i.e. debt service coverage, cash-financed CIP) indicators. They can also identify parameters for mechanisms, such as revenue stabilization funds, which help to prevent significant swings in funding requirements over time. Financial policies are important because they:

[17] See discussion under Financial Policy Impacts that follows.

- Shape the financial profile the utility presents to the financial community;
- Establish the utility's exposure to financial risk; and
- Allocate the utility's costs between current and future ratepayers, in particular the cost of funding capital investment.

There is not one universal metric for measuring financial performance. Each metric addresses a different (or different set of) policy objective(s). A mix of financial policies is established for each of SPU's funds that best suits its individual requirements. In 2005, Seattle's City Council passed Resolution 30742, which adopted new Water Fund financial policies, with key financial policies and objectives presented in Table II-1.

Table II-1
Water Fund Adopted Financial Policies

Policy Metric	Target/Guidance	Objective
Debt Service Coverage	1.7x on a planning basis for first lien debt	Financial certainty Debt Management
Cash Financing of CIP	No less than 20 percent over the rate proposal period. No less than 15 percent in any given year.	Debt Management
Year-End Cash	One twelfth of operating expenditures	Financial certainty Rate stability
Net Income	Generally positive	Financial certainty
Revenue Stabilization Sub fund[18]	Balance of $9M maintained with exceptions	Financial certainty Rate stability
Variable Rate Debt	Not to exceed 15 percent of total outstanding debt	Financial certainty Rate stability

A mix of robust policies is particularly important for utilities such as the Water Fund with large ongoing capital programs and associated debt, significant revenue fluctuations, and longer rate cycles where rates are not actively adjusted mid-cycle to address underperformance. Further discussion of the importance of financial policy metrics and implementation considerations is found in Appendix B: Financial Policy Considerations.

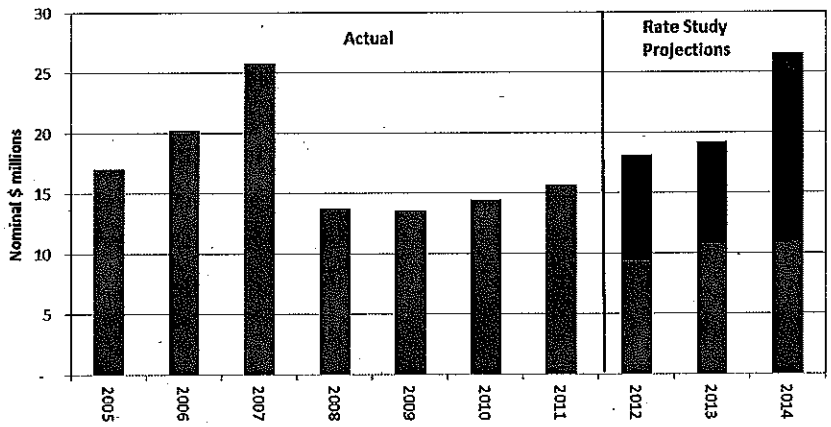
[18] The City Council established the Revenue Stabilization Fund (RSF) in 1993 and the current policy was established in 2005, setting a $9 million minimum balance. Deposits to the RSF are required if actual metered water revenue exceeds the planned revenue and all financial targets are met. Withdrawals from the RSF must be approved by the City Council.

Financial policies directly impact rate levels as the revenue collected from rates and fees must be sufficient to pay the total costs of the water system and meet adopted financial targets. In any future year, the optimum revenue requirement is the lowest amount of money necessary to simultaneously satisfy all financial policies in that year. At this level of revenues, some financial policies may be exceeded, but none will be missed – the financial target that is exactly met is known as the binding constraint.

Through 2010, cash financing of CIP was typically the Water Fund's binding constraint. However, over the course of any given two to three year rate cycle, this was not a significant rate driver, as there were year-to-year upward and downward fluctuations in total dollars contributed.

Unlike the case of cash-financed CIP in prior rate periods, meeting the DSC[19] target was a major rate driver in the 2012-2014 rate study. Over the three-year rate period, revenues were increased by $15.7 million to allow the Water Fund to meet its 1.7 DSC target, adding nearly seven percent to the water revenue requirement over the three-year rate period. The rate study projected using the extra revenue generated to meet the DSC requirement for additional cash financing of the CIP, thus mitigating the impact on future revenue requirements by reducing the size (and therefore debt payments) of future revenue bond issues. The rate study projected average cash financing of 41 percent of capital expenditures over 2012 and 2014, or over 20 percent above the targeted level.

Figure II-8
Water Fund Cash Financing of the CIP since Adoption of 2005 Policy Targets

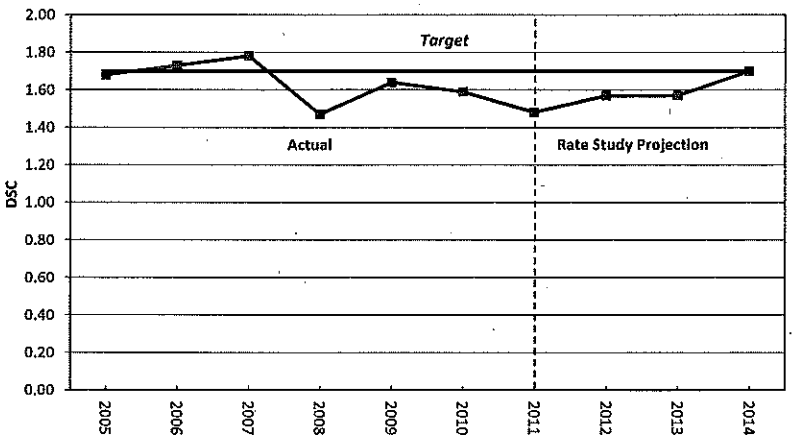


Note: Darker shaded portion of columns under "Rate Study Projections" represents additional cash financing over policy target which comes from additional revenues needed to meet the DSC target.

[19] The DSC ratio shows how much additional revenue is available to the utility after making debt payments. A higher ratio reduces financial risk and provides more flexibility to respond to unexpected needs or revenue shortfalls and is a key metric watched by rating agencies and bondholders.

DSC became the binding constraint earlier than anticipated in long-term water planning efforts due to external factors. The Water Fund issued two sets of variable rate bonds, the 1995s ($45 million) and the 2002s ($66 million). These bonds were remarketed weekly. The fund benefited from interest rate savings on these bonds until the financial market collapse in 2008 when SPU was no longer able to find buyers for all these bonds. The bonds were refunded into fixed rate bonds in November 2008, increasing debt service expense due to higher interest rates and reducing debt service coverage below targeted levels due to an increase in senior debt lien[20].

Figure II-9
Water Fund Debt Service Coverage since Adoption of 2005 Policy Targets[21]



Coverage declined because debt service payments on the junior lien variable rate revenue bonds did not count towards debt service coverage requirements while debt payments on the new senior lien fixed rate revenue bonds did count towards coverage requirements. Therefore, the change in the structure of these debt issuances, as well as reduced demand for water services and new taps were the factors that lead to debt service coverage becoming the binding constraint in the 2012-2014 rates.

II.B. Industry Context

Utilities throughout the U.S., including SPU, have made significant investments to protect public health, comply with federal and state regulations, and replace aging infrastructure. The federal share of investment in water infrastructure has dropped over the last several decades, which has left local governments responsible to pay for recent upgrades. Reduced federal funding and increased

[20] A lien is a form of security interest granted over an item of property to secure the payment of a debt or performance of some other obligation. The Water System grants a lien, or pledge, to bond holders that debt service obligations will be paid before other expense obligations out of net revenues. Senior lien debt is paid first, followed by junior lien debt. When variable rate debt was converted to fixed rate debt, the debt went from junior lien status to senior lien status.

[21] The Water Fund met its coverage target in 2012 ahead of the rate study projection due to a favorable bond refinancing..

infrastructure needs have led to water rate increases that exceed the rate of inflation across many utilities, a trend that is expected to continue for the foreseeable future.

A recent Environmental Protection Agency (EPA) report to Congress, released in June 2013, estimates that $384 billion in national water infrastructure improvements are needed through 2030 to continue to provide safe drinking water.[22] This estimate only covers infrastructure needs that are eligible for, but not necessarily financed by, Drinking Water State Revolving Fund (DWSRF) loans. These improvements are broken down into the following areas:

- $247.5 billion for distribution and transmission to replace or refurbish aging pipes;
- $72.5 billion to construct, expand or rehabilitate treatment infrastructure;
- $39.5 billion for storage to construct, rehabilitate or cover finished water storage reservoirs; and
- $20.5 billion to construct or rehabilitate intake structures, wells and spring collectors;

Another estimate of the investment needs for buried drinking water infrastructure is "more than $1 trillion nationwide over the next 25 years, assuming pipes are replaced at the end of their service lives and systems are expanded to serve growing population."[23] This estimate is significantly higher than the EPA's because it is based on a different set of assumptions about pipe replacement and investment and covers a longer period of time.

II.B.1. Industry Cost Drivers/Trends

Treatment Infrastructure

A significant portion of national water infrastructure needs is associated with the construction, expansion, and rehabilitation of infrastructure which reduces contamination through various treatment processes (e.g., filtration, disinfection, corrosion control). This category includes projects to remove contaminants that, while not a public health concern, adversely affect the taste, odor, and color of drinking water.

SPU has a comprehensive source-to-tap water quality management program. Water quality is ensured through an integrated effort of source protection, state-of-the-art treatment and ongoing monitoring throughout the water system for potential microbial and chemical contaminants.

SPU's water system includes:

- State-of-the-art water treatment facilities for the Cedar and South Fork Tolt source waters, completed in 2004 and 2001, respectively;

[22] "EPA Drinking Water Infrastructure Needs Survey and Assessment – Fifth Report to Congress", United States Environmental Protection Agency, April 2013.

[23] "Buried No Longer: Confronting America's Water Infrastructure Challenge." *American Water Works Association*, 27 Feb 2012.

- Treatment and intake screening facilities at Landsburg;
- Intake screening facilities at the Tolt Regulating Basin; and
- In-town disinfection facilities at reservoirs and well sites.

SPU operates and maintains each of these facilities to ensure that the potable water the City delivers to its customers meets high public health and aesthetic standards. Neither the Cedar nor Tolt treatment facility has experienced any treatment violations since startup.

Finished Water Storage Reservoirs

A 2006 EPA regulation, the Long Term 2 Enhanced Surface Water Treatment Rule (LT2), was developed to improve drinking water quality and provide additional protection from contaminants. The rule sought to protect the country's uncovered drinking water reservoirs from natural or man-made contamination by requiring either enclosing open air reservoirs or adding another layer of treatment before the water comes out of the faucets of end users.

SPU is now nearing completion of its reservoir covering plan. It has replaced six of its open reservoirs with underground structures that will improve the quality and security of the City's water supply. The reservoir covering program also provided 76 acres of new open space. The City has four remaining above-ground reservoirs. Floating covers were installed at the Bitter Lake and Lake Forest Park reservoirs. Security was also increased at these facilities. SPU is evaluating whether to decommission the Volunteer and Roosevelt reservoirs and is currently conducting a two-year decommissioning test at both reservoirs. To perform the tests, the reservoirs were taken out of service on April 1, 2013. While out of service, the Roosevelt reservoir will be kept drained, while the Volunteer reservoir will retain full water levels and continue to be a water feature at the park.

Projects by other cities with open, treated reservoirs to address the EPA LT2 regulation include:

1. The City of Tacoma: Covering of five open reservoirs completed in 2012 at a total cost of $52.6 million;
2. The New York City Department of Environmental Protection: a $41 million upgrade to the Hillview Reservoir in Yonkers;
3. New Jersey: a state-approved $100 million plan to drain three reservoirs and replace them with concrete tanks by 2017;
4. The City of Rochester, New York: a plan to bring three open air reservoirs into LT2 compliance by 2024[24]; and

[24] The New York State Health Department originally called for work to be completed by the end of 2014. In 2012, the city was granted a 10-year reprieve from the new federal rules citing economic hardship. "Reprieve granted to Rochester, NY for open reservoirs", http://bojack.org/images/rochesterwater1.pdf. 12 October 2012.

5. The City of Portland: A $275 million project to replace its uncovered reservoirs by the end of 2020[25]. The Portland Water Bureau saw a 14.5 percent rate increase in 2013, largely due to the cost for the reservoir work. [26]

Source Needs

The national need for source water infrastructure includes the construction and/or repair of surface water intake structures, wells and spring collectors.

SPU's primary tool for maintaining Seattle's source water quality is the City's extensive watershed ownership, which allows it to restrict human access and activities within the watersheds. SPU has adopted watershed protection programs for the Cedar River and South Fork Tolt River municipal watersheds, including the Lake Youngs Reservation. These programs ensure that SPU's source water is high quality and free from contamination. At present, SPU has adequate supply resources to meet regional water system demands under a wide range of weather conditions and has determined that no significant investments in new sources are needed before 2060.

Aging Infrastructure

Much of the water infrastructure in the U.S. was built in the late 19th and early 20th centuries and is now failing. Replacing and upgrading that infrastructure nationwide will cost hundreds of billions of dollars. The majority of the $247.5 billion identified by the EPA report is for replacing or refurbishing aging or deteriorating transmission and distribution main. These mains are critical to the delivery of safe drinking water, and their repair/refurbishment is necessary to ensure compliance with many regulatory requirements.

"Without robust, urgent action, the Environmental Protection Agency estimates that nearly half the nation's pipes will fall into the 'poor, very poor or elapsed' categories by 2020, risking widespread failures and a considerable threat to public health."[27]

SPU is not immune to aging infrastructure. With the completion of major regional facilities in recent decades, the need is now shifting to significant capital investments in the distribution system. In general, SPU's assets are in good condition, but there are some that have reached the end of their expected design life. The average age of pipe in SPU's water system is currently about 67 years (the oldest was installed in 1890). As SPU replaces less than 0.1 percent of its pipes per year, the average age will continue to grow. Seattle's water pipe leakage and breakage rates, as well as outage durations, are relatively low in comparison to other utilities and below the state minimum requirements. Overall, about 56 percent of the Water Fund's 2015 to 2020 core capital budget is for the replacement of infrastructure and facilities that have reached the end of their economic life. This spending includes

[25] In February 2013, the EPA rejected a request by Portland for an extension in order to explore alternatives. In June of 2013 the Portland officials announced plans to proceed with reservoir covering.

[26] "Utilities gun-shy on water and sewer rate hikes in 2012". American Water Intelligence. September 2012.

[27] David Lepeska, "Why Your Water Bills Must Go Up," *The Atlantic Cities*, 28 November 2011.

programs to replace rather than continue to repair (i.e. service line renewals) assets not yet at the end of their design life when it is more economical to do so, as well as specific large projects to replace infrastructure that is already beyond or is expected to reach the end of its design life (e.g., Morse Lake pump plant, Lake Forest Park floating cover).

II.C. Baseline Spending Assumptions

Baseline spending assumptions represent the level of spending required to maintain existing service levels plus meet regulatory requirements. *"Maintaining existing service levels"* means that *actual* service quality (as opposed to *targeted* service quality) neither degrades nor improves through 2020. Baseline spending assumptions DO NOT[28]:

- Adjust for any anticipated, future efficiencies;
- Prioritize existing expenditures and eliminate or reduce lower priority projects/programs;
- Include capital projects in the six-year Capital Improvement Program that are new efforts not required by regulators or are not necessary to maintain existing service levels; and
- Include new initiatives to address gaps in meeting SPU's strategic objectives.

Section II.C.1. discusses operating expenditures and the level of capital expenditures directly funded with baseline rates revenues and other non-rates revenue funding sources[29] further discussed in Section II.D. The majority of capital expenditures are directly paid for with proceeds from the sale of revenue bonds and do not impact the baseline rates revenue requirement discussed in Section II.D on a dollar-for-dollar basis. Instead, capital spending impacts the baseline rates funding requirement in two areas: a) debt service payments on revenue bond borrowing; and b) financing of a portion of current year capital expenditures with rates and non-rates revenues ("cash-financed CIP")[30].

Sub-section II.C.1. includes a summary of assumed service levels used in developing baseline spending assumptions.

Sub-section II.C.2. details current (2014) operating expenditures as well as the level of capital expenditures assumed to be funded with rates and non-rates revenues. These represent spending levels required to support current service levels. **Sub-section II.C.3.** follows with the same information for 2015 through 2020, including a discussion of inflation and other assumptions underlying increases in spending over 2014 levels.

[28] Increases or reductions to spending associated with the bulleted exclusions are addressed in the strategic plan rather than the financial baseline.

[29] This includes other current year operating and non-operating revenues, as well as prior year revenues remaining in operating cash balances.

[30] See Section II.C.2 and Appendix A for further information on the impact of capital spending on rates.

Sub-section II.C.4. provides an overview of total 2015 to 2020 baseline capital spending levels required to maintain current service levels and meet regulatory requirements. Whereas Sections II.C.2 and II.C.3 note the level of capital expense funded with rates and non-rates revenues, this section defines TOTAL projected capital spending, including the portion paid for with revenue bond issue proceeds. In addition this section provides a description of the work done under the capital improvement program.

II.C.1. Current Service Level

Table II-2 presents additional information on the service levels assumed in developing baseline spending.

Table II-2
Drinking Water Current Service Level Targets and Actual Performance

Service Levels/ Performance Measures	Target	Mandatory?	Usual Performance	Comments
1. Supply drinking water that meets or exceeds Department of Health regulations	Meet regulations	Yes	Meeting regulations	Refers to Washington Administrative Code (WAC) 246-290. There are many monthly, quarterly, annual and less frequent reports and other related activities that are required to accomplish and document this one service level.
2. Meet state requirements for drinking water system pressure	Meet requirements	Yes	Meeting requirements	New or expanded parts of the distribution system designed to deliver peak hour demand at a minimum of 30 pounds per square inch (psi). No retail customers with less than 20 psi during normal operations.
3. Meet pressure and flow requirements of wholesale drinking water contracts	Meet requirements	Yes	Meeting requirements	21 separate contracts with common language, but individual pressure and flow (at the customer tap on the transmission system) commitments.
4. Provide in stream water for fish and meet other tribal, regional, state, and federal commitments	Meet commitments	Yes	Meeting commitments	Also must meet other terms of agreements. There is a complex set of contractual and other commitments that roll up to this one service level.
5. Achieve goals for water conservation and leakage loss:		Yes		Leakage losses includes real losses and meter inaccuracies. Have new Water use Efficiency

Service Levels/ Performance Measures	Target	Mandatory?	Usual Performance	Comments
- distribution leakage losses of < 10 percent - 6 mgd cumulative conservation savings 2007-2012	10% max 6 mgd		<6.5% 5.39 mgd	(WUE) Goal beginning 2013 – total average annual retail water use of members of the Saving Water Partnership is less than 105 mgd from 2013-2018 despite forecasted population growth.
6. Limit yearly drinking water outages totaling > 4 hours to less than 4 percent of retail customers	4 percent max (7,200 customers)	No	<1 percent (<<7,200)	This is the one SPU service level that the State of Washington Department of Health would not allow in SPU's 2007 Water System Plan that they would have to approve because it implies a less than 100 percent reliable system. Includes planned and unplanned outages.
7. Limit unplanned outages in the drinking water transmission system to within the maximum agreed duration	Meet requirements	No	Meeting requirements	There is a target outage duration (1, 2 or 3 days) for all transmission pipeline segments. This is not a contractual or regulatory requirement.
8. Respond to 90 percent of high priority drinking water problems within 1 hour	1 hour max	No	>90% of events responded to within an hour	High priority problems include emergency situations such as a pipe break; potential contamination of water supply; pump station failure; hydrant damage. We could explore the impacts of lowering response targets – would likely be some combination of cost reductions in first response crews, and potential increases in claims costs.

* mgd = million gallons per day

II.C.2. Overview of 2014 Spending Requirement (Use of Water Revenues)

The majority of annual baseline rates revenues are used to fund operating expenditures. These revenues also directly fund a portion of current year capital expenditures (cash-financed CIP). As detailed in Appendix A, other than the cash-financed portion of the CIP, rates revenues do not directly fund capital expense but are used to repay debt on revenue bond proceeds used to fund both current year and prior year(s) capital expenditures. Figure II-10 depicts the sources and uses of operating and capital funding.

Figure II-10
Operating and Capital Funding Sources and Uses

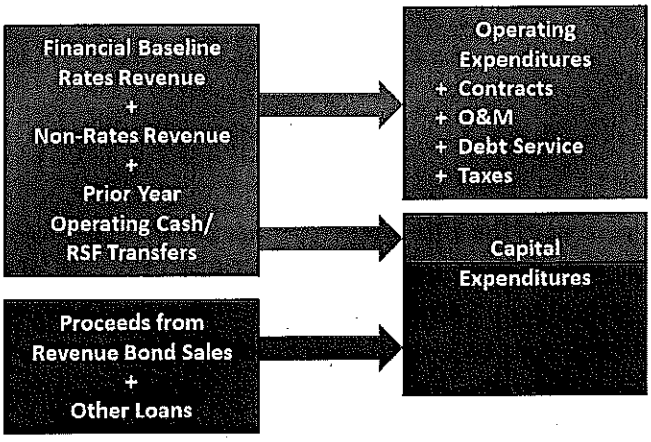
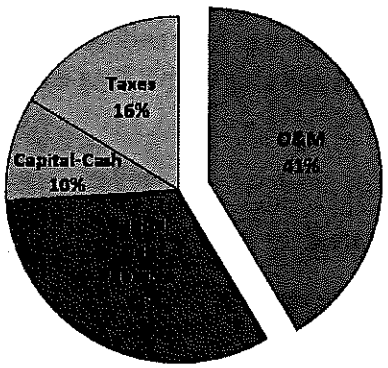


Figure II-11 presents a breakdown of the projected Water Fund 2014 Use of Revenues[31], represented by the blue-shaded areas in Figure II-10 above. Spending on Operations and Maintenance (41 percent) and capital financing (43 percent for cash and debt) account for nearly equal shares while taxes (16 percent) account for the remainder of total uses.

[31] Revenues funding 2014 expenditures include current year rates and non-rates revenues and may also include prior year revenues transferred from the Rate Stabilization Fund or otherwise carried over in operating cash balances.

Figure II-11
Water Fund 2014 Spending Requirement
Use of Water Fund Revenues



	2014 ($M)	% of Total
O&M	$99.5	41%
Capital-Debt Service	$78.2	33%
Capital-Cash	$23.3	10%
Taxes	$39.2	16%
Total Uses	$240.2	100%

II.C.2.a. SPU O&M Expense

As Figure II-11 shows, 41 percent of the 2014 water revenues pay for operations and maintenance (O&M) expenses. The majority of these costs cover branch O&M -- the costs of running the department's operations and corporate activities (Field Operations & Maintenance, Customer Service, Utility Systems Management, Project Delivery, Human Resources & Service Equity, Finance & Administration, and Corporate Strategies & Communications). A smaller portion pays for costs outside of the branches' control, such as cost-allocated payments to other city departments, space rent, claims, and contingencies for emergencies.

Within the Water branch O&M, personnel costs (wages, benefits, overtime, temporary staffing, etc.) comprise the largest portion of expenditures at roughly 73 percent. The next largest cost center is services, which includes consultant and other outside services (e.g. financial auditing, security, printing, etc.), inter-departmental payments for direct services (e.g. customer billing system services from City Light), and payments to other government agencies and non-profits organizations (e.g. fish monitoring services from Washington Department of Fisheries & Wildlife). The remaining branch O&M costs are composed of fleet, supplies, inventory, maintenance, utility and other like expenses.

The activities performed in the Water branch O&M can also be characterized as "mandatory", "core" or "value-added". Activities that are considered mandatory or core are essential to directly or indirectly providing basic utility services and/or meeting regulatory requirements. Examples include meeting Department of Health drinking water requirements, operating and maintaining the distribution and transmission systems, meeting the Habitat Conservation Plan commitments, and operating the customer contact center. Activities that are considered "value added" are more discretionary and enable SPU to operate more effectively, efficiently, and sustainably, and/or add value to the organization and its customers. Examples include climate adaptation, education and outreach, asset management, and service equity activities.

II.C.2.b. Capital Financing (Debt Service and Cash Financed CIP)

The Water Fund pays for current year capital expenses through a combination of Water Fund revenues (cash-financed CIP), proceeds from periodic revenue bond issues and a small amount of low-interest loans issued by Washington State (debt-financing). Annual debt service payments of principal and interest represent the annual cost to the fund of repaying revenue bonds and other loans.

Financing a portion of the CIP with revenues provides greater flexibility to the utility by reducing the amount of debt that must be issued and associated long term debt service obligations. Debt-financing, however, is important to inter-generational equity as it assigns a portion of cost to future ratepayers who will benefit from long-lived assets.

Table II-3 presents projected funding sources for current year 2014 capital spending, as well as 2014 capital financing expense, by type, funded with rates and non-rates revenues. The CIP funding sources shows where the cash comes from to pay for invoices related to current year (2014) CIP expenses. The ratio of cash-to-revenue bond financing is established by financial policies, as described further in this section. So, the "percent of cash financed CIP" refers to the percent of total current year CIP expense that is funded with Water Fund revenues (as opposed to revenue bonds or other borrowed sources).

The capital financing expense shows annual payments made from Water Fund revenues to pay for current year capital expense (cash-financed CIP) and debt payments on current/prior year revenue bond issues. Total capital financing expense (as opposed to capital spending) is the amount that must be funded through the annual baseline funding requirement.[32]

Table II-3
Water Fund 2014 Capital Funding Sources and Capital Financing Expense

2014 CIP Funding Sources

	2014 ($M)	% of Total
Bond/Loan Proceeds	$33.7	59%
Revenues (Cash-financed)	$23.3	41%
Total 2014 CIP Spending	$57.0	100%

2014 Water Capital Financing Expense

	2014 ($M)	% of Total
Debt Service Payments	$78.2	77%
Revenues (Cash-financed)	$23.3	23%
Total Capital Financing	$101.5	100%

Debt service

This is the annual principal and interest payment on ALL outstanding revenue bond debt[33] issued by the Water Fund. Debt payments are typically spread over 30 years. So total annual debt service expenditures are the sum of annual payments for all prior year outstanding bond issues, as well as debt service on any current year issuances, if applicable.

[32] Appendix A provides more detail on the general structure of capital financing and its impact on rates.

[33] Also includes a small amount of debt service from other funding sources such as Public Works Trust Fund or Drinking Water State Revolving fund loans.

In 2014, the Water Fund will make cumulative debt service payments of $78.2 million on loans and revenue bond issues originally dating back to the 1980s[34]. SPU expects to issue $84M in new revenue bonds in 2014.

Cash-Financed CIP

These are Water Fund revenues used to fund a portion of current year capital expenditures. The level of cash financing of the CIP is typically determined by adopted financial policies.

Since 2005 and the adoption of new Water Fund financial policy targets, water rates have been set to target an average of 20 percent of projected annual capital expenditures over the rate-setting period, with a minimum of 15 percent financing in a given year to provide rate-setting flexibility in years with higher CIP spending. During the 2012-2014 rate period, rates were actually set to recover more than the 20 percent target in order to generate enough revenue to meet the Fund's debt service coverage financial policy target (see Section II.A.3 Water Fund Financial Policy Impacts for detailed discussion).

In 2014, the Water Fund is expected to fund at least $23.3 million of capital expense with current year revenues.[35] This represents 41 percent of total projected CIP spending of $57.0 million. As noted in the introduction to this section, proceeds from revenue bond sales are used to fund the remaining 59 percent of current year capital expenditures.

II.C.2.c. Taxes

The Water Fund pays three different taxes on various sources of revenue. The largest tax is the City of Seattle Utility Tax, with a rate of 15.54 percent on all retail water sale revenue and most other retail services. In 2014 this tax is projected to total $30.0M. The State of Washington levies two taxes on various revenues, the state utility tax and state business & occupation tax. These two taxes are rarely levied on the same activity, preventing double taxation. In 2014, state taxes are projected to total $9.2 million. The Water Fund also pays a small amount in property taxes which are included in O&M.

[34] All bonds issued prior to 2003 have subsequently been re-financed with later issues.

[35] CIP cash financing assumed for 2014 corresponds to "extra" revenues that are available after funding O&M, taxes and debt service, assuming total revenue levels sufficient to just meet the targeted debt service coverage requirement. This is the level of cash financing assumed in rate setting projections and most reflective of what the baseline revenue requirement is intended to represent, that is revenue sufficient to fund current levels of service, meet firm regulatory requirements and achieve financial policy targets. At the end of 2014, the Water Fund will likely have additional cash available, largely carried over from 2013 balances, which may remain in cash balances, be moved to the RSF, and/or used to make an additional cash contribution to 2014 CIP funding.

II.C.3. 2014-2020 Baseline Spending Requirement (Use of Revenues)

This section focuses on SPENDING levels underlying the baseline FUNDING requirement between 2015 and 2020. These funding levels assume:

- 2014 proposed budgetary spending, plus
- Inflationary adjustments, plus
- Other discrete changes to costs to maintain existing service levels plus meet regulatory requirements

Figure II-12 below presents the composition of increases to the Water Fund spending requirement between 2015 and 2020 which is composed of inflationary adjustments to the 2014 proposed budget plus other discrete changes to costs to maintain existing service levels and meet regulatory requirements.

Figure II-12
Water Fund Baseline Spending Requirement 2014-2020

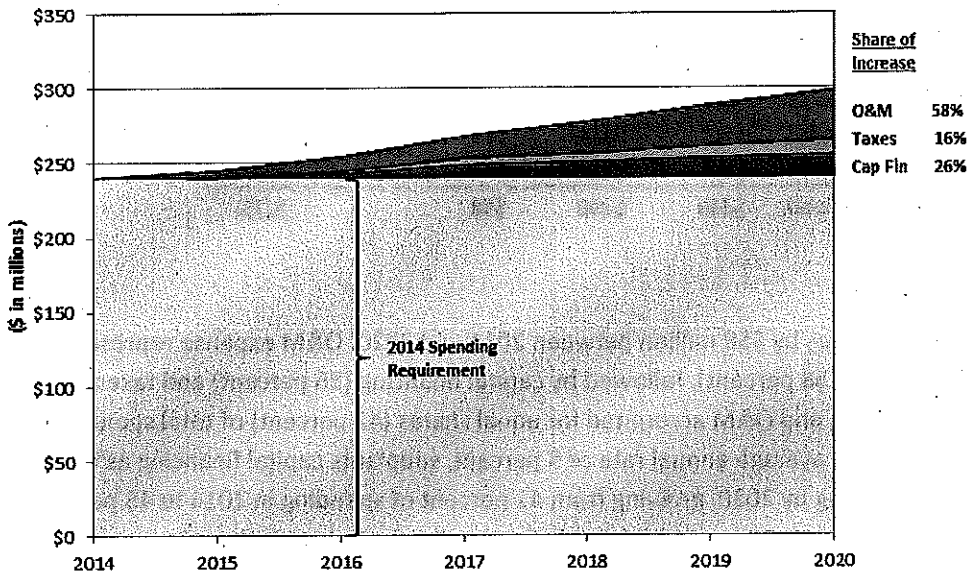
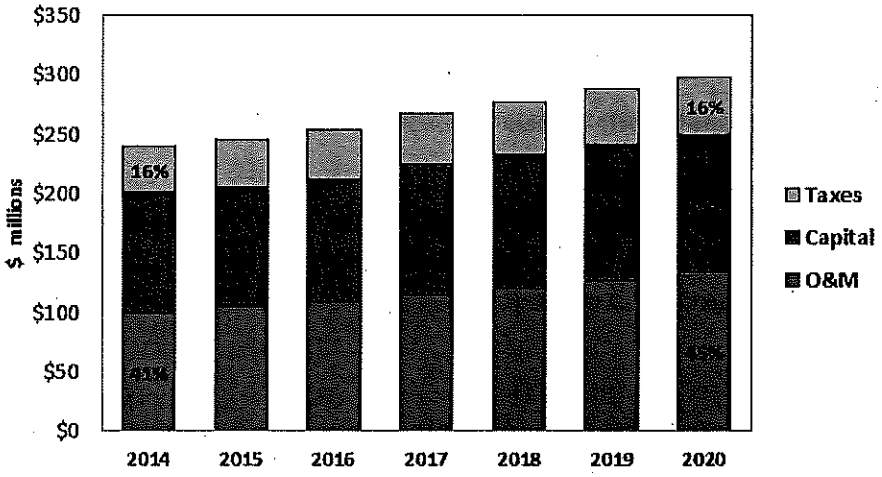


Figure II-13 provides a different look at planned Water Fund spending, showing the components of TOTAL expense, by year, between 2014 and 2020. This figure also shows the percentage each component represents of the base (2014) and in 2020.

Figure II-13
Components of Water Fund Spending Requirement, 2014-2020

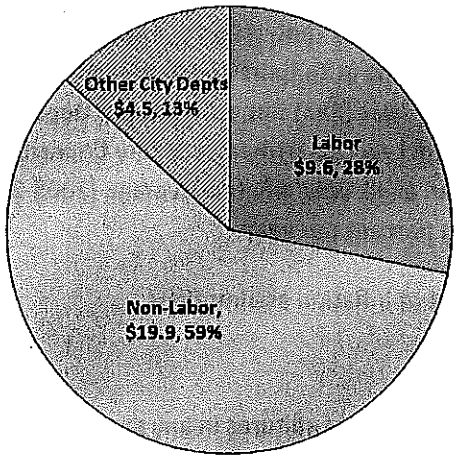


	2014	2020	2015-20 Increase	% of Increase	Avg Annual % Increase
Taxes	$39	$49	$9	16%	3.6%
Capital	$101	$116	$15	26%	2.3%
O&M	$100	$134	$34	58%	5.0%
Total	**$240**	**$298**	**$58**		**3.7%**

Total spending increases by $58 million between 2014 and 2020. O&M expense represents the largest share of this increase (58 percent), followed by capital financing (26 percent) and taxes (16 percent). In 2014, capital financing and O&M accounted for equal shares (42 percent) of total spending. O&M, which is growing at an average annual rate of 5 percent, supplants capital financing as the largest component of spending by 2020, growing from 41 percent of spending in 2014 to 45 percent in 2020. Increases to labor expense, discussed further in Section II.C.3.a below, is the primary driver of above inflationary growth.

II.C.3.a. O&M

Figure II-14
Water Fund
Composition of Baseline O&M Spending 2014-2020



As Figure II-14 shows, O&M accounts for the largest portion of the 2015 to 2020 baseline increase relative to 2014 spending. The O&M baseline drivers are labor, non-labor, and City central costs (allocated costs to other City departments).

There are three major components to the labor cost increases:

- Health care benefit costs are expected to inflate by seven percent per year;
- The City's contribution to the retirement system is assumed to continue to increase; and
- Real wages are rising slightly higher than the rate of inflation. The annual cost of living adjustment (COLA) is assumed to be 2.5 percent for all City employees. In addition to this, other factors are driving SPU wages above COLA. These include the fact that changing business needs and more automation result in needing fewer entry-level (lower paid) positions, and more and more new employees are calling for higher starting salaries as a condition of employment.

Most non-labor costs assume a general inflation rate of two percent on most goods and services. However, based on the eight-year inflation average (2005-2012), we estimate some cost centers to rise beyond two percent per year. These include fuel, professional and technical services, and utilities.

In addition to inflation on non-labor costs, the O&M baseline is growing because of specific adjustments made to either maintain current service levels and/or meet firm regulatory requirements. In the water line of business examples of this include:

- Operation of the new sockeye hatchery;

- Increased up-front planning and preliminary engineering dollars to adequately support the capital program;
- Higher vendor costs for software maintenance and support; and
- Higher payments to City Light when the new customer billing system is launched.

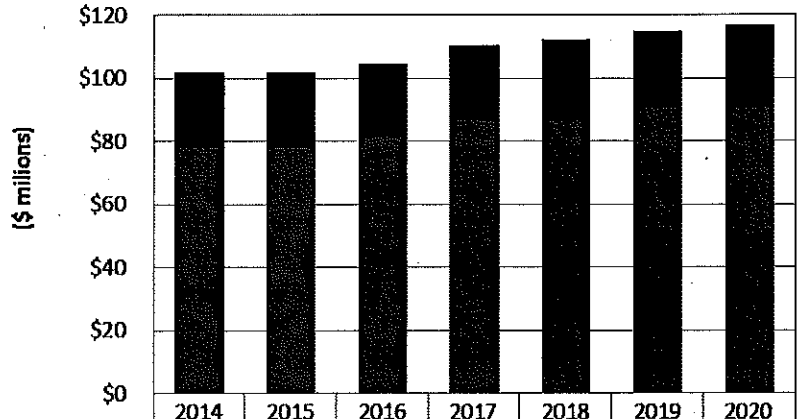
Finally, the last O&M baseline driver is City central costs. These are costs that are allocated to SPU for services provided by other departments in support of general City operations. This includes payments to the Finance & Administrative Services (FAS) Department, the Department of Information Technology (DoIT), the City Auditor's Office, the Law Department, the City Council, the City Budget Office, etc. As with non-labor costs, based on the eight-year inflation average (2005-2012), several City central costs are estimated to rise beyond two percent per year.

See Appendix D for a complete list of inflation assumptions.

II.C.3.b. Capital Financing

As discussed in Section II.C.2.b, capital expenditures in any given year are paid for with a combination of revenue bond proceeds and Water Fund operating and non-operating revenues. These revenues are also used to pay the debt service (interest and principal payments) on the current and prior revenue bond issues. Figure II-15 presents the projected components of annual Water Fund capital financing expense from 2014 through 2020.

Figure II-15
Water Fund Capital Financing Expense 2014-2020



	2014	2015	2016	2017	2018	2019	2020
Cash Financed CIP	$23.3	$23.5	$22.1	$22.8	$24.9	$24.1	$25.6
Debt Service	$78.2	$78.1	$82.0	$87.1	$87.1	$90.7	$90.8

Over the period, total capital financing expense is projected to increase by $15 million, from $101.5 million in 2014 to $116.4 million in 2020. Table II-X presents the change in annual capital financing by component. The change in expense is what drives changes to rates.

Table II-4
Change in Annual Water Fund Capital Financing Expense 2015-2020

	2015	2016	2017	2018	2019	2020	Total
Debt Service	($0.1)	$3.9	$5.2	($0.0)	$3.6	$0.0	$12.6
Cash Financed CIP	$0.2	($1.3)	$0.7	$2.1	($0.9)	$1.6	$2.3
Total	$0.1	$2.6	$5.8	$2.1	$2.8	$1.6	$15.0

Debt service accounts for $12.6 million of the net increase in capital financing expense. The increases to debt service assume that the Water Fund will issue about $180 million in new revenue bonds through 2018 ($55.5 million in 2015; $73.8 million in 2016; and $50.7 million 2018).[36] Debt service expense increases in the table above coincide with these new debt issues, lagged by one year as the issues are projected for the latter part of the year, and first payments come due the year AFTER the bond issue.

Cash-financed CIP adds $2.3 million in net increased expense between 2014 and 2020. For the Water Fund, cash-financed CIP must equal the greater of the financial policy target of 20 percent of capital spending across the rate period OR cash-financing sufficient to meet debt service coverage requirements (see II.A.3. and II.C.2.b for further details). Between 2014 and 2020, cash financing must exceed the 20 percent target in all years in order to meet debt service coverage requirements, although the total amount required in any given year fluctuates up and down.

Table II-5
Financial Policies Driving Size of Annual Cash-Financed CIP

	2014	2015	2016	2017	2018	2019	2020
20% target	$11.4	$14.8	$15.5	$10.5	$9.4	$9.4	$10.0
Additional to meet DSC	$11.9	$8.6	$6.7	$12.3	$15.6	$14.7	$15.6
Total	$23.3	$23.5	$22.1	$22.8	$24.9	$24.1	$25.6

Table II-6 presents the breakdown between cash and revenue bond financed CIP between 2015 and 2020 assumed in the baseline forecast. The additional cash-financed CIP required to meet debt service coverage requirements presented above is the driver of the higher cash-financing percentages in the following table.

[36] The Water Fund also expect to issue $76.3 million in 2020 but the first payments on this issuance won't come due until 2021)/.

Table II-6
Percentage of Cash and Revenue Bond Financed CIP 2015-2020

	2015	2016	2017	2018	2019	2020
Cash-Financed	32%	29%	43%	53%	51%	51%
Revenue Bond-Financed	68%	71%	57%	47%	49%	49%

II.C.3.c. Taxes

Table II-7 presents projected City and State Taxes between 2015 and 2020.

Table II-7
Projected Water Fund Tax Expense, 2015 to 2020
($ millions)

	2015	2016	2017	2018	2019	2020
City Taxes	$29.7	$31.4	$33.1	$34.2	$35.9	$37.1
State Taxes	$8.8	$9.3	$9.8	$10.1	$10.6	$11.0

Water Fund tax expense is projected to increase by $8.5 million through 2020. These increases are directly related to increased revenues. The Water Fund pays three different taxes on various sources of revenue. The largest tax is the City of Seattle utility tax, with a rate of 15.54 percent on all retail water sale revenue and most other retail services. Outside of water sales, the largest taxed revenue sources are hydrant fees and tap installation fees. In 2015 the Seattle utility tax is projected to total $29.7M. The State of Washington levies two taxes on various revenues, the state utility tax and B&O tax. These two taxes are rarely levied on the same activity, preventing double taxation at the state level. In 2015 State taxes are projected to total $8.8M.

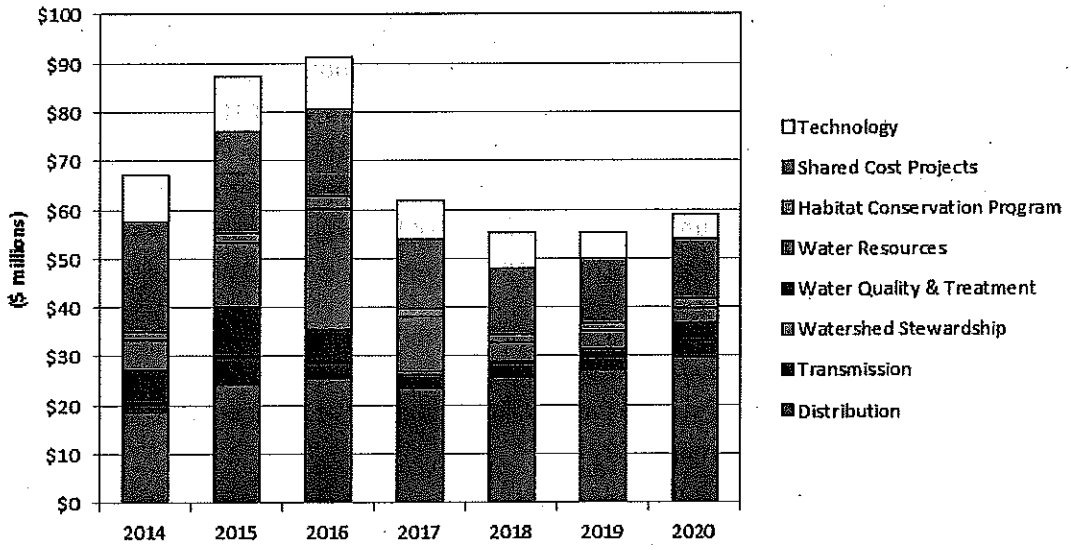
II.C.4. 2014-2020 Baseline Capital Spending

Planned spending in the water CIP is $409 million from 2015 to 2020. This includes many on-going programs, such as improving the distribution system of water mains, valves, and pump stations, watershed stewardship and conservation projects and programs, and facilities, vehicles, heavy equipment investments, and information technology investments.

The Water Fund CIP is coming to the end of a 20-year period of investment in major infrastructure projects. These projects (e.g. the Tolt and Cedar Water Treatment Facilities and Reservoir Covering Program) have positioned SPU to meet drinking water quality and environmental regulations. There is only one remaining large project, Morse Lake Pump Plant, planned for the next six years. The Morse Lake Pump Plant project provides for reliable release of water from Morse Lake into the Cedar River. This is necessary to maintain the supply of drinking water to the region and meet regulatory minimums for the amount of "in-stream flows" in the river.

By 2018 the overall CIP will be reduced, and investments will be substantially focused on rehabilitating and replacing infrastructure (e.g. mains, valves, hydrants and meters) for delivery of clean drinking water, with continued watershed stewardship.

Figure II-16
Planned Water Fund Capital Spending, 2014 to 2020



The overarching goal of the Water Fund CIP is to ensure that the water system is properly maintained, upgraded and expanded to reliably deliver high-quality, safe drinking water to customers, protect the environment, and comply with regulations.

Major 2015-2020 water CIP projects include:

- Continuation of the Open Reservoirs Covering program to ensure water purity as required by state regulations;
- Morse Lake Pump Plant changes to improve water storage access;
- Transmission and distribution system asset management investments;
- Water system improvements associated with transportation projects (e.g. Alaskan Way Viaduct replacement, Bridging the Gap); and
- Continuation of Cedar River watershed investments mandated by the Habitat Conservation Plan (HCP).

II.D. Financial Baseline Rate Projections

The Baseline Rate Path is the series of increases to current water rates which will be required to generate revenues sufficient to maintain existing service levels plus meet firm regulatory requirements. As described in Section II.C, *"Maintaining existing service levels"* means that *actual* service quality (as opposed to *targeted* service quality) neither degrades nor improves through 2020.

Four factors determine the size of annual rate increases: a) annual spending levels; b) financial policy requirements; c) non-rates sources of funding; and d) water demand.

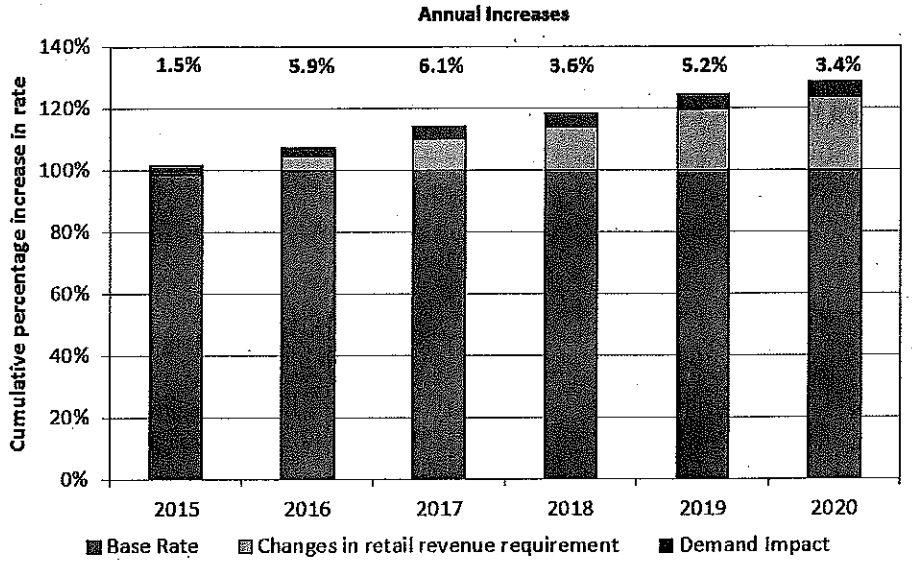
The first three factors combined determine how much total revenue must be generated by retail water rates, also known as the retail rates revenue requirement[37]. Rate increases are required to fund increases in the revenue requirement from one rate setting period to the next. Where demand is constant, the average rate increase will equal the increase in the revenue requirement. Increasing demand (i.e., customers buying more units of water) will reduce the required rate increase and declining demand will increase the rate increase relative to the change in the revenue requirement.

Figure II-17 presents a breakdown of projected annual and cumulative rate increase required to maintain current service level. [38] Section II.A discusses the drivers of historical rate increases, including adopted increases through 2014. **This section focuses on the impacts of proposed baseline spending on new rates to be adopted for 2015 through 2020.**

[37] The **revenue requirement** is the amount of revenue required to pay for water system operating expenses spending and meet financial policy targets, including funding a portion of current year capital expenditures with rates and non-rates revenues. The **retail rates water revenue requirement** is equal to the revenue requirement, less funding from sources other than retail rates including wholesale revenues, drawdowns of cash balances, and other operating/non-operating revenues.

[38] The change in the retail rates revenue requirement includes all increased costs to be funded with rates revenues that exceed the base used to set 2014 adopted rates. The demand impact shows additional year to year increases required to recover cumulative increased costs at lower levels of demand.

Figure II-17
Projected Water Fund Rate Increase, 2015-2020



Rates must increase by nearly 29 percent, or an average of 4.3 percent[39] per year between 2015 and 2020, to generate RETAIL rates revenues sufficient to maintain current service levels.

Table II-8 presents the contribution of each of the components of the retail rates water requirement spending, financial policy Impacts, and non-rates funding) and demand to annual projected annual water rate increases.

Table II-8
Water Retail Rate Increase Factors

		2015	2016	2017	2018	2019	2020
SPENDING	+	***-0.5%***	***6.1%***	***4.1%***	***3.1%***	***5.7%***	***4.0%***
FINANCIAL POLICIES	+	-1.7%	-1.1%	2.9%	1.6%	-0.4%	0.4%
NON-RATES FUNDING	+	0.9%	0.6%	-1.3%	-1.5%	-0.2%	-1.1%
DEMAND IMPACT	=	2.7%	0.3%	0.4%	0.3%	0.1%	0.0%
% Rate Change		**1.5%**	**5.9%**	**6.1%**	**3.6%**	**5.2%**	**3.4%**

Although there are annual fluctuations in the contribution of each factor, spending increases are the largest driver of rate increases from 2015 through 2020. A portion of this increased spending (on cash-financed CIP) is required to meet the Water Fund's debt service coverage financial policy target,

[39] Cumulative rate increases divided by years does not equal the average annual rate due to the compounding effect. Should we make a footnote comment about that here or will that just confuse more?

included under financial policies above. Declining demand for water contributes to a lesser extent to the increase, while increased non-rates revenues somewhat offset the required retail rate increases.

The cumulative increase for the average retail rate between 2015 and 2020 is 28.5 percent. Increased spending and demand adds 31.7 percent to the rate, with increased non-rates revenue reducing by 3.2 percent the amount that must be recovered through retail rates.

Figure II-18
Increases and Offsets to Retail Water Rate, 2015 to 2020

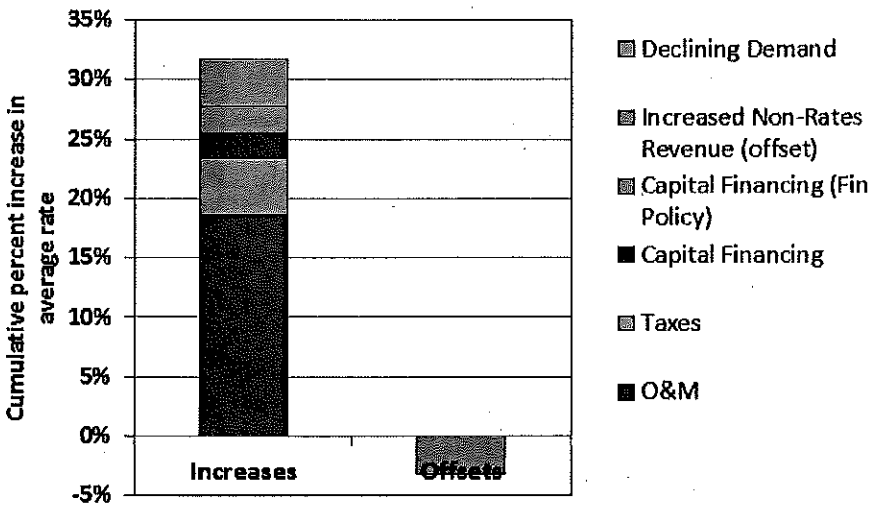
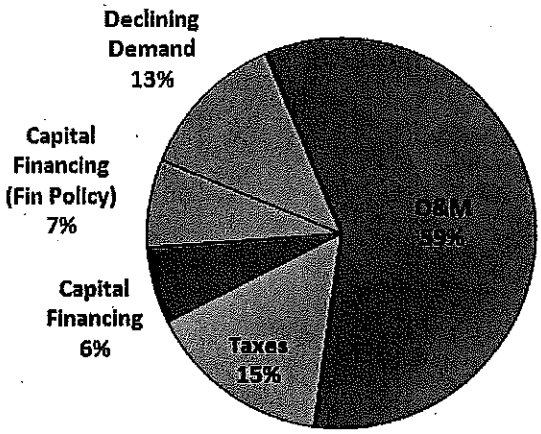


Figure II-19 presents the composition of the factors increasing the rate. Increased spending on O&M is the largest driver, accounting for almost 60 percent of increases. Taxes, capital financing, and declining demand almost equally account for the balance of the increase. Over half of the capital financing increases are driven by the requirement to meet the Water Fund's debt service coverage financial policy target.

Figure II-19
Composition of Additions to the Retail Water Rate 2015 to 2020



Section II.C.3. provides more detail on spending increases, including those related to financial policy requirements. Section II.D.1 discusses non-rates funding sources which reduce the rates revenue requirement. Section II.D.2 presents assumptions underlying the water demand forecast used in developing the 2015 through 2020 rate path.

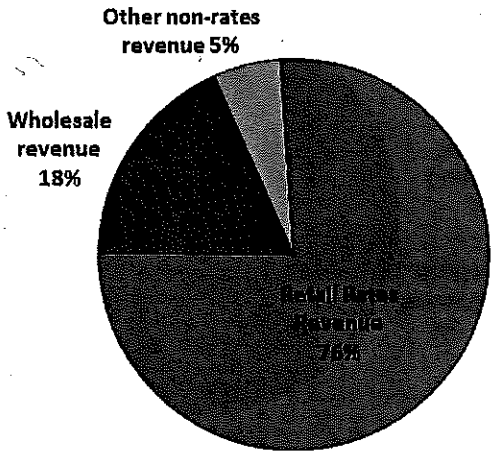
All 2014 spending, financial policy, non-rates revenue and demand assumptions used to determine rate drivers are based on assumptions for 2014 used to set 2014 rates, NOT the current 2014 spending assumptions presented in Section II.C. In a new rate setting year, the size of rate increase is set in relation to how rates were last set for the prior year. Differences between actual spending and revenue in a given year, and assumptions underlying rates for that year, will be reflected in revised year-end cash balances.

II.D.1. Non-rates funding sources

A significant portion of the total water system revenue requirement is funded through wholesale revenues, capital contributions, asset sales, and other operating and non-operating revenues. These other funding sources reduce the amount to be recovered through retail rates and therefore are reflected as reductions to the revenue requirement in each year.

Figure II-20 below presents the sources (rates and non-rates) of funding for the new rate setting periods under the proposed plan (2015-2020). Retail rates revenues fund about 76 % of the water revenue requirement on average.

Figure II-20
Water Fund Sources of Funding, 2015-2020



II.D.1.a. Wholesale Revenues

Rates for wholesale customers are set in accordance with wholesale contracts. These contracts define cost of service methodologies that determine how much the water system charges for wholesale service. Wholesale rate studies apply these methodologies based on expenditure projections (budget). Wholesale rates may be affected by actions that raise or lower the water system O&M or CIP budget. Outside of budget changes, there is very little flexibility to alter wholesale rates and revenues.

Table II-9 presents projected wholesale revenues for 2014 through 2020, and the annual change in to those revenues during the 2015 to 2020 rate setting period.

Table II-9[40]
Wholesale Water Revenues, 2015 to 2020
($ millions)

	2014	2015	2016	2017	2018	2019	2020
Revenue	$49.9	$46.7	$47.6	$48.4	$50.5	$50.6	$51.8
Annual Change		-$3.2	$0.9	$0.9	$2.0	$0.1	$1.2

[40] The revenues above exclude a contractual payment of $12 million from Cascade Water Alliance, currently projected to be received in 2018. The financial projections in this baseline do not consider this payment due to uncertainty around its timing and its one time nature. As a large capital contribution, these funds could be used to pay capital expenses, thus reducing debt and benefitting ratepayers across the life of the assets in use. Alternatively, the payment could be used to reduce short term rate increases, providing a larger benefit to current ratepayers. A final determination on use of these funds will likely be proposed in the 2018 rate study.

Wholesale revenues are projected to add $1.9 million in additional funding between 2015 and 2020, helping to offset the amount of revenue recovered through retail water rates.

II.D.1.b. Non-Rate Revenues

Other non-rate water revenues (unmetered revenues) are projected to add a net of $3.7 million in additional funding between 2015 and 2020, as presented in Table II-10 below.

Table II-10
Other Non-Rate Revenues, 2015 to 2020
($ millions)

	2014	2015	2016	2017	2018	2019	2020
Capital Contributions & Tap Fees	$5.5	$6.4	$6.6	$6.8	$6.9	$7.0	$7.2
Operating Fund Interest Income	($0.0)	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2
Charges for shutoffs & others	$2.1	$2.3	$2.4	$2.4	$2.5	$2.5	$2.6
Rentals & Others	$3.4	$3.6	$3.6	$3.7	$3.8	$3.9	$4.0
BABS Reimbursement	$2.1	$2.1	$2.1	$2.1	$2.1	$2.1	$2.1
Billing leads & lags	$0.4	$0.4	($1.9)	($0.6)	$0.1	$0.1	$1.1
Total Non- Rate Revenue	$13.5	$14.9	$12.9	$14.6	$15.6	$15.9	$17.2
Change in Non-Rates Revenue		$1.4	($2.0)	$1.7	$1.0	$0.3	$1.2

The largest contribution to increased revenues is in capital contributions and tap fees, which are projected to increase by $1.6 million across the period due to improved economic activity and an increase in housing construction in particular. The larger increase in 2015 is relative to assumptions used when setting 2014 rates (as opposed to current 2014 projections). 2014 rates were set in 2011, during a period of more stagnant economic performance and uncertainty about when a sustained recovery would occur. In 2013, capital contributions and tap fees rebounded to levels similar to that of 2007 and 2008. This was due, in part, to pent up demand from the prior three years of little or no growth being released as economic activity continued to rise and stabilize.

Charges for shutoffs and rentals add $0.5 million and $0.6 million respectively. The primary growth in these non-rate revenue sources comes from inflation. The demand level for these services is fairly consistent from year to year, with rising costs increasing the amount charged for these services.

Billing leads and lags are year-end cash effects that adjust for differences in when an expense (or revenue) is recorded in SPU's financial systems[41] versus when the associated cash is paid (or received). These lags/leads result in an impact on rates when their sum dollar amount changes from year to year. The net increase of $0.8 million in leads/lags presented in Table II-10 is primarily associated with changes in the timing of CIP billed to SPU from year to year.

[41] In general, revenues are recorded when billed and expenses when invoiced.

II.D.2. Demand Assumptions

With retail consumption dropping an average of 1.4 percent per year over the period from 2003 to 2012, a clear pattern of declining usage has emerged. However, the decline in usage is slowing as the nation and region emerge from the recession that began at the end of 2008. For the first time in several years, overall consumption in 2012 was higher than the previous year. Still, as Seattle area residents and businesses continue to embrace conservation, the downward trend is expected to continue. Consistent with the slower consumption drop of recent years, the baseline rates assume an annual drop of 1 percent in consumption for the period 2015-2020. This is based on current consumption and conservation trends which are tempered by economic forecasts for the region that predict expanded economic activity.

Table II-11
Projected Water Demand, 2015 to 2020

(M ccf)	2014*	2015	2016	2017	2018	2019	2020
Residential Consumption	10,494	10,351	10,253	10,145	10,067	9,984	9,922
Commercial Consumption	15,033	14,894	14,911	14,904	14,927	14,939	14,986
Retail Consumption	25,528	25,245	25,164	25,049	24,994	24,924	24,908
Wholesale Consumption	29,808	29,808	28,960	28,111	28,217	28,429	28,536
Total Billed Consumption	55,336	55,054	54,124	53,161	53,211	53,353	53,444

* Rate Study

Residential consumption has seen a steep decline since 2001, with volumes decreasing 23% from 2000 levels. The conservation ethic has taken a strong hold as customers have changed summer watering habits and installed water efficient appliances in their homes. As more customers continue to develop water efficient landscaping and install water efficient appliances, residential consumption is forecast to continue in decline.

Like residential customers, commercial customers have also decreased their usage drastically since 2001. Commercial consumption in 2013 was 21% lower than in 2000. While there has been adoption of water-friendly landscaping, the majority of conservation has come from the installation of efficient appliances.

Similar to the retail sector, wholesale consumption has also declined drastically since 2001. Since 2000, wholesale water purchases have declined by 21%. A portion of this decline can be attributed to the Saving Water Partnership (1% conservation program and subsequent programs), an area-wide program developed in conjunction with other water utilities to increase efficiency and conservation in the region.

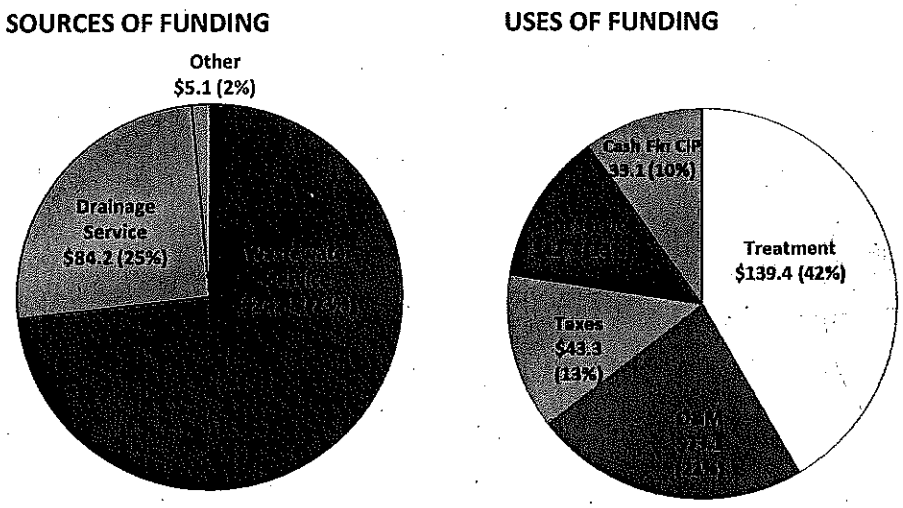
Section III. DRAINAGE AND WASTEWATER FUND

The City of Seattle operates an integrated storm and sanitary sewerage system. Prior to the creation of the Drainage and Wastewater Utility in 1989, rate payers funded wastewater services through user fees under the Seattle Sewer Utility. The City used tax revenues to fund annual drainage system operating expenses, while Local Improvement Districts (LIDs), developers, and general obligation bonds funded the development of the initial trunk drainage system. Since 1989, SPU has financed the acquisition, operation, and maintenance of Seattle's drainage and wastewater system through the Drainage and Wastewater Enterprise Fund (DWF).

SPU jointly budgets, tracks, and reports all DWF operating and capital expenses. DWF also issues joint debt to finance drainage and wastewater capital projects. SPU funds most DWF expense through separate drainage and wastewater user charges, or "rates". Established allocators are assigned to individual budget activities to establish separate costs of services for cost activity at the time rates are set.

The charts below present current sources and uses of funding for the drainage and wastewater system.

Figure III-1
2013 DWF Sources and Uses
($ millions)



Direct service rates account for about 98 percent of total DWF revenues. While drainage rates have grown more rapidly than wastewater rates, wastewater service revenues still account for nearly three-quarters of total fund revenues. Payments to King County for wastewater treatment are the single largest expense, accounting for 42 percent of the 2013 DWF use of operating revenues. Wastewater rates are the primary funding source for this treatment expense, although drainage rates paid for about

five percent of the total cost in 2013 (see discussion of Combined System Shift below). Debt service and taxes account for about 28 percent of the revenue requirement and O&M for about 26 percent.

Combined System Expense

Stormwater runoff in the City is conveyed through one of three systems: (1) separate drainage pipes, also referred to as storm sewers, (2) ditches and culverts, or (3) combined stormwater and wastewater pipes. Prior to 2008, drainage rates funded the costs associated with the first and second conveyance systems, but wastewater rates entirely funded costs associated with combined pipes.

Beginning with 2008 rates, Council approved joint drainage and wastewater funding of combined system expense due to the fact that stormwater is conveyed to treatment plants in combined pipes and is also a major driver of combined sewer overflows during intense storm events. Drainage rate revenues now fund a portion of combined system capital and maintenance costs based on stormwater's share of average annual combined flows, as well as a portion of King County treatment expense[42]. In addition to pipes, combined system infrastructure includes detention structures (to reduce combined sewer overflows) and pump stations.

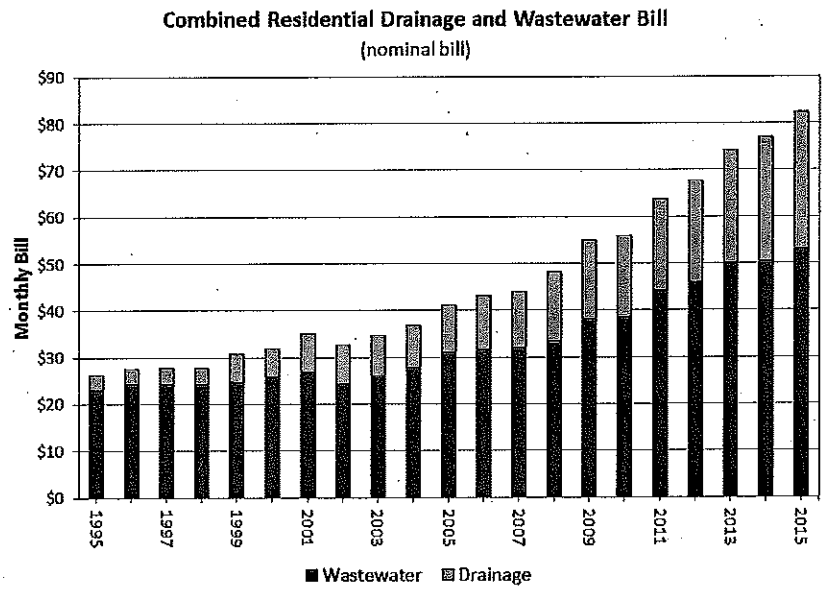
To prevent a significant spike in drainage rates, the share of combined system expense funded by drainage rates was gradually increased between 2008 and 2014. Adopted 2014 rates assume that drainage pays its full allocation of 55 percent of related combined sewer overflow (CSO) CIP and O&M costs, 19 percent of combined pipe costs and six percent of treatment costs. In the 2014 rate study, the full drainage allocation of combined system expense totaled $52.9 million, of which $24.4 was for annual operating expense ($8.4 million in treatment, $2.9 million in O&M, $13.1 in debt service) and $28.5 million in annual capital expense.

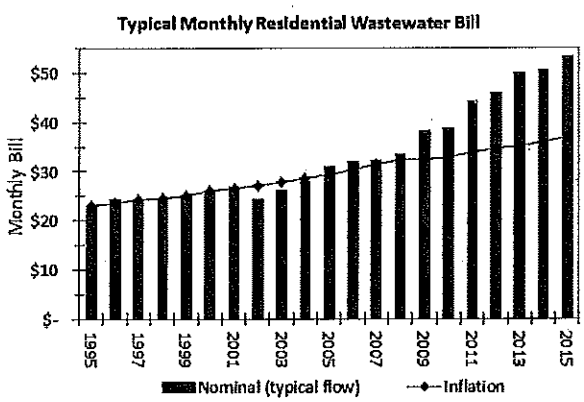
[42] Flows from combined pipes discharge to the King County Treatment System.

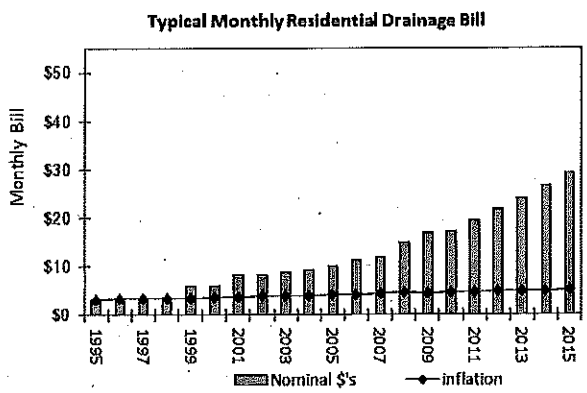
III.A. "How we got here": Historical Rate Driver Overview

The charts below present historical increases in both combined and separate typical residential drainage and wastewater bills since 1995.

Figure III-2
Growth in Typical Residential Drainage and Wastewater Bills







Although the wastewater bill is significantly larger in dollar terms, the drainage bill has grown more rapidly and exhibited consistent growth in real terms over a longer period of time for three principal reasons:

- **Smaller initial revenue base.** Larger rate increases are required to generate the same amount of revenue on a smaller versus larger revenue base. For example, in 1995 a one-percent rate increase generated $0.1M in drainage revenues and $1.0M in wastewater revenues. In 2015, a

one-percent rate increase generates $0.9M in drainage revenues and $2.4M in wastewater revenues.

- **More growth in drainage capital requirements**. Capital spending increased significantly beginning in the late 1990s as the drainage utility expanded efforts in the areas of creek protection, landslide mitigation, water quality improvements and later, combined sewer overflows.
- **Combined system shift**. As previously described, a 2008 decision to begin to fund a portion of combined sewer system expense with drainage charges resulted in a significant expense shift from wastewater to drainage rates between 2008 and 2014[43]. This shift coincided with significant increases in capital spending on CSOs.

The growth in wastewater bills has also outstripped inflation, albeit at lower levels than experienced by drainage. The increase in CSO spending, funding of improvements to aging wastewater infrastructure, declining demand and increases in King Country treatment expense contributed to real growth in the wastewater rate, particularly since 2008.

A more detailed description of drivers of both wastewater and drainage rate follows.

III.A.1. Capital Spending and Financing

III.A.1.a. Capital Program Overview

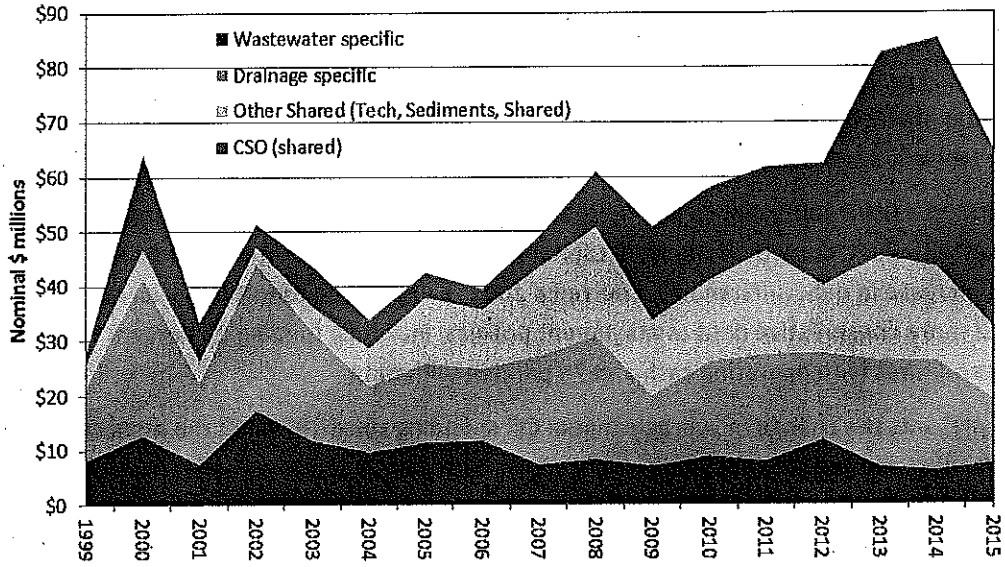
The City did not begin to make significant investments in the drainage and wastewater system until the late 1990s. Federal and environmental regulations drove much of these investments, including:

- The Clean Water Act;
- The Endangered Species Act;
- Maintenance of the City's National Pollutant Discharge Elimination System (NPDES) permit; and
- The National Oceanic and Atmospheric Administration (NOAA) Fisheries listings.

Figure III-3 provides an overview of Drainage and Wastewater Fund capital spending since 1999. A portion of capital spending is specific to each service line and a portion is shared.

[43]Wastewater rates previously funded all combined sewer expense. See Combined System Expense under the introduction to Section III.

Figure III-3
DWF Capital Spending



Note: 1999-2012 Actual Spending; 2013-2015 Rate Study Projected Spending

During the past 15 years, SPU has spent nearly twice as much on drainage-specific improvements as on wastewater-specific improvements. System maturity and regulation explain this trend. The wastewater system was established decades ago. Consequently, spending on **wastewater-specific** capital improvements has remained remarkably constant across the past 15 years, focusing primarily on rehabilitation of existing pipe and pump infrastructure.

Up until the mid-1990's, **drainage-specific** spending addressed insufficiencies in the trunk drainage system developed in the 1970s, focusing on alleviating major flooding problems that damaged property or affected public safety. The 1995 Comprehensive Drainage Plan expanded efforts for creek protection and water quality enhancement, areas which became even higher priorities when Chinook salmon were listed as a threatened species under the Endangered Species Act in the late 1990s. A major storm in 1996 caused extensive landslide damages to both city facilities and private properties, prompting increased spending to protect drainage infrastructure from future landslides.

Both drainage and wastewater revenues fund certain "**shared capital projects**" related to technology systems, environmental remediation of historical contamination, and other joint infrastructure projects such as updating utilities for the Alaska Way Viaduct replacement tunnel.

As previously mentioned, rates revenues for both service lines also fund improvements related to the combined sewer system. Stormwater conveyed in combined pipes is a major driver of combined sewer overflows during intense storm events. NPDES-related capital improvements for the control of

combined sewer overflow discharges grew from 13 percent of DWF Capital expense in 2007 to a projected 50 percent by 2015 in the wake of a 2008 EPA consent decree to the City of Seattle.

III.A.1.b. Financing of Capital Program

The DWF capital program is funded through a combination of current year operating revenues (cash-financing) and proceeds from periodic revenue bond issues (debt-financing). Annual debt service payments, typically spread over 30 years, represent the annual cost of repaying revenue bonds.

Prior to 2002, the DWF policy was to put "excess cash balances" towards the CIP, funding the balance of the program with debt. Growth in the DWF capital program beginning in the late 1990s, and the associated increase in debt outstanding, spurred a 2003 review of the fund's financial policies and adoption of more conservative debt management policies, including funding 25 percent of annual capital expenditures with operating cash and 75 percent with debt.

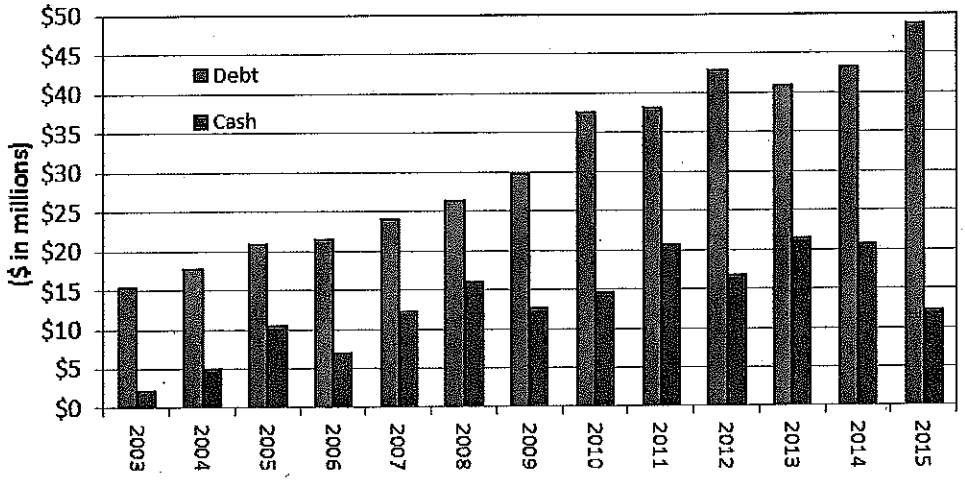
Table III-1 presents the change in average annual CIP spending since 1999 and the associated impact on debt outstanding and annual debt service obligations. There has been a marked increase in average annual CIP spending, debt outstanding, and annual debt service since 2005, driven primarily by combined sewer overflow regulatory requirements.

Table III-1
DWF Actual and Projected Capital Spending and Debt Statistics
($ millions nominal)

	1999-2005	2006-2012	2013-2015 (Rates Projection)
Avg Annual CIP Spending (nominal)	$42.5	$54.7	$77.6
Debt outstanding end of period (nominal dollars)	$294.9	$540.5	$664.8
Annual debt service end of period (nominal dollars)	$21.0	$43.0	$48.9

Figures III-4 shows the incremental change since 2003 in annual debt service and cash financed CIP.

Figure III-4
DWF Capital Financing Expense



The three-fold increase in annual debt service since 2003 combines continued payments on previous debt issues (most debt is paid over 30 years) with new debt issued to finance the ongoing and growing DWF capital program. As DWF must continue to pay on past debt until retired, with each new revenue bond issue the total annual debt service payments increases, unless certain issues are re-financed at a lower interest rate. This explains the generally steady increase in debt service which, in turn, has consistently put upward pressure on rates.

The increase in cash financing of the CIP between 2003 and 2007 reflects the 2003 change in financial policies which implemented a target of funding 25 percent of annual capital spending with operating revenues. Higher rates were required to fund annual increases in cash financing during most of this period. The higher annual levels of cash financing beginning in 2008 relate to higher capital spending during that period. Unlike debt service, annual cash financing is related only to spending in the current year. Therefore, fluctuations in annual cash financing levels typically reflect differing levels of annual capital spending. Looking at this latter period as a whole, changes in cash financing only minimally impacted rates as the net increase (sum of year-to-year increases in dollar terms) was close to zero.

Appendix A presents further examples of the inter-relationship between capital spending and rate increase.

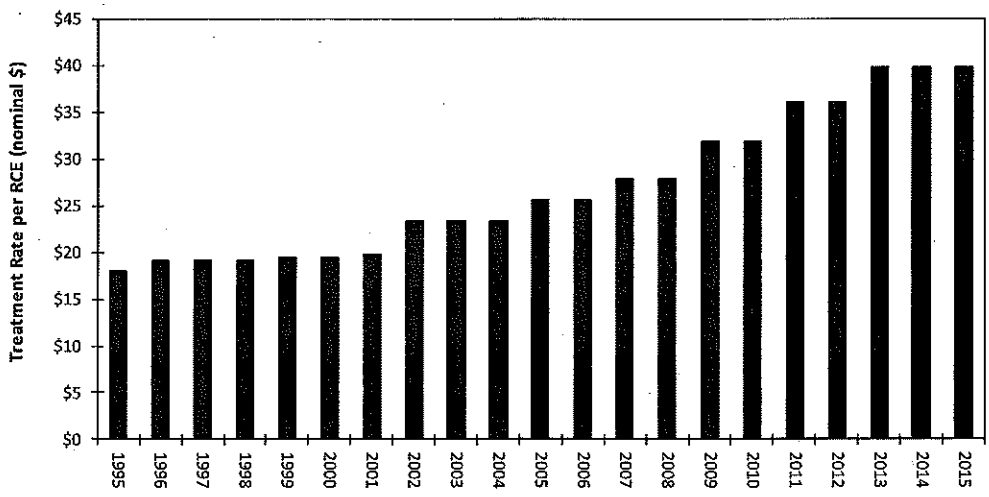
III.A.2. Wastewater Treatment Expense

Payments to King County[44] for treatment are wastewater's single largest expense component, accounting for an average of 77 percent of wastewater operations and maintenance expense since

[44] King County treats over 99 percent of the City's sewage. The Southwest Suburban Sewer District treats the remainder.

2001. Figure III-5 presents the King County treatment rate from 1995 to 2015. King County typically increases its treatment rate once every two years, hence the stair-step profile in the figure below. Annual increases have risen significantly since 2002, largely due to costs associated with the design and construction of the County's Brightwater Treatment Plant.

Figure III-5
King County Treatment Rate per RCE[45] 1995-2015



	1996-2000	2001-2005	2006-2010	2011-2015[46]
Annual Avg. Change in Treatment Rate	1.7 percent	5.6 percent	4.5 percent	4.5 percent

III.A.3. Demand Impacts

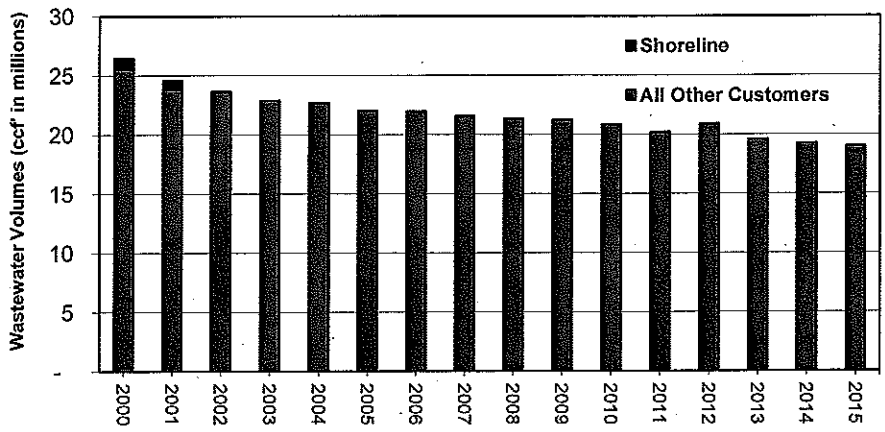
As with drinking water, a sustained decline in wastewater consumption ("units sold") since the 2001 recession has placed upward pressure on wastewater rates. Wastewater volumes decreased by an average of 1 percent per year between 2004 and 2013. Taking into account the steeper declines between 2000 and 2003 associated with the recession and the 2001 drought, the average annual decline increases to 2.2 percent per year between 2000 and 2015 rates assumptions. Although wastewater usage is based on metered drinking water usage, the downward trend in wastewater consumption is

[45] Residential Customer Equivalent

[46] The wastewater rate is the sum of a treatment rate and an SPU system rate component. The system component is adopted via the formal rate study process.. Increases to the treatment rate component are adopted via a pass-through mechanism following the adoption of new rates by King County. King County has adopted treatment rates for 2013 and 2014 but not yet 2015. Consequently, the adopted SPU 2015 rate still assumes the treatment rate at 2014 levels. The rate may be adjusted when King County adopts a new rate through future pass through legislation. Considering an increase is likely, the 2011-2015 average presented above understates why the actual average will be but is still in sync with SPU adopted wastewater rates.

smoother than that of water as it excludes "non-sanitary" use of residential water during peak summer usage months for purposes such as watering lawns and washing cars.

Figure III-6
Wastewater Consumption 2000-2015[47]



In order to generate required revenues, wastewater rates have to rise to offset reductions in demand since many costs do not vary with volume. There is very little expense elasticity relative to changes in wastewater volumes for several reasons, including:

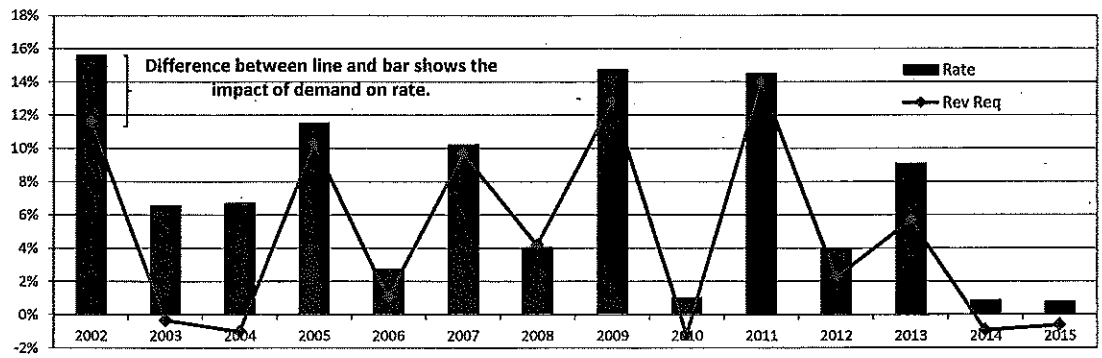
- SPU system operating expenses are typically not capacity-driven, with maintenance focused on the existing network;
- SPU customer service expense is account, not demand driven;
- A large component of the rate base, existing debt service, is entirely fixed (with the exception of re-financing opportunities);
- New capital investments are typically not capacity-driven, with the exception of those related to combined sewers which are driven more by stormwater than wastewater volumes; and
- The King County treatment bill is volume-based for commercial customers but premise-based for residential customers, resulting in only about 51 percent of the total treatment bill (commercial portion) being volume-based.

Figure III-7 shows the impact of demand on rates since 2002, the first year in which rates were set to account for the decline in demand which began with the 2000 recession. The **line** shows the percent

[47] In 2001, Seattle transferred various wastewater assets which serviced a group of Shoreline customers to the Ronald Wastewater District. About 3 percent of the 3.7 percent decline in demand between 2001 and 2002 is related to this transfer.

of annual change in total expense recovered from rates that was assumed when rates were set ("rates revenue requirement"). The **bar** represents the annual change in the adopted wastewater rate. The blue line and red bar would be equal under a constant demand scenario. In the case of declining demand, rates must increase by more than the change in expense. In some years, expense actually declines from the prior year, but the rate needed to increase to account for lower consumption.

Figure III-7
Impact of Demand on Wastewater Rates



Although declining demand puts additional upward pressure on rates, as is also the case of water, it can also mitigate the impact of these rate increases on individual bills. If customers use less water, they will pay sewer charges on fewer units (albeit it at higher rates for each unit).

III.B. Industry Context

Wastewater and stormwater utilities face many of the same challenges as water utilities. Federal and state regulations and a lack of federal funding for required investments have resulted in local governments paying for costly improvements.

III.B.1. Industry Cost Drivers/Trends

III.B.1.a. Wastewater

In 1994, the Environmental Protection Agency (EPA) introduced a policy for controlling municipal sewer overflows from pipes that carry both stormwater and sewage. This policy has proven to be extremely expensive for cities, utilities, and their ratepayers. Utilities have spent billions of dollars to build pipelines and tanks and expand treatment capacity. In 2011, the Metropolitan St. Louis Sewer District signed a record $4.7 billion Clean Water Act settlement to reduce the amount of raw sewage and

polluted surface runoff entering local waterways. More than 40 communities have signed similar agreements with the EPA since 1998.[48]

Due to the cost of these agreements and the fact that other pollution-control projects might result in greater water quality benefits, the EPA released an alternative strategy in June 2012 which provides communities with more flexibility in meeting water quality goals. The voluntary process also encourages use of green infrastructure, natural water-absorbing systems such as wetlands and grass roofs, that could reduce compliance costs in the long run. This integrated framework allows a city to choose the sequence in which it takes on projects. The City of Seattle negotiated a first-of-its-kind proposed agreement with the EPA under this alternative strategy that allows the City to use the most cost-effective and environmentally-beneficial projects to control and treat both stormwater and sewage.

III.B.1.b. Stormwater

The rate of implementation of storm-water utilities and the growth rate of stormwater user fees have coincided with three periods of regulatory pressure:

1. 1970s: The implementation of the Clean Water Act and increased focus on local floodplain management regulations.

2. Early 1990s: The issuance of Phase I NPDES stormwater permits for large cities and counties with over 100,000 people served by municipal separate storm sewer systems (MS4s).

3. Early 2000s: The issuance of NPDES MS4 permits to the smallest regulated size class, also known as Phase II jurisdictions with populations over 50,000 in urban areas.

A 2012 Black and Veatch Stormwater Utility Survey[49] outlines additional industry cost drivers and trends, including:

- **Lack of formalized structure in addressing permit requirements**. Less than 20 percent of survey respondents have any type of "integrated planning," even though 88 percent indicate that they are required to comply with the NPDES permit requirements and 82 percent have to comply with the MS4 permit requirements.

- **Insufficient funding for basic maintenance and infrastructure.** In 2002, 53 percent of the utilities surveyed indicated that available funding met most of their needs. In the 2012 survey, only 36 percent of the utilities reported that funding is adequate to meet most of their needs. Ten percent responded that funding was not sufficient to meet even the most critical needs of maintenance and routine infrastructure replacement, flood control and capacity management.

- **Preponderance of wastewater funding for CSO mitigation costs.** In cities with combined sewer systems, 36 percent of respondents did not recover any of their CSO mitigations costs via the

[48] "St. Louis Sewer District and U.S. Justice Department Reach Record $4.7 Billion Clean Water Act Settlement ". *Circle of Blue*. 8 August 2011.

[49] "2012 Stormwater Utility Survey". *Black & Veatch*. 2012.

stormwater utility, and 45 percent recovered 20 percent or less of their CSO costs via the stormwater utility.

- **Limited credit programs.** Only 37 percent of respondents have a stormwater credit program.
- **Increasing use of Geographic Information Systems (GIS) in development of stormwater fees.** More utilities are using technology to determine stormwater fees for individual properties as the cost for acquiring impervious surface data has decreased and the quality of aerial ortho imagery has increased. In 2005, only 42 percent of the respondents indicated using GIS and aerial ortho imagery as the principal sources of determining impervious areas, whereas more than 65 percent of the utilities now report using these technologies.
- **Legal challenges.** Nearly a quarter (24 percent) of utilities have faced a legal challenge to their stormwater fees.

Overall, SPU is ahead of the trends that many utilities are just now addressing. Formalized planning, ongoing support of infrastructure investments, and implementation of policies that more closely align rates with underlying cost of service have been drivers of drainage rates over the past several years.

Unlike the majority of survey respondents, **SPU has a well-established integrated stormwater management program that** has evolved over several decades. It is designed to protect water quality, reduce pollutant discharges, satisfy Clean Water Act requirements, and meet State requirements to use all known, available and reasonable methods to prevent and control water pollution.

The first Phase I MS4 permit issued by the Washington State Department of Ecology ("Ecology") in July 1995 included the City of Seattle. To meet the requirements of the 1995 Permit, the City prepared a Storm Water Management Plan that was approved by Ecology in 1997. The City has provided updates on stormwater management activities to Ecology in annual reports submitted since 1996.

With the support of City Council, **SPU has not only committed significant resources to supporting the maintenance and infrastructure needs of its stormwater system but also invested in the protection of local waters impacted by the drainage system**. As previously described in section III.A.1, Capital Spending and Financing, SPU has spent nearly twice as much on drainage-specific improvements as opposed to wastewater-specific improvements over the course of the past 15 years. The 1995 Comprehensive Drainage Plan expanded drainage efforts beyond flooding problems and major drainage trunks to include creek protection and water quality enhancement.

Again, in contrast to the majority of other impacted utilities, **SPU funds a significant portion (55 percent) of CSO mitigation costs with stormwater fees.** Prior to 2008, these costs were funded entirely with wastewater fees. In its 2006 Drainage Rate and Incentive Methodologies Report, SPU recommended sharing combined wastewater system costs between drainage and wastewater based on average annual flows of wastewater and stormwater through the City system as stormwater is a major driver of overflow events. This new funding approach was gradually implemented between 2008 and 2014, with drainage rates receiving their full allocated cost share starting in 2014.

SPU is in the minority of surveyed utilities which provide credits for privately-owned systems that reduce stormwater flow and/or provide water quality treatment. Examples of stormwater systems are structures such as vaults, rain gardens, permeable pavements and infiltration systems that provide water quality treatment and/or slow down stormwater flow from impervious surfaces like rooftops, driveways or walkways. SPU continues to evaluate and expand its Stormwater Credit Program to recognize new situations that may warrant some type of reduction to a customer's drainage bill.

SPU implemented a new drainage rate design in 2008 to improve the equity of drainage charges. The rate structure, which introduced additional rate tiers, more accurately reflects the differences in customers' property characteristics, and therefore, their impact on the drainage system. The new rate structure utilized GIS and ortho-photo data to capture the property characteristics of parcels. **SPU continues to use GIS to evaluate and implement enhancements to its stormwater fee structure and credit program.**

To date, SPU has not experienced any major legal challenges to its rate structure. Some federal government properties did not pay their SPU drainage fees based on the argument that they are a tax, not a fee. However in January 2011, President Obama signed into law S. 3481, which required the federal government to pay its share of local stormwater management fees. As a result, the federal government is now paying nearly 100 percent of its SPU drainage fees. SPU's only other challenges to its drainage fees have been in terms of the application of the fees.

III.C. Baseline Spending Assumptions

Baseline spending assumptions represent the level of spending required to maintain existing service levels plus meet firm regulatory requirements. *"Maintaining existing service levels"* means that *actual* service quality (as opposed to *targeted* service quality) neither degrades nor improves through 2020. Baseline spending assumptions DO NOT[50]:

- Adjust for any anticipated, future efficiencies;
- Prioritize existing expenditures and eliminate or reduce lower priority projects/programs;
- Include capital projects in the six-year Capital Improvement Program that are new efforts not required by regulators or are not necessary to maintain existing service levels; and
- Include new initiatives to address gaps in meeting SPU's strategic objectives.

Section III.C. discusses operating expenditures and the level of capital expenditures directly funded with baseline rates revenues and other non-rates revenue funding sources[51] further discussed in Section III.D.

[50] Increases or reductions to spending associated with the bulleted exclusions are addressed in the strategic plan rather than the financial baseline.

[51] This includes other current year operating and non-operating revenues, as well as prior year revenues remaining in operating cash balances.

The majority of capital expenditures are directly paid for with proceeds from the sale of revenue bonds and do not impact the baseline rates revenue requirement discussed in Section III.D on a dollar-for-dollar basis. Instead, capital spending impacts the baseline rates funding requirement in two areas: a) debt service payments on revenue bond borrowing, and b) financing of a portion of current year capital expenditures with rates and non-rates revenues (cash financed CIP)[52].

Sub-section III.C.1. includes a summary of assumed service levels used in developing baseline spending assumptions.

Sub-section III.C.2. details current (2014) operating expenditures as well as the level of capital expenditures assumed to be funded with rates and non-rates revenues. These represent spending levels required to support current service levels. **Sub-section III.C.3.** follows with the same information for 2015 through 2020, including a discussion of inflation and other assumptions underlying increases in spending over 2014 levels.

Sub-section III.C.4. provides an overview of total 2015 to 2020 baseline capital spending levels required to maintain current service levels and meet regulatory requirements. Whereas Sections III.C.2 and III.C.3 note the level of capital expense funded with rates and non-rates revenues, this section defines TOTAL projected capital spending, including the portion paid for with revenue bond issue proceeds. In addition this section provides a description of the work done under the capital improvement program.

III.C.1. Current Service Levels

Table III-2 and Table III-3 present information on the service levels assumed in developing baseline spending.

[52] See Section III.C.2 and Appendix A for further information on the impact of capital spending on rates.

Table III-2
Wastewater Current Service Level Targets and Actual Performance

Service Levels	Target	Mandatory?	Usual Performance	Comments
1. Limit SPU-related sewer backups to no more than 4 per 100 miles of pipe per year	max 4/100 miles pipe (60 per year)	Yes	Between 2-4 backups per 100 miles pipe per year	Meeting targets. This is a CSO Consent Decree requirement. As such, there is no flexibility in the target level and little ability to reduce costs. However, we are exploring ways to increase efficiencies so that as more assets are constructed there is a reduced need to add commensurate staff.
2. Limit storm-driven sewer overflows to an average of one untreated discharge per overflow site per year	max 1/site/year (89 total per year)	Yes	355 in 2012	Working to meet target. CSO Consent Decree and Stormwater NPDES permit driven. We are regularly exploring the most cost effective means to achieve target (e.g., retrofit program).
3. Eliminate dry-weather sewer overflows by 2014.	Zero	Yes	Zero	Generally meeting target. CSO Consent Decree and Stormwater NPDES permit driven. No flexibility in target, but are regularly exploring the most cost effective means to achieve target.
4. Respond to 90% of high priority wastewater problems within 1 hour	1 hour max	No	71-98% in last 3 months of 2012 (for DWW)	Generally meeting target. Not a regulatory requirement so there is flexibility in the service level. We could explore the impacts of lowering response targets – would likely be some combination of cost reductions in first response crews, and potential increases in claims costs.
5. 80% of safety-related wastewater problems resulting in a service interruption will have service reinstated within 6 hours	80 percent min	No	100% in last 3 months of 2012 (for DWW)	Generally meeting target. Not a regulatory requirement so there is flexibility in the service level. We could explore the impacts of lowering response targets – would likely be some combination of cost reductions in DWW crews, and potential increases in claims costs.

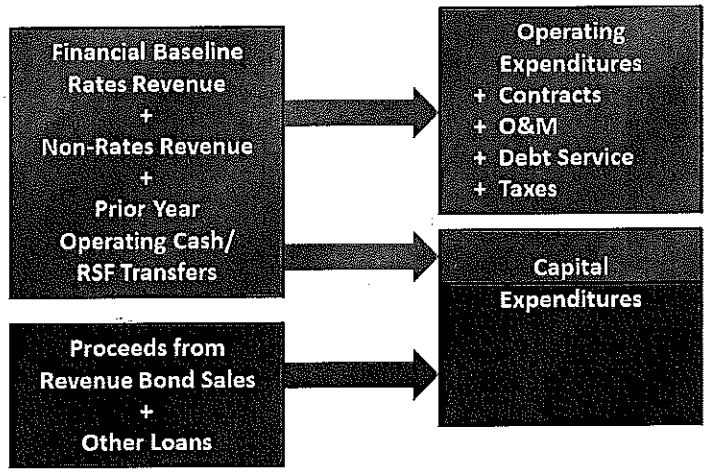
Table III-3
Drainage Current Service Level Targets and Actual Performance

Service Levels	Target	Mandatory?	Usual Performance	Comments
1. Meet NPDES municipal stormwater permit requirements.	Meet requirements	Yes	Meeting requirements	Meeting the permit requirements (89 of 89 in 2011). Limited flexibility in how we achieve requirements and in our ability to reduce costs.
2. Limit SPU drainage system-related interior flooding to 0.1% of customers	0.1% max (170 customers per year)	No	< 0.1 percent	Meeting target. However, note that we are using a surrogate measure – claims. There is no regulatory requirement; and it could be changed. Unknown whether there would be cost savings from lower target levels, as there would be an increase in claims costs.
3. No critical services are inaccessible due to flooding, except during extreme storm events (i.e., events exceeding the 25-year, 24-hour design storm event)	Zero	No	Meeting target	Meeting target almost all the time, although there have been times, that a road (e.g. 1 lane of Aurora Bridge) has been closed due to flooding from a maintenance issue (inlet clogging). There is no regulatory requirement and so the service level could change, with possible potential savings.
4. Respond to 90% of high priority drainage problems within 1 hour	1 hour max	No	71-98% in last 3 months of 2012 (for DWW)	Generally meeting target. Not a regulatory requirement so there is flexibility in the service level. We could explore the impacts of lowering response targets – would likely be some combination of cost reductions in first response crews, and potential increases in claims costs.
5. 80% of safety-related drainage problems resulting in a service interruption will have service reinstated within 6 hours	80% min	No	100% in last 3 months of 2012 (for DWW)	Generally meeting target. Not a regulatory requirement so there is flexibility in the service level. We could explore the impacts of lowering response targets – would likely be some combination of cost reductions in DWW crews, and potential increases in claims costs.

III.C.2. Overview of 2014 Spending Requirement (Use of Drainage and Wastewater Revenues)

The majority of annual baseline drainage and wastewater rates revenues are used to fund operating expenditures. These revenues also directly fund a portion of current year capital expenditures (cash-financed CIP). As detailed in Appendix A, apart from the cash-financed portion of the CIP, rates revenues do not directly fund capital expense but are used to repay debt on revenue bond proceeds used to fund both current year and prior year(s) capital expenditures. Figure III-8 depicts the sources and uses of operating and capital funding.

Figure III-8
Operating and Capital Funding Sources and Uses

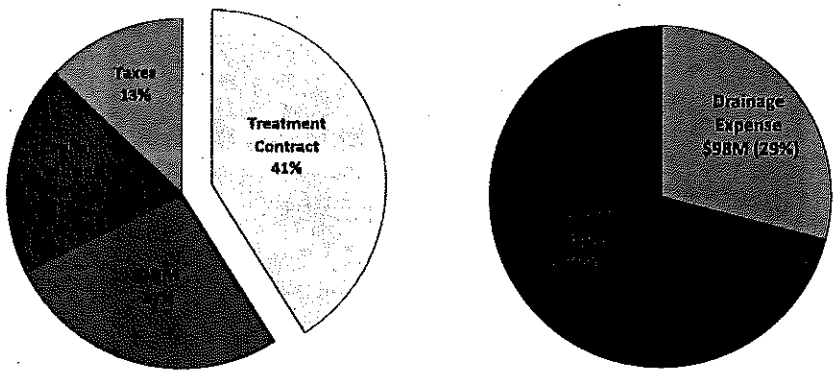


The Drainage and Wastewater lines of business share common capital and operating budgets. However, as SPU collects separate rates for these two distinct service lines, the department must develop separate cost of service bases. The overall DWF budget is allocated between the two lines of business for rate-setting purposes using the following general tenets:

- Work entirely dedicated to one service type, such as drainage pipe cleaning, is allocated 100 percent to the applicable line of business;
- Shared administrative expense is allocated between drainage and wastewater using actual labor expense for the activities being supported or administered;
- Debt service expense is allocated based on the net book value of assets built; and
- Combined system expense is allocated based on average stormwater and sewer flows, as further described in the introduction to Section III.

Figure III-9 below presents a breakdown of the projected 2014 Drainage and Wastewater Fund's Use of Revenues[53]. Payments to King County and the Southwest Suburban Sewer District[54] are the single largest DWF operating expense, accounting for 41 percent of total revenue use. Operations and maintenance expense is the next largest expense (27 percent) followed by capital financing (19 percent for cash and debt service) and tax payments (13 percent). Wastewater expense accounts for 71 percent of the total funding requirement and drainage expense for 29 percent.

Figure III-9
Drainage and Wastewater Fund 2014 Spending Requirement
Use of DWF Revenues
($338 Million)

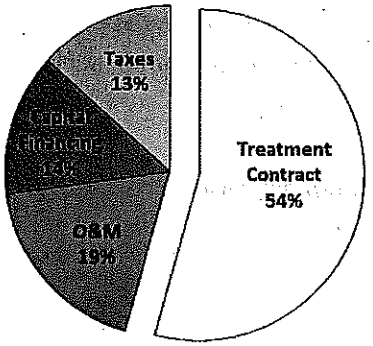


Figures III-10 and **III-11** present breakdown for the separate Wastewater and Drainage allocations of the combined budget which are used for rate-setting purposes.

[53] Revenues funding 2014 expenditures include current year rates and non-rates revenues and may also include prior year operating revenues transferred from the Rate Stabilization Fund or otherwise carried over in operating cash balances.

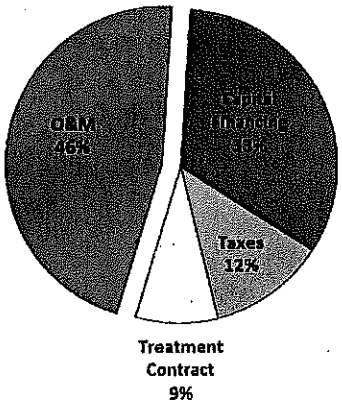
[54] King County treats over 99 percent of the City's sewage. The Southwest Suburban Sewer District treats the remainder.

Figure III-10
Wastewater 2014 Spending Requirement



	2014 ($M)	% of Total
Treatment Contract	$130.0	54%
O&M	$44.4	19%
Capital Financing	$33.1	14%
Taxes	$31.9	13%
Total baseline	$239.5	100%

Figure III-11
Drainage 2014 Spending Requirement



	2014 ($M)	% of Total
Treatment Contract	$8.4	9%
O&M	$45.5	46%
Capital Financing	$32.5	33%
Taxes	$11.9	12%
Total baseline	$98.2	100%

The figures above demonstrate two key points:

- The wastewater spending requirement is significantly larger than that of drainage, in fact 2.4 times greater in 2014.
- There are distinct differences in the composition of the two spending requirements.

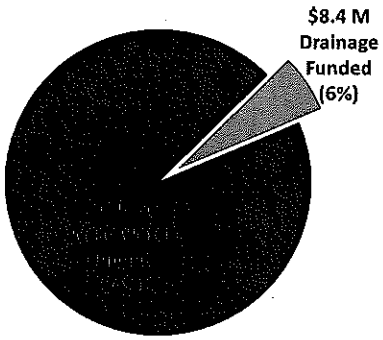
Payments to King County for wastewater treatment dominate the wastewater expense base, making up about 54 percent of overall 2014 spending requirement. SPU O&M (19 percent), taxes (13 percent) and capital financing (14 percent) account for much lesser shares. SPU O&M dominates the drainage spending requirement (46 percent) while capital financing contributes a significant share (34 percent), and taxes (12 percent) and King County treatment expense (8 percent) much lesser shares.

Although capital financing and O&M represent much larger shares of the drainage spending requirement in percentage terms, in dollar terms they are nearly identical between the two service lines, totaling $77.5M for wastewater and $78.7M for drainage in 2014. The primary difference between the two spending requirements is the allocation of King County treatment expense for which wastewater revenues fund a share larger than the entire drainage revenue requirement.

III.C.2.a. Wastewater Treatment Contract Expense

Payments for wastewater treatment, projected to be $138.3 million in the 2014, are the single largest Drainage and Wastewater Fund expense, accounting for 41 percent of the 2014 total DWF funding requirement and 44 percent of the DWF projected operating budget[55]. Both wastewater and drainage rates fund this expense, although wastewater funds a much larger share, as presented in Figure III-12 below.

Figure III-12
2014 Baseline DWF Wastewater Treatment Expense
Funding by Line of Business



Beginning in 2008, drainage and wastewater rates began to share funding of all combined sewer expense, costs previously financed entirely by wastewater rates (see Combined System Expense in the introduction to Section III). Wastewater treatment expense is included in this funding shift as the costs associated with funding King County combined sewer overflow structures are included in the cost basis used to develop the King County treatment rate. As with other combined system costs, the shift in treatment expense from wastewater to drainage rate bases was implemented gradually over a number of rate periods. 2014 is the first year in which drainage rates pay for their full allocation of six percent of treatment expense.

III.C.2.b. SPU O&M Expense

As Figure III-9 in the introduction to Section III.C.2 shows, operations and maintenance (O&M) expenses account for 27 percent of the 2014 drainage and wastewater spending requirement. The majority of these costs cover branch O&M -- the costs of running the department's operations and corporate activities (Field Operations & Maintenance, Customer Service, Utility Systems Management, Project Delivery, Human Resources & Service Equity, Finance & Administration, and Corporate Strategies & Communications). A smaller portion pays for costs outside of the branches' control, such as cost-allocated payments to other city departments, space rent, claims, and contingencies for emergencies.

[55] Although operating revenues are used to fund a portion of current year capital expense, cash financing of the CIP is not included in the operating budget.

Within the drainage and wastewater branch O&M, personnel costs (wages, benefits, overtime, temporary staffing, etc.) comprise the largest portion of expenditures at roughly 72 percent. The next largest cost center is services, which includes consultant and other outside services (e.g. financial auditing, security, printing, etc.), inter-departmental payments for direct services (e.g. customer billing system services from City Light), and payments to other government agencies and non-profits organizations (e.g. street sweeping services from Seattle Department of Transportation). The remaining branch O&M costs are composed of fleet, supplies, inventory, maintenance, utility and other like expenses.

The activities performed in the drainage and wastewater branch O&M can also be characterized as "mandatory", "core" or "value-added". Activities that are considered mandatory or core are essential to directly or indirectly providing basic utility services and/or meeting regulatory requirements. Examples include meeting the Consent Decree and stormwater NPDES requirements, operating and maintaining the drainage and wastewater systems, monitoring new assets and structures, and operating the customer contact center. Activities that are considered "value added" are more discretionary and enable us to operate more effectively, efficiently, and sustainably, and/or add value to the organization and our customers. Examples include climate adaptation, asset management, and service equity activities.

III.C.2.c. Capital Financing Expense (Debt Service and Cash Financed CIP)

The Drainage and Wastewater Fund pays for current year capital expenses through a combination of DWF revenues (cash-financed CIP) and proceeds from periodic revenue bond issues and a small amount of Washington State Public Works low-interest loans (debt-financing). Annual debt service payments of principal and interest represent the annual cost to the fund of issuing revenue bonds.

Financing a portion of the CIP with revenues provides greater flexibility to the utility by reducing the amount of debt that must be issued and associated long term debt service obligations. Debt-financing, however, is important to inter-generational equity as it assigns a portion of cost to future ratepayers who will benefit from long-lived assets.

Table III-4 presents projected funding sources for current year 2014 capital spending, as well as 2014 Capital Financing Expense by type. The CIP funding sources shows where the cash comes from to pay for current year (2014) CIP expenses. The ratio of cash-to-revenue bond financing is established by financial policies, as described further in this section. So, the "percent of cash financed CIP" refers to the percent of total current year CIP expense that is funded with operating revenues (as opposed to revenue bonds or other "borrowed" sources).

The capital financing expense shows annual payments made from DWF revenues to pay for current year capital expense (cash-financed CIP) and debt payments on current/prior year revenue bond issues. Total capital financing expense (as opposed to capital spending) is the amount that must be funded through the annual baseline funding requirement.

Table III-4
Drainage and Wastewater Fund 2014 Capital Funding Sources and Capital Financing Expense

2014 CIP Funding Sources

	2014 ($M)	% of Total
Revenue Bond Proceeds	$63.5	72%
Operating Revenues	$24.5	28%
Total 2014 CIP Spending	$88.0	100%

2014 DWF Capital Financing Expense

	2014 ($M)	% of Total
Debt Service Payments	$41.1	63%
Cash-financed CIP	$24.5	37%
Total 2014 Capital Financing	$65.6	100%

On aggregate, 2014 baseline spending assumes that drainage and wastewater will each pay very similar shares of total capital financing expense, with wastewater revenues paying a total of $33.1 million and drainage revenues a total of $32.5 million.

Debt Service

Debt service is the annual principal and interest payment on ALL outstanding revenue bonds issued by the Drainage and Wastewater Fund. Debt payments for the Fund are typically spread over 30 years. So total annual debt service expenditures is the sum of annual payments for all prior year outstanding bond issues, as well as debt service on any current year issuances, if applicable.

In 2014, the Drainage and Wastewater Fund will make cumulative debt service payments of $41.1 million on revenue bonds, the oldest issued beginning in the early 1990s[56]. SPU expects to issue up to $123 million in new revenue bonds in 2014.

Drainage rates will fund 63 percent of these debt service payments and wastewater rates will fund 37 percent. As noted earlier, DWF debt service expense is allocated between drainage and wastewater based on the net book value of each service line's assets. Most drainage and wastewater assets have a life in excess of the 30-year debt repayment schedule. Therefore, it is reasonable to assign lower debt costs to older assets with a lower net book value (due to depreciation). Drainage assets are generally much newer than wastewater assets, with the exception of new CSO structures whose costs are shared between drainage and wastewater.

Cash-Financed CIP

Cash-financed CIP are revenues used to fund a portion of current year capital expenditures. The planned level of cash financing of the CIP is typically determined by adopted financial policies.

DWF financial policy targets, adopted by City Council in 2003, specify that 25 percent of annual DWF capital expenditures be funded with operating cash. Each line of business may contribute a differing percentage, as long as 25 percent of total DWF capital spending is financed with cash. This target is implemented as a four-year rolling average to better address spikes in annual capital spending (i.e. DWF

[56] All bonds issue prior to 2006 have been subsequently re-financed with later issues.

may fund more than 25 percent in years where there is lower capital spending and less than 25 percent in years with higher spending to better smooth actual dollars funded from year to year).

In 2014, DWF expects to fund $24.5 million of capital expense with current-year revenues. This represents 28 percent of total projected CIP spending of $88 million. As noted in the introduction to this section, proceeds from revenue bond sales are used to fund the remaining 72 percent of CURRENT YEAR capital expenditures.

See Appendix A for further detail on the funding flow for capital and operating expenditures.

III.C.2.d. Taxes

The Drainage and Wastewater Fund pays three different taxes on various sources of revenue. The largest tax is the City of Seattle utility tax, with rates of 12 percent on wastewater and 11.5 percent on drainage sale revenue and most other retail services. In 2014 this tax is projected to total $39.3 million. The State of Washington levies two taxes on various revenues, the state utility tax and state B&O tax. These two taxes are rarely levied on the same activity, preventing double taxation. In 2014, State Taxes are projected to total $4.4 million.

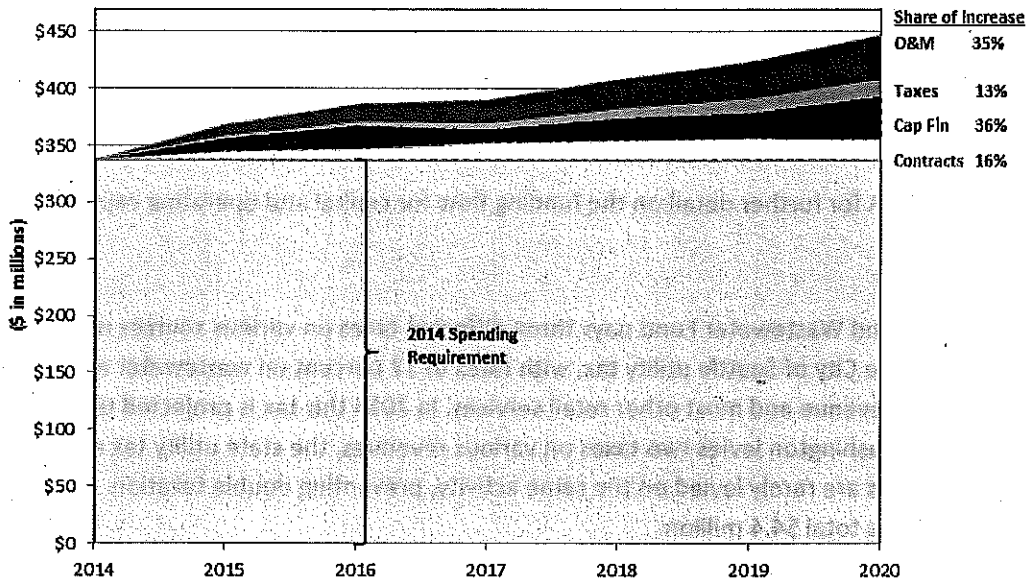
III.C.3. 2014-2020 Baseline Spending Requirement (Use of Revenues)

This section focuses on SPENDING levels underlying the baseline FUNDING requirement between 2015 and 2020. These funding levels assume:

- 2014 proposed budgetary spending, plus
- Inflationary adjustments, plus
- Other discrete changes to costs to maintain existing service levels plus meet regulatory requirements

Figure III-13 shows the composition of increases to the Drainage and Wastewater Fund spending requirement between 2015 and 2020 which is composed of inflationary adjustments to the 2014 proposed budget plus other discrete changes to costs to maintain existing service levels and meet regulatory requirements.

Figure III-13
Drainage and Wastewater Fund Baseline Spending Requirement 2014-2020



At the Fund level capital financing and O&M account for 71 percent of total spending increases. Although treatment contracts are the largest component of the spending base, spending in this area grows more slowly than other O&M, accounting for 16 percent of total increase. By 2020, while still the largest expense component, treatment contracts' share of total spending declines to 35 percent (from 41 percent). The shares of both O&M and capital financing grow, from 27 percent to 29 percent for the former and from 19 percent to 23 percent for the latter. Taxes remain constant at 13 percent of spending across the period.

Spending increases at the line of service level show some similarities but also retain some distinct differences, as demonstrated in Figures III-14 and III-15 below.

Figure III-14
Drainage Spending Requirement 2014-2020

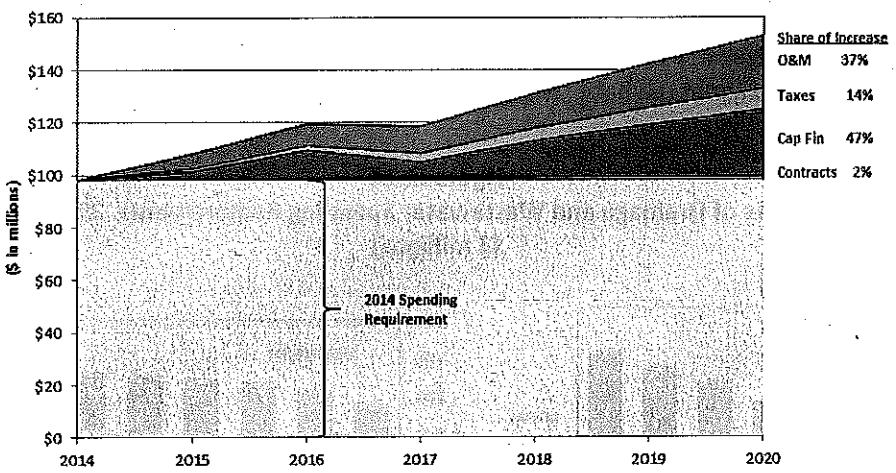
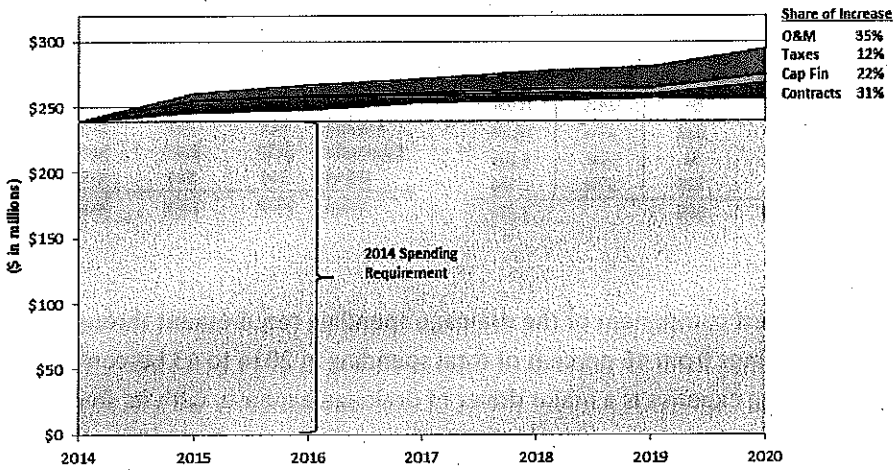


Figure III-15
Wastewater Spending Requirement 2014-2020

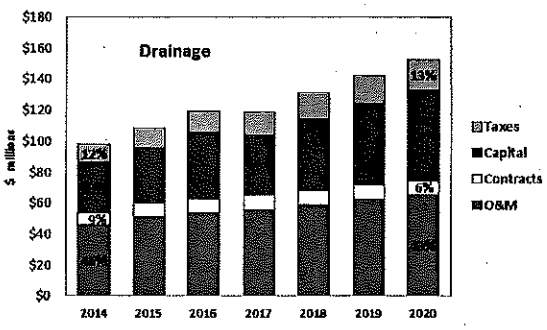


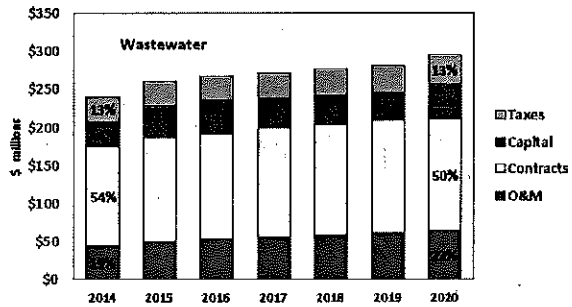
Capital financing accounts for almost half of the growth in drainage spending at 47 percent of total growth but only 22 percent of wastewater increases, primarily due to much higher drainage debt service expense. DWF debt service expense is allocated between drainage and wastewater based on net book value of the assets of the two service lines. Drainage assets are generally newer than wastewater assets (and so have a higher net book value). In addition, drainage rates fund a majority of the largest planned capital projections (including a 55 percent share of combined sewer overflow projects), further discussed in the Executive Summary. The percentage increase in total spending attributable to O&M and taxes is similar across both service lines, at 35 to 37 percent for O&M and 12 to 14 percent for taxes.

Treatment contract expense is a much larger component of total wastewater increases (31 percent) than drainage increases (two percent), as drainage pays only six percent of treatment expense.

Figure III-16 provides a different look at planned Drainage and Wastewater spending, showing the components of total expense, by year, between 2014 and 2020. This figure also shows the percentage each component represents of the base (2014) and in 2020.

Figure III-16
Components of Drainage and Wastewater Spending Requirements, 2014-2020
($ millions)





	2014	2020	2015-20 Increase	% of Increase	Avg Annual % Increase
Taxes	$12	$20	$8	14%	8.8%
Capital	$32	$58	$26	47%	10.2%
Contracts	$8	$9	$1	2%	2.0%
O&M	$45	$65	$20	37%	6.2%
Total	$98	$153	$55		7.6%

	2014	2020	2015-20 Increase	% of Increase	Avg Annual % Increase
Taxes	$32	$38	$7	12%	3.2%
Capital	$33	$45	$12	22%	5.4%
Contracts	$130	$147	$17	30%	2.0%
O&M	$44	$64	$19	35%	6.2%
Total	$239	$295	$55		3.5%

O&M remains the largest component of the drainage spending requirement throughout the period, although its share declines from 46 percent of total spending in 2014 to 43 percent in 2020. As noted earlier, capital financing expense is a major driver of drainage expense, with its share increasing from 33 percent of spending in 2014 to 38 percent by 2020. Contract expense continue to be the largest part of the wastewater spending base, although it declines from 54 percent of total spending in 2014 to 50 percent by 2020. O&M, the second largest component of wastewater spending, increases from 19 percent of total spending in 2014 to 22 percent by 2020.

With the exception of contract expense (only 9 percent of 2014 base spending), all other components of drainage spending are projected to increase at a rate significantly above the 2.4 percent projected general inflationary rate for the Seattle area. [57] Wastewater spending is projected to rise at less than half the rate of that of drainage, primarily due to the fact that the largest component of the wastewater base

[57] Seattle CPI-U forecast by The Puget Sound Economic Forecaster, prepared by Conway Pedersen Economics, Inc.

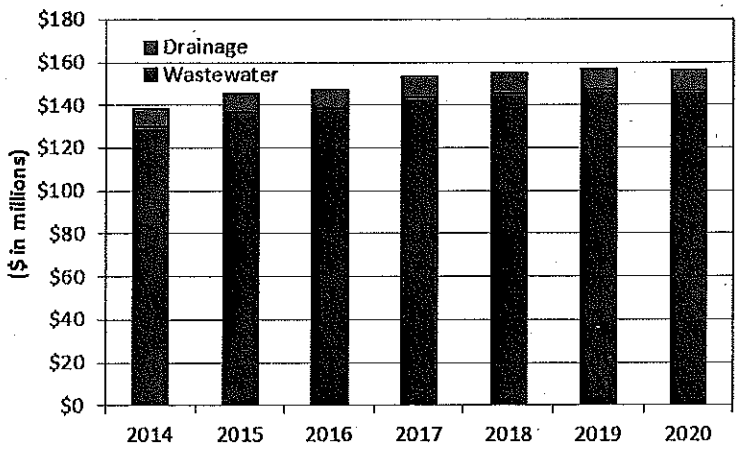
(contract expense) is rising at a rate lower than general inflation and because there is a much smaller increase in wastewater capital financing expense. Following is further discussion of cost drivers, including why certain cost components are increasing more rapidly than inflation.

III.C.3.a. Contract (Treatment) Expense

Payments for wastewater treatment services are projected to growth by $17.8 million, or a total of about 13 percent between 2014 and 2020, averaging about two percent per year. Although still the single largest DWF expense component, treatment's share of total DWF spending is projected to decrease across the period from 41 to 35 percent.

Wastewater rates pay for the bulk of the projected increase ($16.8 million). Drainage rates fund only about $1 million, or six percent of the total increase, which is consistent with drainage's total allocated share of six percent of treatment expense.[58]

Figure III-17
Treatment Spending Requirement 2014-2020



Increases to treatment expense are driven by a combination of changes in demand [59] and changes in the King County treatment rate. Table III-5 presents projected changes in the King County treatment rate across the period.

[58] See Introduction to Section III and Sections III.A.2 and III.C.2.a for more details on treatment expense.

[59] While treatment charges for commercial customers are based on actual usage, King County assumes constant demand for residential customers, charging a fixed rate per household. Therefore, only a portion of the expense base is demand driven.

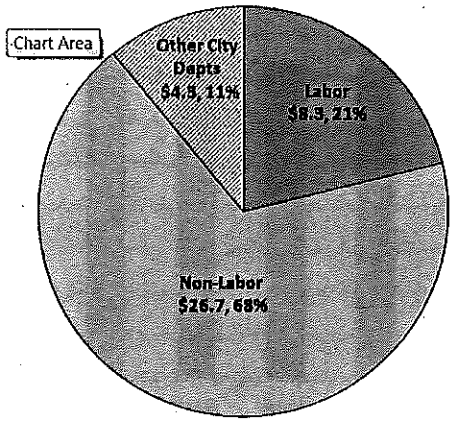
Table III-5
King County Treatment Rate per RCE[60] 2014-2020

	2014	2015	2016	2017	2018	2019	2020
Rate per RCE	$39.79	$41.95	$42.73	$44.51	$45.16	$45.90	$45.90
% Change		5.4%	1.9%	4.2%	1.5%	1.6%	0.0%

The treatment rate that SPU pays to King County is projected to increase by 15 percent between 2014 and 2020, or about 2.4 percent per year. The two percent average annual increase in SPU treatment expense is lower than the increase in the treatment RATE, reflecting the impact of declining demand on the amount actually paid out annually.

III.C.3.b. O&M Expense

Figure III-18
Drainage and Wastewater Fund
2014-2020 Baseline O&M Spending



As Figure III-18 shows, O&M accounts for the largest portion of the 2015-2020 baseline increase relative to 2014 spending. The O&M baseline drivers are labor, non-labor, and City central costs (allocated costs to other City departments).

There are three major components to the labor cost increases:

- Health care benefit costs are expected to inflate by seven percent per year.
- The City's contribution to the retirement system is assumed to continue to increase.

[60] Residential Customer Equivalent

- Real wages are rising slightly higher than the rate of inflation. The annual cost of living adjustment (COLA) is assumed to be 2.5 percent for all City employees. In addition to this, other factors are driving SPU wages above COLA. These include the fact that changing business needs and more automation result in needing fewer entry-level (lower paid) positions, and more and more new employees are calling for higher starting salaries as a condition of employment.

Most non-labor costs assume a general inflation rate of two percent on most goods and services. However, based on the eight-year inflation average (2005-2012), some cost centers are estimated to rise beyond two percent per year. These include fuel, professional and technical services, and utilities.

In addition to inflation on non-labor costs, the O&M baseline is growing because of specific adjustments made to either maintain current service levels and/or meet firm regulatory requirements. In the drainage and wastewater line of business examples of this include:

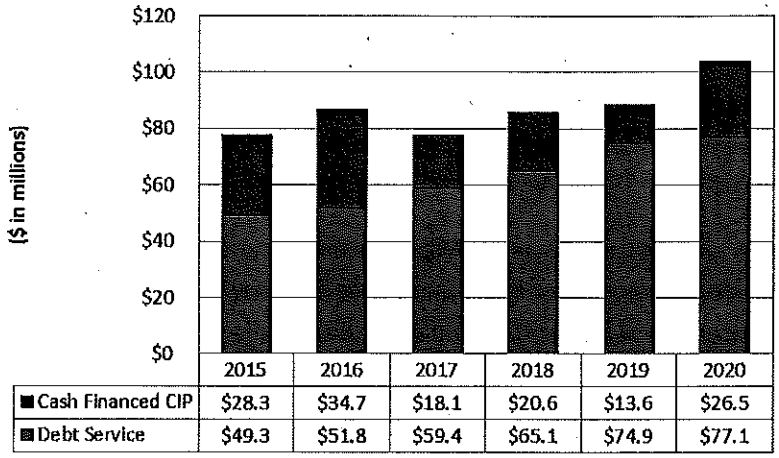
- Additional crews and services to maintain and operate new drainage and wastewater assets and structures, including Green Stormwater Infrastructure assets;
- Updates to the stormwater code and manuals;
- Implementation of real-time controls and other measures to meet the CSO Consent Decree sewer maintenance requirements;
- Higher vendor costs for software maintenance and support; and
- Higher payments to City Light when the new customer billing system is launched.

Finally, the last O&M baseline driver is City central costs. These are costs that are allocated to SPU for services provided by other departments in support of general City operations. This includes payments to the Finance & Administrative Services (FAS) Department, the Department of Information Technology (DoIT), the City Auditor's Office, the Law Department, the City Council, the City Budget Office, etc. As with non-labor costs, based on the eight-year inflation average (2005-2012), several City central costs are estimated to rise beyond two percent per year. See Appendix D for a complete list of inflation assumptions.

III.C.3.c. Capital Financing Expense

As discussed in Section III.C.2.c, capital expenditures in any given year are paid for with a combination of revenue bond proceeds and Drainage and Wastewater operating and non-operating revenues. These revenues are also used to pay the debt service (interest and principal payments) on the current and prior revenue bond issues. Figure III-19 presents the projected components of annual Drainage and Wastewater Fund capital financing expense from 2014 through 2020.

Figure III-19
Drainage and Wastewater Fund Capital Financing Expense 2014-2020



Over the period, total capital financing expense is projected to increase by $38 million, from $66 million in 2014 to $104 million in 2020. Although capital financing account for about 23 percent of the total spending requirement in 2020, it is the fastest growing expense component, accounting for 35 percent of increases to the spending requirement.

Table III-6 presents the change in annual capital financing by component. The change in expense is what drives changes to rates.

Table III-6
Change in DWF Capital Financing Expense, 2014 to 2020

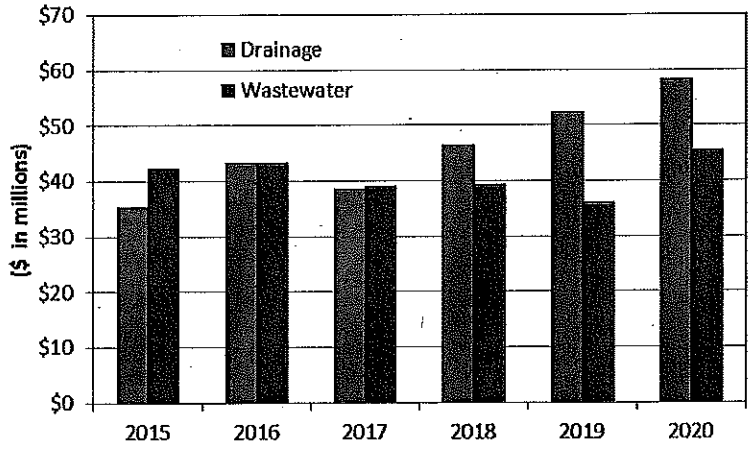
	2015	2016	2017	2018	2019	2020	Total
Debt Service	$8.2	$2.5	$7.6	$5.7	$9.8	$2.2	$36.0
Cash Financed CIP	$3.8	$6.4	-$16.6	$2.5	-$7.0	$12.9	$2.0
Total	$12.0	$8.9	-$9.0	$8.2	$2.8	$15.1	$38.0

Debt service is the predominant driver of the increase, accounting for $36 million of the net increase in capital financing expense. The increases in debt service assume that the Drainage and Wastewater Fund will issue about $560 million in new revenue bonds through 2020 ($122 million in 2014; $85 million in 2016; and $137 million in 2017 ; $139 million in 2018; and $77 million in 2020). Significant new debt is required during this period to fund regulatory requirements related to combined sewer overflows and superfund orders, regular investments in system infrastructure and in projects specifically addressing areas with chronic flooding and/or sewer back-up issues, and investment in green stormwater solutions to reduce flooding and improve water quality. See Section III.C.4 for more details.

Cash-financed CIP adds $2 million in net increased expense between 2014 and 2020. Rates are set to fund 25 percent of capital expense with rates and non-rates revenues over a rolling four year period. The percentage contributed on an annual basis may fluctuate away from this 25 percent target, generally for rate smoothing purposes, as long as the four-year average target is generally met.

Figure III-20 presents the amount of capital financing expense funded by drainage and wastewater rates.

Figure III-20
Drainage and Wastewater Capital Financing Expense, by LOB, 2014 to 2020



Drainage rates fund about 68 percent ($26 million) of the $ 38 million increase in DWF capital financing expense between 2015 and 2020. Drainage capital projects account for about 61 percent of total DWF capital spending across the period.

III.C.3.d. Taxes

Table III-7 presents projected city and state taxes between 2015 and 2020.

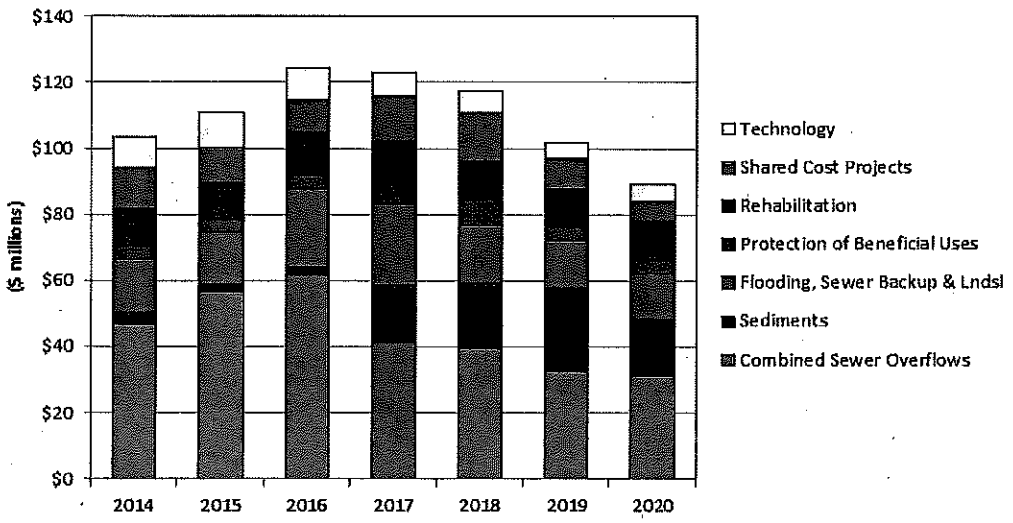
Table III-7
Projected Drainage and Wastewater Fund Tax Expense, 2015 to 2020
($ in millions)

	2015	2016	2017	2018	2019	2020
City Taxes	$40.5	$41.3	$43.5	$46.0	$49.1	$51.9
States Taxes	$4.4	$4.5	$4.7	$5.1	$5.7	$6.2
Total	$44.9	$45.7	$48.1	$51.2	$54.7	$58.1

III.C.4. 2014-2020 Baseline Capital Spending

Planned spending in the drainage and wastewater CIP is $666 over the 2015-2020 period. Over the next six years, a challenge for the drainage and wastewater CIP is ensuring basic service level programs, such as flood control and system capacity, are not stripped of funding as regulatory requirements continue to grow. The CSO Reduction program is the largest driver of the growing drainage and wastewater capital program.

Figure III-21
Drainage and Wastewater Fund Planned Capital Expense, 2014 to 2020



The overriding goal of the drainage and wastewater CIP is to construct facilities that reduce the frequency of flooding and sewer backups and improve water quality and habitat by reducing sewage overflows and the impacts of stormwater pollution.

Major 2015-2020 drainage and wastewater CIP projects include:

- Significant investments in the CSO program, including Green Stormwater Infrastructure projects, the Long-Term Control Plan, the South Henderson CSO storage project, and CSO Facility Retrofits projects;
- The South Park Pump Station project which allows for future projects to expand the collection system to address flooding complaints and address water quality issues;
- The Broadview Sewer and Stormwater Improvements project that aims to reduce sewer backups and stormwater flooding in the Broadview basin;
- The Sediments program which funds preliminary studies and analysis for cleanup of contaminated sediment sites in which the City is a participant, for actual cleanup of the

contaminated sites, for preliminary engineering for future cleanup efforts, and for liability allocation negotiations; and

- Drainage and wastewater system improvements associated with transportation projects (e.g. Alaskan Way Viaduct replacement).

III.D. Financial Baseline Rate Projections

The Baseline rate path is the series of increases to current water rates which will be required to generate revenues sufficient to maintain existing service levels plus meet firm regulatory requirements. As described in Section II.C, *"Maintaining existing service levels"* means that *actual* service quality (as opposed to *targeted* service quality) neither degrades nor improves through 2020.

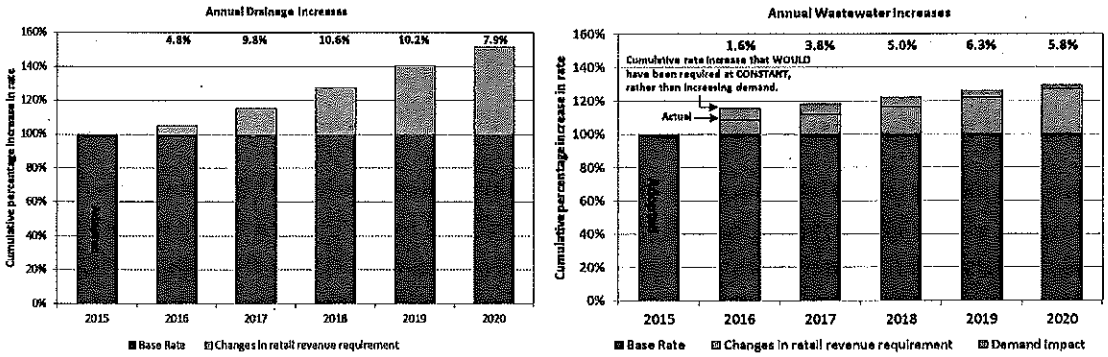
Four factors determine the size of annual rate increases: a) annual spending levels; b) financial policy requirements; c) non-rates sources of funding; and d) demand.

The first three factors combined determine how much total revenue must be generated by drainage and wastewater rates, also known as the rates revenue requirement[61]. Rate increases are required to fund increases in the revenue requirement from one rate setting period to the next. Where demand is constant, the average rate increase will equal the increase in the revenue requirement. Increasing demand (i.e., customers buying more units of water) will reduce the required rate increase and declining demand will increase the rate increase relative to the change in the revenue requirement.

Figure III-22 presents a breakdown of projected annual and cumulative rate increase required to maintain current service level. Section III.A. discusses the drivers of historical rate increases, including adopted increases through 2015. This section focuses on the impacts of proposed baseline spending on new rates to be adopted for 2016 through 2020. Following Figure III-22 is an analysis of drainage rate increase factors followed by a discussion of wastewater rate increase factors.

[61] The **revenue requirement** is the amount of revenue required to pay for operating expenses spending and meet financial policy targets, including funding a portion of current year capital expenditures with rates and non-rates revenues. The **rates revenue requirement** is equal to the revenue requirement, less funding from sources other than rates including drawdowns of cash balances and other operating/non-operating revenues.

Figure III-22
Projected Drainage and Wastewater Rate Increases, 2016-2020



Note: In the chart presenting annual wastewater increase, a net increase in demand across the period reduces the required rate increase. The white areas on the top of each column represent the additional increase which would have been required, without the increase in demand. Actual increases are represented by the combination of the base rate and changes in revenue requirement sections.

Between 2016 and 2020, drainage rates must increase by 51 percent, or an average of 8.6 percent per year to generate revenues sufficient to maintain current service levels.[62] The average annual increase across the 2015-2020 plan period is 8.8 percent, including adopted rate increases for 2015.

Tables III-8 presents the contribution of each of the components of the DRAINAGE rates revenue requirement (Spending, Financial Policy Impacts, and Non-rates Funding) and of demand to annual projected annual rate increases.

Table III-8
Drainage Rate Increase Factors by Year

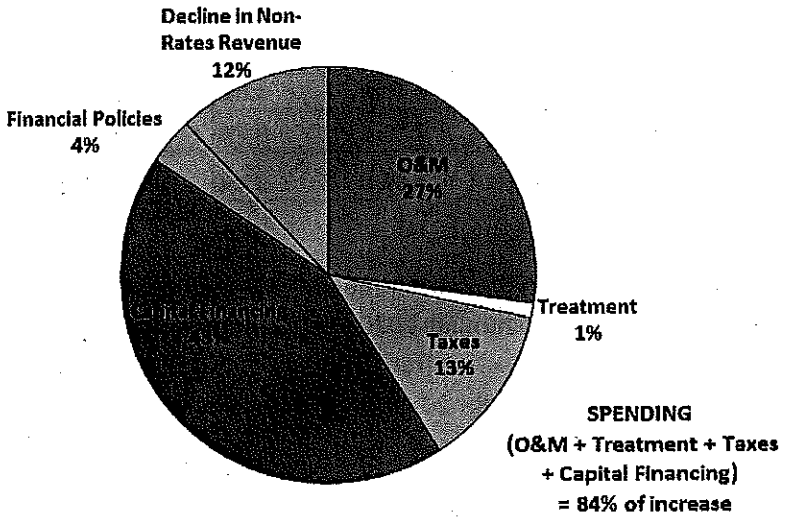
		2016	2017	2018	2019	2020
SPENDING	+	***11.5%***	***-0.9%***	***10.9%***	***8.8%***	***7.3%***
FINANCIAL POLICIES	+	0.0%	0.6%	0.3%	0.5%	0.2%
NON-RATES FUNDING	+	-6.7%	10.1%	-0.6%	0.8%	0.4%
DEMAND IMPACT	=	0.0%	0.0%	0.0%	0.0%	0.0%
% Rate Change		**4.8%**	**9.8%**	**10.6%**	**10.2%**	**7.9%**

[62] The average annual increase across the 2015-2020 plan period is 8.8 percent, including adopted rate increases for 2015.

Although there are annual fluctuations in the contribution of each factor, spending increases are the largest driver of rate increases from 2016 through 2020. Use of cash balances (non-rates funding) significantly reduces the rates funding requirement at the beginning of the period, but then result in an increase in required rate funding to make up the void when the cash is exhausted. Demand is typically not a driver of drainage rates, as further described later in this section.

Figure III-23 presents the composition of the factors increasing the drainage rate.

Figure III-23
Composition of Additions to Drainage Rate, 2016 to 2020



Spending accounts for about 85 percent of the total increase in the rate between 2016 and 2020, with capital financing being the largest driver, accounting for 43 percent of increased spending. O&M is also a major component of the increase, account for 27 percent of the total. Taxes (14 percent) and treatment (one percent) are much smaller components of the increase. Financial policy requirements to maintain targeted operating cash balances as well as a decline in non-rates revenue account for 16 percent of the overall increase.

Additional information on spending increases is found in Section III.C.3. Section III.D.1 discusses the impact of changes in non-rates funding sources on drainage rates. Section II.D.2 discusses the impact of financial policy requirements.

Between 2016 and 2020, wastewater rates must increase by 25 percent, or an average of 4.5 percent per year to generate rates revenues sufficient to maintain current service levels.[63]

Tables III-9 presents the contribution of each of the components of the wastewater rates revenue requirement (Spending, Financial Policy Impacts, and Non-rates Funding) and of demand to annual projected annual rate increases.

Table III-9
Wastewater Rate Increase Factors by Year

		2016	2017	2018	2019	2020
SPENDING	+	***17.3%***	***2.0%***	***2.2%***	***1.5%***	***5.0%***
FINANCIAL POLICIES	+	0.0%	0.0%	0.0%	0.0%	0.0%
NON-RATES FUNDING	+	-8.7%	1.0%	1.8%	3.2%	-0.7%
DEMAND IMPACT	=	-7.1%	0.8%	1.0%	1.6%	1.6%
% Rate Change		**1.6%**	**3.8%**	**5.0%**	**6.3%**	**5.8%**

Although there are annual fluctuations in the contribution of each factor, spending increases are the largest driver of rate increases from 2016 through 2020. Although reductions in non-rates funding and demand increase the rate for most of the period from 2017 to 2020, projected increases to these factors in 2016 relative to rate setting assumptions for 2015 result in them cumulatively offsetting the rate increase across the entire period (see below).

Figure III-24 presents the breakdown of components increasing the rate and those offsetting the size of the increase. The cumulative increase for the average rate between 2016 and 2020 is 24 percent. Increased spending adds 29 percent to the rate, with increased non-rates revenue and a net increase in demand reducing by five percent the required rate increase.

[63] The average annual increase across the 2015-2020 plan period is 3.9 percent, including adopted rate increases for 2015.

Figure III-24
Increases and Offsets to Wastewater Rate, 2016 to 2020

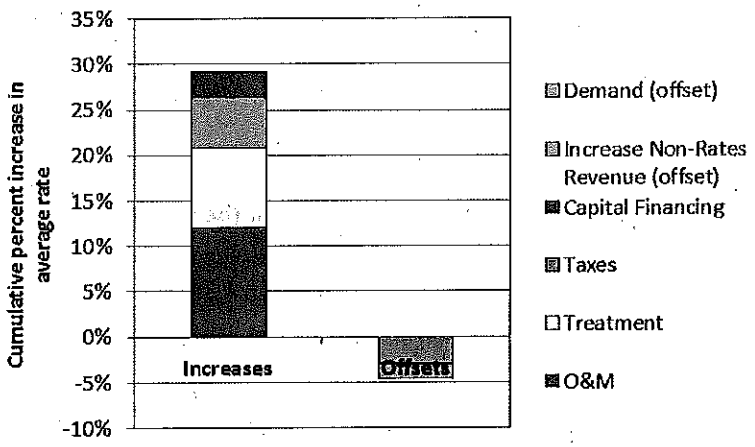
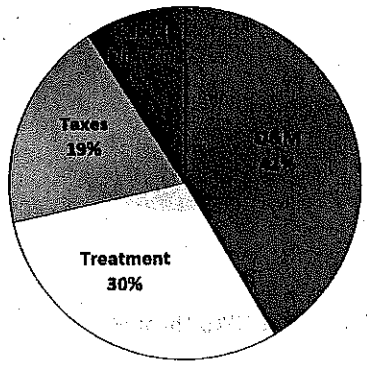


Figure III-25 presents the composition of the factors increasing the rate. Increased spending on O&M is the largest driver, accounting for 42 percent of increases followed by treatment accounting for 30 percent of the increase, and taxes 19 percent of the increase. Capital financing is a significantly smaller component of the wastewater increase (nine percent) than for drainage. This is in part due to higher drainage capital expense and in part due to wastewater's larger revenue base.

Figure III-25
Composition of Additions to Wastewater Rate, 2016 to 2020



Additional information on spending increases is found in Section III.C.3. Section III.D.1 discusses the impact of changes in non-rates funding sources on wastewater rates. Section II.D.3 presents assumptions underlying the wastewater demand forecast used in developing the 2016 through 2020 rate path.

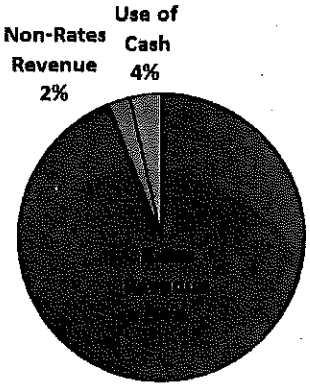
All 2015 spending, financial policy, non-rates revenue and demand assumptions used to determine rate drivers are based on assumptions for 2015 used to set 2015 rates, NOT the current 2015 spending projections presented in Section III.C. In a new rate setting year, the size of rate increase is set in relation to how rates were last set for the prior year. Differences between actual spending and revenue in a given year, and assumptions underlying rates for that year, will be reflected in revised year-end cash balances.

III.D.1 Non-Rates Funding Sources

Between 2016 and 2020, SPU projects that about six percent of the total funding requirement will be funded from cash reserves and other non-rates revenues, including capital contributions, grants, permit fees, interest income and other miscellaneous revenues. The use of cash and other funding sources reduces the amount to be recovered through direct service and rates and therefore are reflected as reductions to the total revenue requirement in each year.

Figure III-26 below presents the sources (rates and non-rates) of funding for the new rate setting periods between 2016 and 2020. Rates revenues are projected to fund about 94 percent of the drainage and wastewater revenue requirement on average.

Figure III-26
Drainage and Wastewater Sources of Funding, 2016-2020



A net decline in non-rates funding sources in 2016 through 2020 increases the drainage rate while a net increase in these funding sources reduces wastewater rates during the same period. The differing impacts on drainage and wastewater rates is largely due to the availability of cash balances to use instead of rates revenues. Table III-10 presents the annual changes non-rates revenues and cash drawdowns used to fund DWF expenditures as well as the annual change in these funding sources which will impact 2016 to 2020 rates.

Table III-10
Drainage and Wastewater Non-Rates Funding Sources, 2016 to 2020

DRAINAGE	2016	2017	2018	2019	2020	Total
Non-Rates Funding						
CY Non-Rates Revenues	$4.1	$4.0	$4.6	$3.6	$3.1	$23.7
Cash Drawdown	$10.5	$0.0	$0.0	$0.0	$0.0	$14.1
Total	$14.6	$4.0	$4.6	$3.6	$3.1	$37.7
Annual Change						
CY Non-Rates Revenues	-$0.3	-$0.1	$0.6	-$1.1	-$0.5	-$1.3
Cash Drawdown	$7.0	-$10.5	$0.0	$0.0	$0.0	-$3.5
Total change	$6.7	-$10.6	$0.6	-$1.1	-$0.5	-$4.8

WASTEWATER	2016	2017	2018	2019	2020	Total
Non-Rates Funding						
CY Non-Rates Revenues	$7.4	$7.4	$7.5	$6.8	$6.2	$35.3
Cash drawdown	$17.3	$14.8	$10.3	$2.6	$5.2	$50.1
Total	$24.7	$22.3	$17.7	$9.4	$11.3	$85.4
Annual Change						
CY Non-Rates Revenues	$1.6	$0.0	$0.0	-$0.6	-$0.6	$0.4
Cash Drawdown	$17.7	-$2.5	-$4.6	-$7.7	$2.6	$5.6
Total change	$19.4	-$2.5	-$4.5	-$8.4	$2.0	$6.0

For **drainage**, a general reduction[64] in non-rates revenues reduces other funding sources by $1.3 million on net across the period. Cash balances built up during the previous rate period[65] are a significant 2016 drainage funding source in 2016. However, once this cash is exhausted, drainage rates revenues must be increased to fund expenditures previously funded with cash balances.

For **wastewater**, non-rates revenues increase by $0.4 million on net across the period, slightly offsetting the size of the wastewater increase. A much larger offset is the use of significant cash balances built up during the prior rate period[66] which are slowly drawn down across the period.

[64] With the exception of a projected one-time reimbursement in 2018 from Parks and the General Fund for sediment-related work.

[65] Higher cash balances derived from higher revenues and lower expenses than were anticipated when rates were set.

[66] Like drainage, wastewater experienced lower expenditures and higher revenues than anticipated at the time 2013-2015 rates were set. However, increased demand associated with improved economic performance had a much larger impact on wastewater revenues than drainage.

III.D.2. Financial Policy Impacts

Financial policy requirements to maintain targeted operating cash balance drive about four percent of the drainage rate increase between 2016 and 2020. This is not a factor in the wastewater increase as wastewater starts the period with significantly higher balances and remains above targeted balances while using cash balances to fund expenditures, as further discussed in the prior section.

Table III-11 shows the use of cash by drainage between 2016 and 2020. In the first year of the new rate period (2016), drainage draws down cash balances by $10.5 million to fund expenditures and reduce the required rate increase in that year.[67] Between 2017 and 2020, drainage rates are set to rebuild cash balances, adding $5.1 million to the revenue requirement over four years.

Table III-11
Drainage Change in Cash Balances,, 2016 to 2020
($ in millions)

	2016	2017	2018	2019	2020
Change in cash balance	-$10.5	$0.6	$1.0	$1.6	$1.9

III.D.3. Demand Assumptions

III.D.3.a. Drainage

Unlike water or wastewater, it is not possible to meter actual stormwater flow entering the City's drainage system from an individual property. To calculate "Demand" (i.e. system impact), SPU estimates the fraction of rainfall that becomes "runoff" from a parcel using standard runoff coefficients utilized in hydrological modeling. These runoff coefficients vary depending on how pervious (permeable) a surface is. More stormwater will run off of hard or impervious surfaces while pervious or permeable surfaces will absorb more water. Therefore, the amount of stormwater that will run off of a property depends on the type of surface covering the property and its size. The SPU rate categories incorporate both of these factors in the development of their respective rates.

As demand is linked to property characteristics, there is a change in demand only if property characteristics change. Drainage rates reflect the latest property data available at the time rates are set for a given period of time. SPU updates these property records using King County reported changes to parcel boundaries and SPU review of aerial photos related to these changed boundaries. While rates are "re-set" each rate-setting period for updated "demand" (property characteristics) assumptions, there is not a robust methodology (nor supporting data) for estimating future changes to the City's property characteristics. Consequently, constant demand is assumed in forecasting future rates.

[67] The 2016 use of cash presented in Table III-11 is consistent with the cash drawdowns presented in Table III-10 previously. It is presented her for information purposes only as it is not a increase to expense but rather a source of funding.

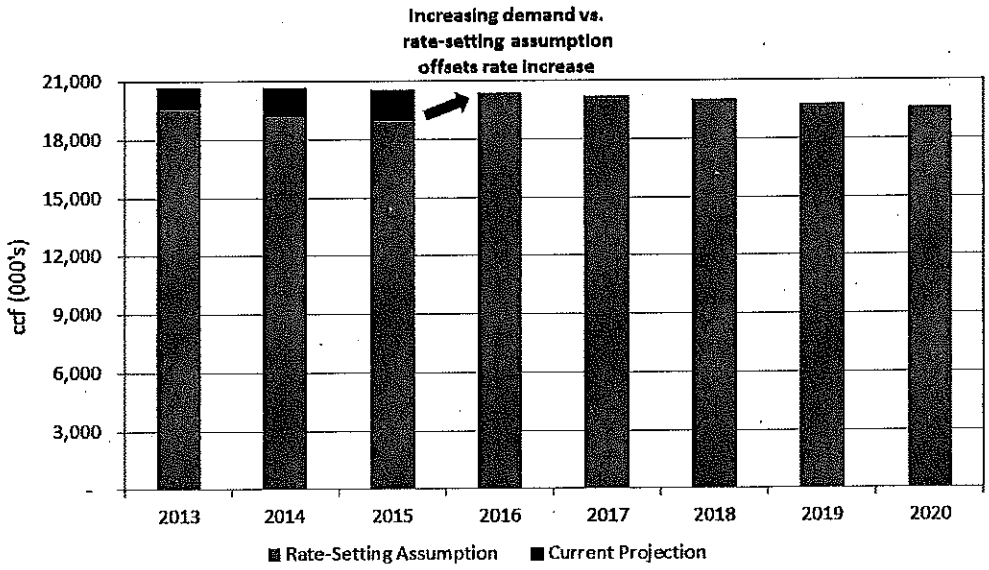
III.D.3.b. Wastewater

Similar to water, wastewater consumption has seen annual average declines of nearly one percent per year over the period from 2004 to 2013, as further discussed in Section III.A.1. While this pattern of decline can primarily be attributed to conservation, annual consumption is also impacted by changes in the economic health of the region. Indeed, the rapid decline witnessed in 2010 and 2011 was reversed by strong growth in consumption in 2012, in tandem with the improved economic climate. In 2013, growth flattened, decreasing a tepid 0.6 percent as construction growth stabilized compared with the surge witnessed in 2012.

The near term wastewater demand forecast reflects the expected continued trend of conservation, but also takes into account expected growth in the region. This results in an annual average decline of 0.9 percent between 2014 and 2020. It should be noted that 2013 to 2015 rates, adopted in 2012, were set based on lower consumption assumptions given the decreases witnessed in 2010 and 2011. The unexpected surge in 2012 resulted in higher-than-anticipated consumption in 2013, a trend that is expected to continue into 2014 and 2015 compared with estimates used when setting rates.

Figure III-27 presents actual (2013) and projected wastewater demand from 2014 through 2020.

Figure III-27
Wastewater Demand 2013-2020



The light bars represent the demand assumptions used in setting rates. The darker increment between 2013 and 2015 represent the increment to the rate setting assumptions associated with current demand projections.

The higher-than-anticipated consumption between 2013 and 2015 has two primary effects on 2016 through 2020 rates:

- Although a decline in consumption is currently projected between 2015 and 2016, projected 2016 demand INCREASES relative to the demand assumed in setting 2015 rates. Therefore, in 2016, the current demand projection acts as an OFFSET to increased expenditures, allowing the rate to increase by less than the increase in the rate revenue requirement.

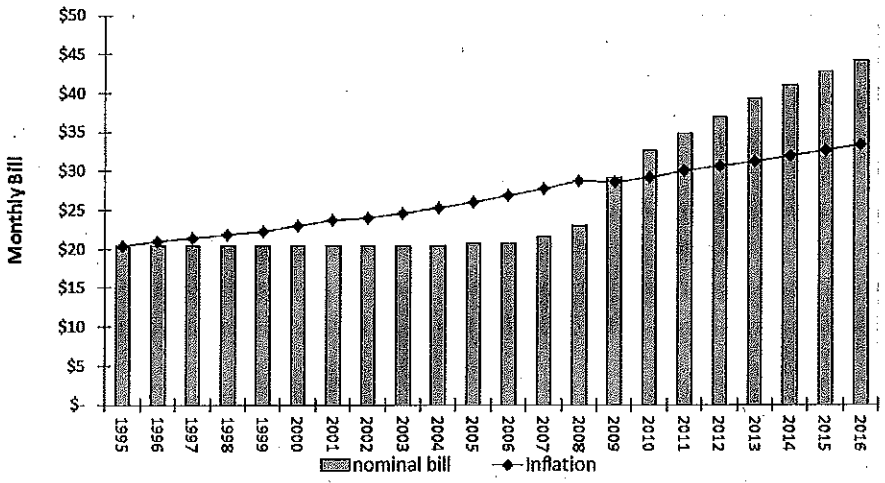
- Higher-than-projected consumption in 2013 through 2015 has resulted in increased revenues. These higher revenues have allowed the Fund to increase its operating cash balances. These cash balances are used as an additional funding source in 2016, therefore reducing the amount of increased expenditures that must be recovered through rates revenues.

Section IV. SOLID WASTE

The Solid Waste Fund provides curbside garbage, food and yard waste (compost or organics), and recycling services to Seattle residents and businesses through contracts with private haulers. In addition, SPU owns major capital facilities including two recycling and disposal stations, also known as transfer stations, two household hazardous waste facilities, and a fleet of trucks and heavy equipment. Solid Waste Fund (SWF) revenues also support post-closure projects on two landfills previously used by the City.

IV.A. "How we got here": Historical Rate Driver Overview

Figure IV-1
Growth in Average Monthly Single Family Residential Solid Waste Bill 1995-2014



Between 1995 and 2008, typical single family residential solid waste bills grew more slowly than the rate of inflation due to favorable contract terms and minimal capital investments. Bills grew sharply between 2008 and 2010, averaging 13 percent per year in real terms, before leveling off at more modest average real growth rates of 3 percent between 2010 and 2016. New collections contracts, service enhancements, the rebuilding of major solid waste capital facilities, and a decline in tons disposed were the primary determinants of real growth in bills since 2007.

- Annual contract payments increased by more than 40 percent under **new collections contracts** which took effect in 2009. These contracts reflected increased costs of fuel and labor since 2000 when contracts were last signed, as well as the service enhancements described below.

- Numerous **service enhancements** took effect in 2009 with the new contracts, including: expansion of items accepted for food, yard waste and recycling service, increased frequency of food/yard waste collection, new container size options, special collection services for

electronics, used motor oil and bulky items, and reduced noise and pollution from new fuel-efficient collection trucks.

- Capital investment increased substantially from 2007 forward due to the **design and construction of two new transfer stations,** with $228.1 million in actual and projected [68] capital spending in the nine-year period between 2008 and 2016 compared to $61.4 million in the prior 13 years.

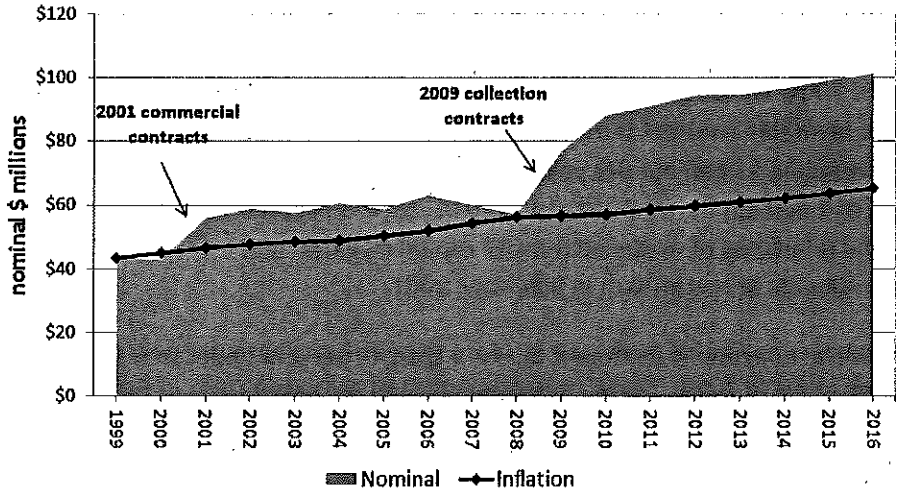
- **Decline in tonnage and subscription size.** Economic conditions in 2008 and 2009 accelerated a long term declining trend in total waste generation. Decreased tonnage has been most pronounced in commercial and self-haul sectors. While total residential tonnage has seen much smaller declines, there has been a clear shift to smaller (and lower cost) can sizes since 2011 as customers gain more comfort in recycling and composting.

IV.A.1. New Collections Contracts

SPU's contracts with private haulers for the collection, transfer and disposal or processing of garbage, recyclables, and organics. Contract payments are the single largest expense component of the SWF revenue requirement, representing over 70 percent of total operating and maintenance expense. Collections contracts account for about 80 percent of total contract expense.

The City has contracted with private companies for waste collection for almost a century, and has contracted for commercial collection since 2001. As presented in Figure IV-2, with the exception of the 2001 increase for commercial collection, solid waste contract payments remained remarkably stable, and in fact declined in real terms until 2009 with the implementation of new collections contracts.

Figure IV-2
Solid Waste Contract Expense



[68] 2013-2016 projections per 2013-2016 SWF Rate Study

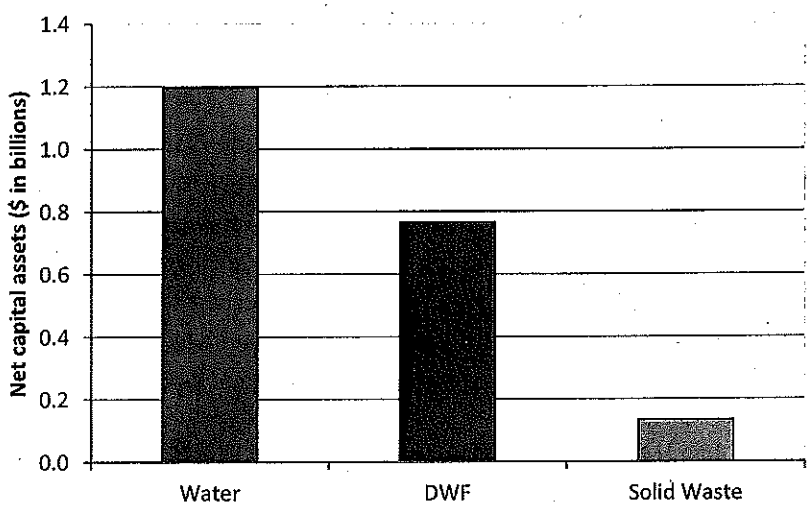
Annual contract payments increased by more than 40 percent with the implementation of the new contracts. Most of the increase was due to higher costs for fuel and labor that had not been taken into account under the old contract terms. Contract costs are now adjusted annually based on inflation terms which include fuel, labor and consumer price indices, so it is unlikely that there will be such a big one-time adjustment in the future.

IV.A.2. Capital Spending and Financing

IV.A.2.a. Capital Program Overview

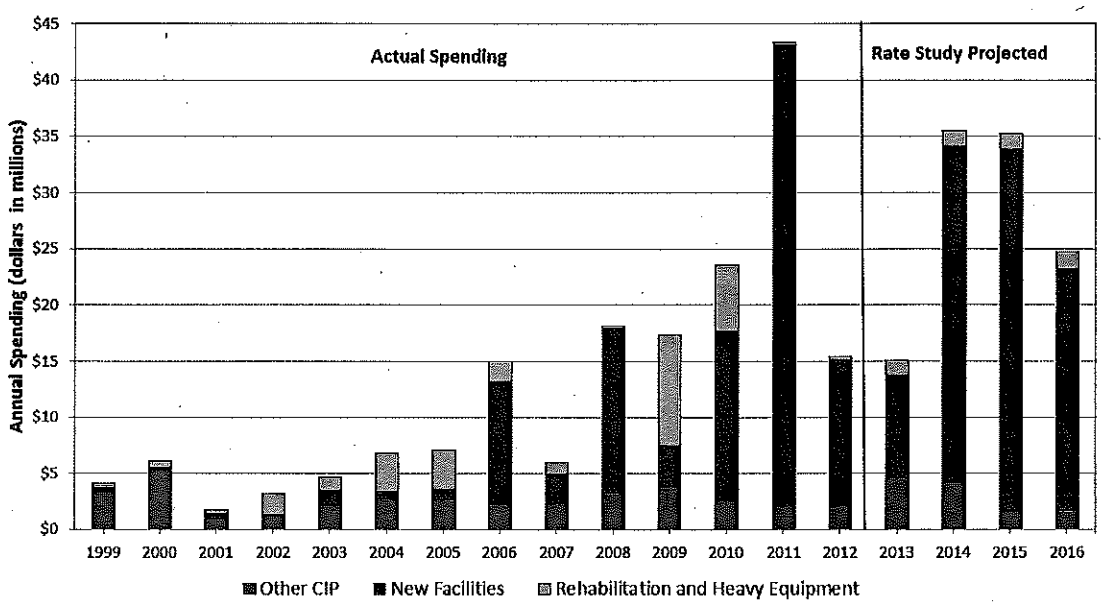
The Solid Waste line of business is less infrastructure intensive than water, wastewater, and drainage, with net capital assets totaling only $129 million at the end of 2012 compared to $700 million for drainage and wastewater and $1.2 billion for water. Historically, operational rather than capital spending has driven solid waste rates.

Figure IV-3
Net Capital Assets at December 31, 2013



However, capital spending has become a much more significant solid waste rate driver during the past few rate cycles and will continue to impact rates in the near term with the replacement of the existing transfer stations. Figure IV-4 shows the composition of Solid Waste Fund capital since 1999 as well as projected spending assumed in current 2013-2016 adopted rates.

Figure IV-4
Solid Waste Fund Capital Spending



The Solid Waste Facilities Master Plan, completed in 2003, recommended that the City's North and South Transfer Stations be demolished and rebuilt, with the purchase of additional property at each station to improve customer service, reduce adverse environmental impacts, and expand efforts to recycle and recover reusable materials. While transfer stations typically have a life cycle of about 30 years, Seattle's transfer stations, built in the mid-1960's, had experienced close to half-a-century of heavy industrial use. The aged stations are not designed to withstand likely future earthquakes, are overcrowded given the size of Seattle's current population, and have limited space for recycling.

The investments in the new transfer stations has caused the Solid Waste CIP, which only averaged about $4.8 million between 1999 and 2006 to increase materially since the initial phases of master plan implementation. The first phase of the transfer station re-builds was completed in 2013 with the opening of the new South Transfer Station. The rebuild of the North Transfer Station is scheduled between 2014 and 2016 and the construction of a recycling/re-use facility at the South Transfer Station location is planned between 2016 and 2017.

IV.A.2.b. Capital Financing

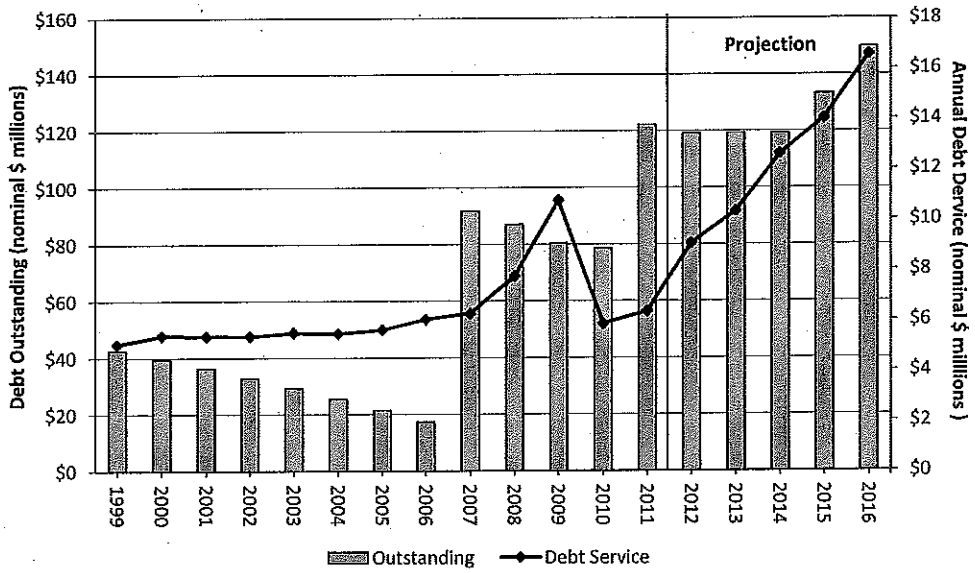
As with Water and Drainage & Wastewater, the Solid Waste capital program is funded through a combination of current year operating revenues (cash-financing) and proceeds from periodic revenue bond issues (debt-financing). Annual debt service payments, typically spread over 25 years, represent the annual cost to the fund of issuing revenue bonds.

Unlike the other SPU lines of business, the Solid Waste line of business does not have a significant ongoing capital program and so, has historically only issued debt to fund large one-time multi-year

capital requirements. These include the Midway and Kent landfill closures (bonds issued in the late 1980's) and the transfer station rebuilds (bonds issued in 2007, 2011 and projected for 2013 and 2015 in adopted rates).

Figure IV-5 presents SWF debt outstanding and debt service since 1999.

Figure IV-5
Solid Waste Fund Debt Outstanding and Debt Service



Note: Projected debt outstanding for 2013-2016 is the rate study assumption and assumes impact of new debt issues but not the retirement of any existing debt.

Through 2006, solid waste rates paid down landfill closure debt and debt service remained constant, with virtually no impact on rates. Between 2007 and 2011, the SWF issued $129 million[69] in new money revenue bonds to begin funding implementation of the Solid Waste Facilities Master Plan, with 2013-2016 adopted rates assuming the issuance of an additional $103 million of debt by 2015 to substantially complete the transfer station rebuilds.

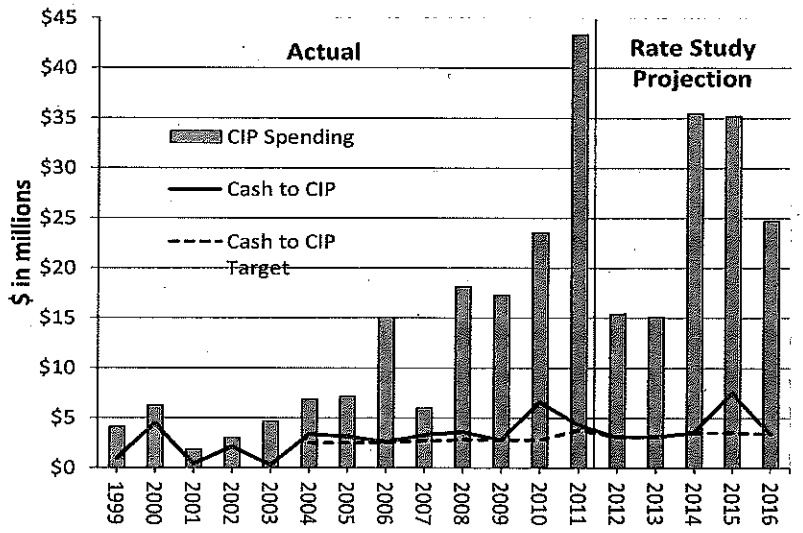
The increase in debt service associated with the 2007 bond issue was mitigated by a bond refunding with the same issue, and the retirement of debt on the 1999 bond issue in 2010. With the 2011 issue, annual debt service increased by $3.2 million to $9.0 million in 2012. By 2016, adopted rates assume debt service to increase by another $7.5 million to $16.5 million, making capital financing a significant cost driver during the current rate cycle.

[69] $24 million of new money issued in 2007 went to pay off a temporary line of lredit used to fund capital system improvements between 2003 and 2007.

Prior to 2004, there was no formal policy target for cash financing of the CIP. In between major cycles of capital investment, the SWF financed a significant portion of the capital program with operating cash as annual spending typically came in under $5 million. Resolution 30695 (2004) established a formal policy target of a $2.5 million annual cash financing minimum, expressed in 2003 dollars. A flat target was adopted to avoid rate spikes associated with uneven CIP spending. However, in recognition of the debt impacts of the significant increase in capital costs associated with Solid Waste Facilities Plan implementation, the 2009-2010 rate study refined this target to an informal guideline of the greater of $2.5 million in 2003 dollars or 10 percent of annual CIP spending. The formal policy was not modified as capital spending is expected to decline significantly after completion of the transfer stations.

Figure IV-6 presents total annual SWF capital expenditures, the level of annual cash financing of these expenditures and targeted cash financing of CIP from 2004 forward. This figure demonstrates that operating cash was used extensively to fund capital expenditures prior to 2006. Since expenditures increased with the implementation of the Solid Waste Facilities Master Plan, annual spending has been primarily debt financed.

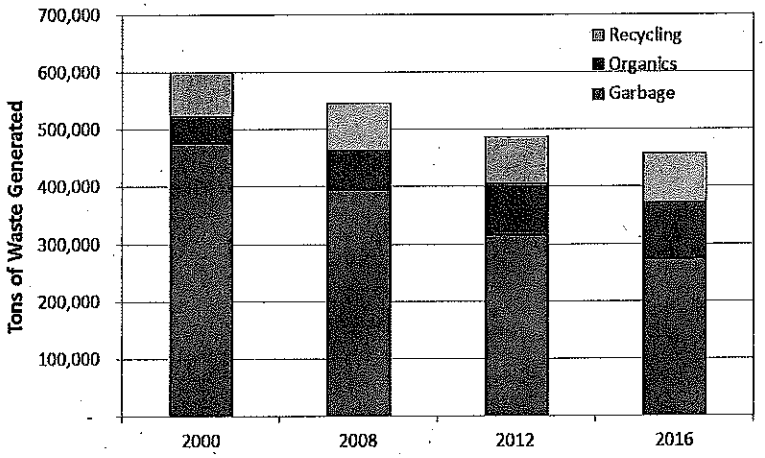
Figure IV-6
Solid Waste Fund Cash Financing



IV.A.3. Demand Impacts

A long term trend of decreasing total waste generation was accelerated in 2008 and 2009 by the declining economy. While garbage tons fell significantly during 2008 and 2009, recycling only fell slightly, and food and yard waste increased. Figure IV-7 presents the historical and projected (rate study assumptions) generated tonnages by commodity stream.

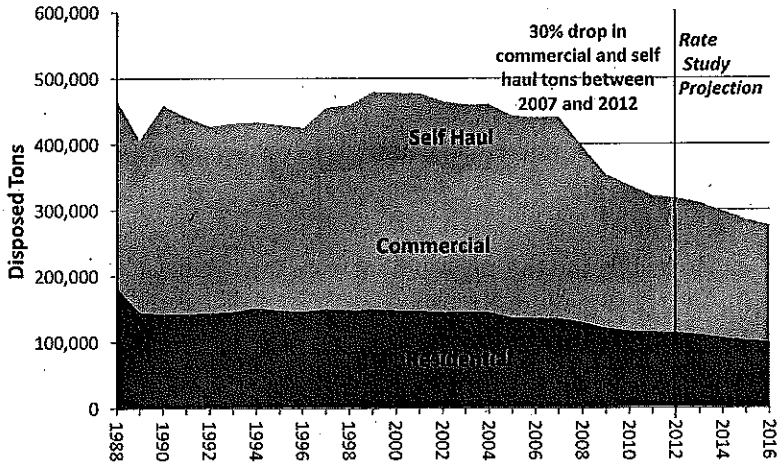
Figure IV-7
Actual and Projected Total Waste Generation



Note: Garbage tons include self-haul, commercial, and residential tons. Only residential recycling tons are presented. Residential and self-haul food and yard waste are included in organics.

While the increase in food and yard waste has had a small positive impact on solid waste revenues, the more significant declines in garbage tonnage has put upward pressure on rates.

Figure IV-8
Disposed Garbage Tons

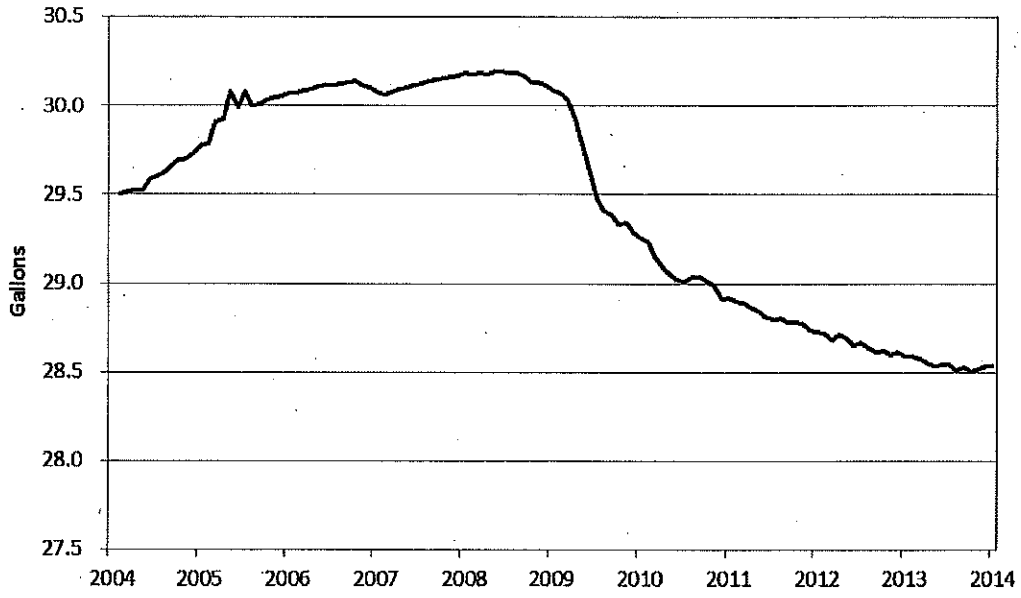


The most pronounced decline in garbage tonnage has been in the self-haul and commercial sectors, with a 25 percent drop in tonnage volumes since 2007. As a result of the recession, actual **commercial garbage** tons disposed in 2009 were at a 25-year low. While economic factors explain the sudden and extreme nature of the tonnage decline, the impact of SPU's ongoing waste reduction and recycling

programs is also evident. **Self-haul garbage tons** experienced an unprecedented decline from 2007 to 2011. There were approximately 107,098 self-haul tons in 2007, dropping to 71,033 tons in 2011.

While the decline in **residential tonnage** has been much smaller, there has been a shift to smaller can sizes as customers have gained more comfort in recycling and composting.

Figure IV-9
Average Residential Can Size



IV.B. Industry Context

The solid waste industry was transformed by the Resource Conservation and Recovery Act of 1976 ("Act"), which set national goals for:

- protecting human health and the environment from the potential hazards of waste disposal;
- conserving energy and natural resources;
- reducing the amount of waste generated; and
- ensuring that wastes are managed in an environmentally-sound manner.

The Act declared that "open dumping is harmful to health, contaminates drinking water from underground and surface supplies, and pollutes the air and the land" and required states to "prohibit the establishment of new open dumps" and required all solid waste to be either "utilized for resource recovery" or "disposed of in sanitary landfills" that met EPA standards.

The Act resulted in several changes in the waste market, which was transformed into a private, nationwide industry with the awarding of exclusive franchises. Substandard dumps were closed and large, state-of-the-art regional facilities were created for disposal. Incineration and recycling became more common, which led to creation of transfer stations, recycling centers, incinerators and waste-to-energy facilities. The number of landfills was reduced. In 2010, the most recent data available, there were 1,908 landfills in the U.S. compared to 7,924 in 1988.[70] Due to differences in tipping fees between states, there was an increase in long-distance hauling and interstate shipments of waste by truck, rail or barge. At the same time, responsibility for regulation resided with state and local governments, who sought to control the flow of waste by intervening in its transportation, processing and disposal.

The City of Seattle's two transfer stations were built in the 1960's for the purpose of consolidating refuse for transfer to local landfills for disposal. The City operated two landfills from the 1960s through the 1980s that were designated by the EPA as Superfund sites and closed in 1983 and 1986. Garbage was then hauled to the King County landfill, and eventually to a more distant landfill. This last change required adding intermodal container loading facilities to the City's transfer stations, which have only received minor modifications over the last 40 years. Safety and environmental concerns, failure to meet customer service quality levels, and failure to meet water diversion goals resulted in the current plans to replace both transfer stations.

IV.B.1. Industry Cost Drivers/Trends

"Pay as you throw" (PAYT) programs have households pay more if they put out more garbage for collection. PAYT programs have increased in the last couple decades, with the number of PAYT programs in the U.S. growing from about 100 in the late 1980s to about 7,100 currently.[71]

The State of Washington ranks among the leaders in both number of PAYT communities and percent PAYT of all communities in a state.

[70] "Tipping fees vary across the U.S." Waste & Recycling News. 20 July 2012.

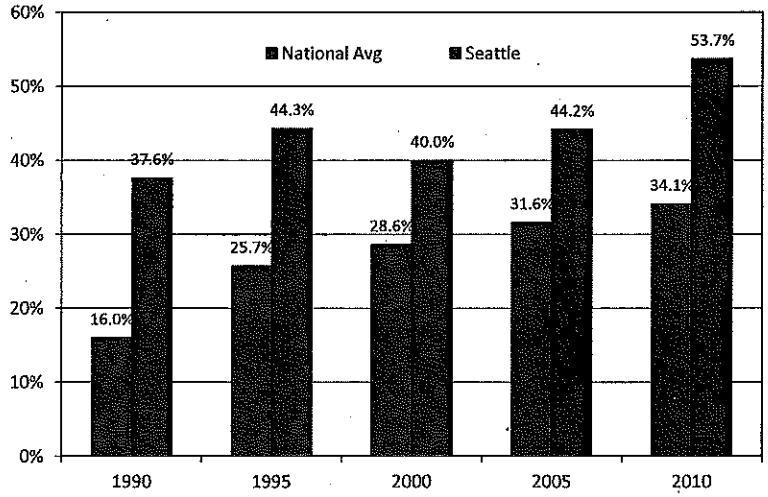
[71] "Pay As You Throw (PAYT) in the US: 2006 Update and Analyses." Lisa A. Skumatz, Ph.D. and David J. Freeman. December 2006.

Table IV-1
U.S. PAYT Communities and Share of Communities Covered, by State

State	Number PAYT Communities	% PAYT of All Communities in State	State	Number PAYT Communities	% PAYT of All Communities in State	State	Number PAYT Communities	% PAYT of All Communities in State
AK	3	0.9%	LA	1	0.3%	OH	243	23.1%
AL	2	0.4%	MA	139	59.1%	OK	2	0.3%
AR	80	15.4%	MD	49	13.3%	OR*	336	100.0%
AZ	5	2.0%	ME*	158	7.4%	PA	253	18.0%
CA	536	49.6%	MI	302	47.9%	RI	9	33.3%
CO	59	16.7%	MN*	1,850	100.0%	SC	13	3.5%
CT	25	20.8%	MO	36	3.7%	SD	20	5.7%
DC	0	0.0%	MS	0	0.0%	TN	2	0.5%
DE	12	16.0%	MT	14	5.1%	TX	20	1.3%
FL	9	1.0%	NC	64	9.8%	UT	65	22.5%
GA	43	7.2%	ND	8	2.1%	VA	7	1.9%
HI	0	0.0%	NE	18	3.4%	VT*	180	20.3%
IA	539	56.5%	NH	45	75.0%	WA	522	100.0%
ID	25	12.2%	NJ	55	10.9%	WI	512	81.3%
IL	170	12.9%	NM	2	0.9%	WV	20	7.1%
IN	173	28.8%	NV	4	5.7%	WY	2	1.0%
KS	8	1.3%	NY	445	42.4%			
KY	1	0.2%				Total	7,095	26.3%

SPU has always had contracts with haulers for solid waste collection with PAYT programs for solid waste garbage and recycling services. SPU continues to a national leader in solid waste recycling as shown in Figure IV-10.

Figure IV-10
Municipal Solid Waste Recycling Rates



IV.C. Baseline Spending Assumptions

Baseline spending assumptions represent the level of spending required to maintain existing service levels plus meet firm regulatory requirements. *"Maintaining existing service levels"* means that *actual* service quality (as opposed to *targeted* service quality) neither degrades nor improves through 2020. Baseline spending assumptions DO NOT[72]:

- Adjust for any anticipated, future efficiencies
- Prioritize existing expenditures and eliminate or reduce lower priority projects/programs
- Include capital projects in the six-year Capital Improvement Program that are new efforts not required by regulators or are not necessary to maintain existing service levels
- Include new initiatives to address gaps in meeting SPU's strategic objectives.

Section IV.C discusses operating expenditures and the level of capital expenditures directly funded with baseline rates revenues and other non-rates revenue funding sources[73] further discussed in Section IV.D. The majority of capital expenditures are directly paid for with proceeds from the sale of revenue bonds and do not impact the baseline rates revenue requirement discussed in Section IV.D on a dollar-for-dollar basis. Instead, capital spending impacts the baseline rates funding requirement in two areas: a) debt service payments on revenue bond borrowing, and b) financing of a portion of current year capital expenditures with rates and non-rates revenues ("Cash-financed CIP")[74].

Sub-section IV.C.1. includes a summary of assumed service levels used in developing baseline spending assumptions.

Sub-section IV.C.2. details current (2014) operating expenditures as well as the level of capital expenditures assumed to be funded with rates and non-rates revenues. These represent spending levels required to support current service levels. **Sub-section IV.C.3.** follows with the same information for 2015 through 2020, including a discussion of inflation and other assumptions underlying increases in spending over 2014 levels.

Sub-section IV.C.4. provides an overview of total 2015 to 2020 baseline capital spending levels required to maintain current service levels and meet regulatory requirements. Whereas Sections IV.C.2 and IV.C.3 note the level of capital expense funded with rates and non-rates revenues, this section defines **total** projected capital spending, including the portion paid for with revenue bond issue proceeds. In addition this section provides a description of the work done under the capital improvement program.

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[72] Increases or reductions to spending associated with the bulleted exclusions are addressed in the strategic plan rather than the financial baseline.

[73] This includes other current year operating and non-operating revenues, as well as prior year revenues remaining in operating cash balances.

[74] See Section IV.C.2 and Appendix A for further information on the impact of capital spending on rates.

IV.C.1. Current Service Level

Table IV-2 presents additional information on the service levels assumed in developing baseline spending.

Table IV-2
Solid Waste Current Service Level Targets and Actual Performance

Service Levels	Target	Mandatory?	Usual Performance	Comments
1. Provide odor and rodent control at the Recycling and Disposal Stations by cleaning out garbage at day's end at least 90% of the time.	90% min	Yes	100%	100% is Health Department permit requirement.
2. Reduce collection misses to less than 1 per 1000 stops	1 per 1000 max (0.7% of customers each year)	No	<<1/1000 (approximately 0.2%)	No unilateral change in this until end of collection contracts (2019 or 2021). We are presently awarding $680,000/year for exceeding these targets. Could keep targets, and maintain penalties for not meeting targets but not reward exceeding in the future. Or adjust targets in the future.
3. Reduce repeat misses to less than 1 per 10,000 stops	1 per 10,000 max (0.7% of customers each decade)	No	<0.1/10,000	Same as above.
4. Achieve City's waste reduction and recycling rate goal	60% in 2015	No	55.7% in 2012	Our studies show higher recycling rate reduces total system cost, especially in the long-term
5. Late container deliveries per 100 requests	Max 2/100	No	<1.0	Not mentioned in collection contracts
6. Collect at least 95% of missed solid waste pickups within one business day following notification by customers.	95% min	No	>99%	Not mentioned in collection contracts

IV.C.2. Overview of 2014 Spending Requirement (Use of Solid Waste Revenues)

The majority of annual baseline rates revenues are used to fund operating expenditures. These revenues also directly fund a portion of current year capital expenditures (cash-financed CIP). As detailed in Appendix A, apart from the cash-financed portion of the CIP, rates revenues do not directly fund capital expense but are used to repay debt on revenue bond proceeds used to fund both current year and prior year(s) capital expenditures. Figure IV-11 depicts the sources and uses of operating and capital funding.

Figure IV-11
Operating and Capital Funding Sources and Uses

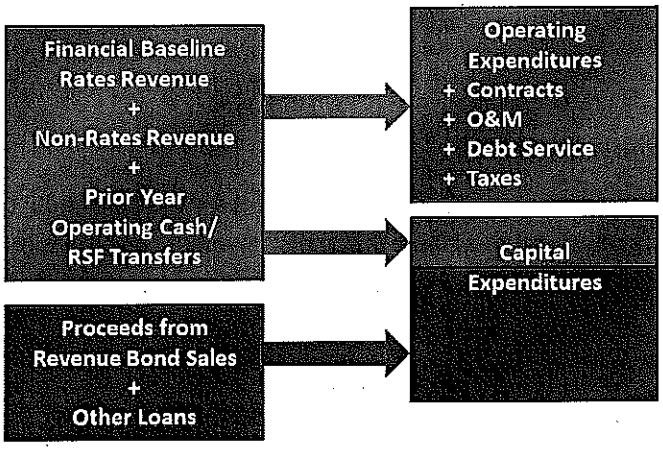
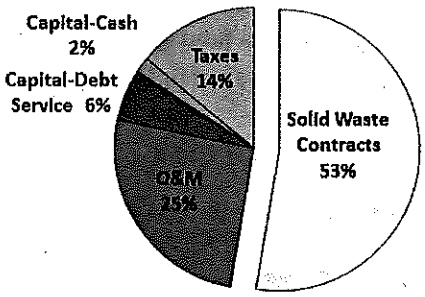


Figure IV-12 presents a breakdown of projected Solid Waste 2014 use of revenues[75]. Solid Waste contract expense account for over half of projected expenditures, followed by O&M at 26 percent, taxes at 14 percent and capital financing (debt and cash) at 8 percent

[75] Revenues funding 2014 expenditures include current year rates and non-rates revenues and may also include prior year operating revenues transferred from the Rate Stabilization Fund or otherwise carried over in operating cash balances from prior years.

Figure IV-12
Solid Waste Fund 2014 Spending Requirement
Use of Solid Waste Revenues



	2014 ($M)	% of Total
Solid Waste Contracts	$94.9	53%
O&M	$46.1	26%
Capital-Debt Service	$10.8	6%
Capital-Cash	$3.3	2%
Taxes	$25.3	14%
Total baseline	$180.2	100%

IV.C.2.a. Solid Waste Contract Payments

The largest portion of expense is payments to private haulers for the collection, transfer, disposal, and processing of garbage, organics, and recyclable materials. Payments levels are established through long-term contracts which generally last 10 years. Appendix C provides an overview of current solid waste contracts.

IV.C.2.b. O&M

As Figure IV-12 shows, 26 percent of the 2014 solid waste revenues pays for operations and maintenance (O&M) expenses. The majority of these costs cover branch O&M -- the costs of running the department's operations and corporate activities (Field Operations & Maintenance, Customer Service, Utility Systems Management, Project Delivery, Human Resources & Service Equity, Finance & Administration, and Corporate Strategies & Communications). A smaller portion pays for costs outside of the branches' control, such as cost-allocated payments to other city departments, space rent, claims, and contingencies for emergencies.

Within the solid waste branch O&M, personnel costs (wages, benefits, overtime, temporary staffing, etc.) comprise the largest portion of expenditures at roughly 65 percent. The next largest cost center is services, which includes consultant and other outside services (e.g. financial auditing, security, printing, etc.), inter-departmental payments for direct services (e.g. customer billing system services from City Light), and payments to other government agencies and non-profits organizations (e.g. litter collection services from the Parks Department). The remaining branch O&M costs are composed of fleet, supplies, inventory, maintenance, utility and other like expenses.

The activities performed in the solid waste branch O&M can also be characterized as "mandatory", "core" or "value-added". Activities that are considered mandatory or core are essential to directly or indirectly providing basic utility services and/or meeting regulatory requirements. Examples include meeting King County Health Department requirements, collecting and disposing garbage, recyclable and organics at the curb, operating the transfer stations and household hazardous waste facilities, and

operating the customer contact center. Activities that are considered "value added" are more discretionary and enable us to operate more effectively, efficiently, and sustainably, and/or add value to the organization and our customers. Examples include waste reduction, education and outreach, asset management, and service equity activities.

IV.C.2.c. Capital Financing (Debt Service and Cash Financed CIP)

The Solid Waste Fund pays for current year capital expenses through a combination of Solid Waste Fund revenues ("cash-financed" CIP) and proceeds from periodic revenue bond issues. Annual debt service payments of principal and interest represent the annual cost to the fund of issuing revenue bonds.

Financing a portion of the CIP with revenues provides greater flexibility to the utility by reducing the amount of debt that must be issued and associated long term debt service obligations. Debt-financing, however, is important to inter-generational equity as it assigns a portion of cost to future ratepayers who will benefit from long-lived assets.

Table IV-3 presents projected funding sources for current year 2014 capital spending, as well as 2014 capital financing expense by type, funded with rates and non-rates revenues. The CIP funding sources shows where the cash comes from to pay for invoices related to current year (2014) CIP expenses. The ratio of cash-to-revenue bond financing is established by financial policies, as described further in this section. So, when we discuss the "percent of cash financed CIP", we are referring to the percent of total current year CIP expense that is funded with Solid Waste Fund revenues (as opposed to revenue bonds or other "borrowed" sources).

The capital financing expense shows annual payments made from Solid Waste Fund revenues to pay for current year capital expense (cash-financed CIP) and debt payments on current/prior year revenue bond issues. Total capital financing expense (as opposed to capital spending) is the amount that must be funded through the annual baseline funding requirement.

Table IV-3

Solid Waste Fund 2014 Capital Funding Sources and Capital Financing Expense

2014 CIP Funding Sources

	2014 ($M)	% of Total
Revenue Bond Proceeds	$27.1	89%
Operating Revenues	$3.3	11%
Total 2014 CIP Spending	$30.3	100%

2014 SWF Capital Financing Expense

	2014 ($M)	% of Total
Debt Service Payments	$10.8	77%
Cash-financed CIP	$3.3	23%
Total 2014 Capital Financing	$14.0	100%

Debt Service

Debt service is the annual principal and interest payment on ALL outstanding revenue bonds debt issued by the Solid Waste Fund. Debt payments are typically spread over 25 years. Total annual debt service

expenditures are the sum of annual payments for all prior year outstanding bond issues, as well as debt service on any current year issuances, if applicable.

In 2014, the SWF will make cumulative debt service payments of $10.8 million on revenue bonds issued in 2007[76], and 2011. SPU expects to issue $65.2 M in new revenue bonds in the spring of 2014. However, the first debt service payments on this new issue will not be due until 2015.

Cash-Financed CIP

Cash-financed CIP are Solid Waste Fund revenues used to fund a portion of current year capital expenditures. The level of cash financing of the CIP is typically determined by adopted financial policies. In the case of the Solid Waste Fund, the formal policy target is a $2.5 million annual cash financing minimum, expressed in 2003 dollars ($3.3 M in 2014), and the informal policy target is the larger of that or 10 percent of annual CIP spending ($3.0M in 2014)[77].

For 2014, the $3.3M in projected cash to CIP is 11 percent of the total projected CIP spending of $30.3 million. As noted in the introduction to this section, proceeds from revenue bond sales are used to fund the remaining 89 percent of current year capital expenditures.

See Appendix A for further detail on the funding flow for capital and operating expenditures.

IV.C.2.d. Taxes

Taxes include State and City taxes on SWF revenues and tonnage (transfer) taxes on garbage tons transferred by SPU within the City. City and State revenue taxes are percentage based and thus vary proportionally with increased revenues. City Council adopts rates for the tonnage tax, which is a City-levied per-ton tax on non-recycling solid waste transferred for disposal in Seattle.[78]

SPU expects to pay $25.3 million in SWF taxes in 2014, with 70 percent of this to be paid to the City of Seattle and the remainder to the State. The state collects B&O tax (projected at $3.0 million in 2014) and Solid Waste tax (projected at $4.5 million), which are backed out of revenues and not explicitly listed as a separate line item on the SWF's income statement. The City collects a utility tax (11.5 percent for $13.6 million in 2014) and tonnage tax ($4.1 million in 2014).

[76] The 2007 issue included debt service on refunded 1999 series bonds.

[77] See Section IV.A.2.b. Capital Financing for further background on the informal guideline.

[78] SPU pays the tax as both a collector of solid waste and an operator of a transfer station in the City. The tax is also paid by other entities for the non-contract tons they transfer within the City limits. The tax provides funding for Clean Cities programs. Solid waste rates are set to recover the cost of paying the tonnage taxes to the City. SPU recovers revenue in the rates, pays the City its tax obligation and then the City transfers the total tonnage tax receipts back to SPU to pay for Clean Cities related costs

IV.C.3. 2014-2020 Baseline Spending Requirement (Use of Revenues)

This section focuses on SPENDING levels underlying the baseline FUNDING requirement between 2015 and 2020. These funding levels assume:

- 2014 proposed budgetary spending, plus
- Inflationary adjustments, plus
- Other discrete changes to costs to maintain existing service levels plus meet regulatory requirements

Figure IV-13 shows the composition of increases to the Solid Waste spending requirement between 2015 and 2020 which is composed of inflationary adjustments to the 2014 proposed budget plus other discrete changes to costs to maintain existing service levels and meet regulatory requirements.

Figure IV-13
2015 to 2020 Increases to Solid Waste Spending Requirement

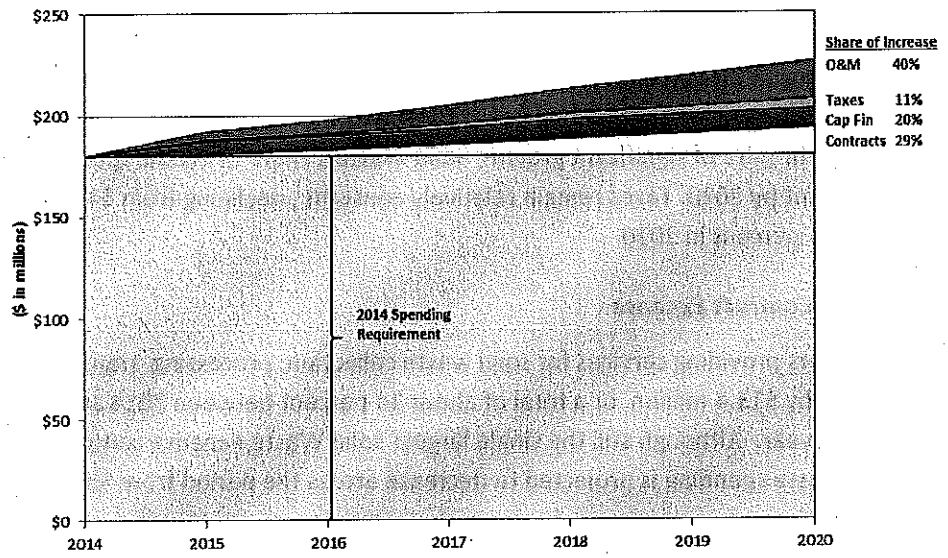
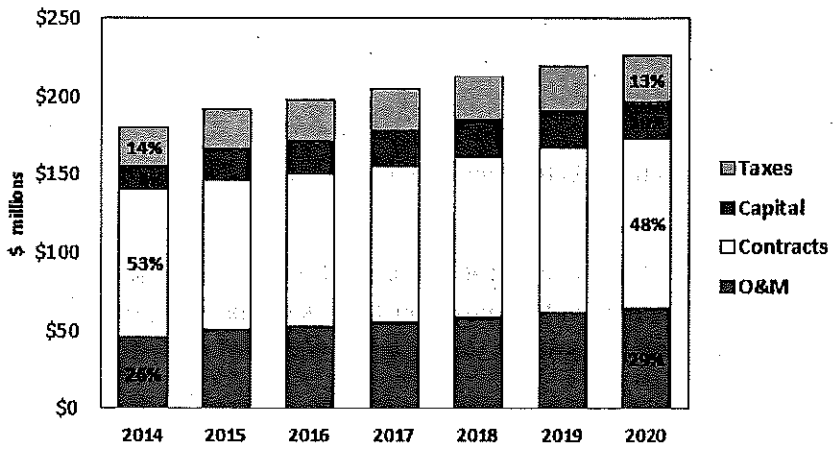


Figure IV-14 provides a different look at planned Solid Waste spending, showing the components of TOTAL expense, by year, between 2014 and 2020. This figure also shows the percentage each component represents of the base (2014) and in 2020.

Figure IV-14
Components of Solid Waste Spending , 2014-2020



O&M accounts for 41 percent of total spending increases following by solid waste contracts at 28 percent, capital financing at 20 percent and taxes at 11 percent. O&M's and Capital Financing's share of TOTAL spending grow, from 26 percent to 29 percent for the former and from eight percent to 10 percent for the latter. In spite of significant growth, Solid Waste's share of TOTAL spending decline from 53 percent to 48 percent by 2020. Taxes remain relatively constant , declining from 14 percent of TOTAL spending in 2014 to 13 percent in 2020.

IV.C.3.a. Solid Waste Contract Expense

Payments to contractors providing services for solid waste collection, processing, transfer, and disposal are projected to grow by $13.4 million, or a total of about 14 percent between 2014 and 2020, averaging about 2.2 percent per year. Although still the single largest Solid Waste expense component, contracts share of total Solid Waste spending is projected to decrease across the period from 53 to 48 percent.

Table IV-4 presents the projected Solid Waste contracts spending requirement.

Table IV-4
Solid Waste Contracts Spending Requirement 2014-2020

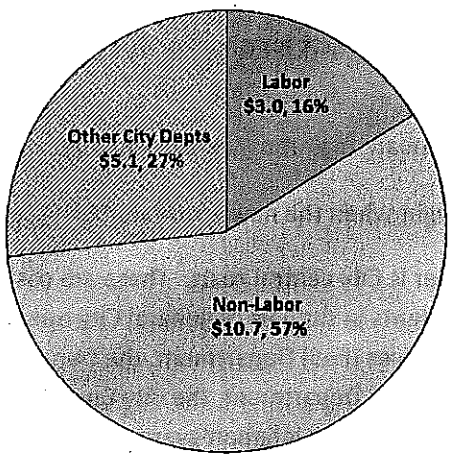
	2014	2015	2016	2017	2018	2019	2020	Total
Annual Expense	$94.9	$95.8	$97.8	$100.3	$103.1	$105.6	$108.2	
Change in Expense		$0.9	$2.0	$2.4	$2.8	$2.5	$2.6	$13.4

Increases to solid waste contracts expense are driven by a combination of changes in demand and changes to contractor rates. The DEMAND basis varies by contract. See Appendix D for applicable demand units by contract type.

Contractor rates are adjusted annually in April based on negotiated contractual adjustment factors. Financial projections assume a 3 percent inflation rate for collections contracts. This rate is a hybrid of CPI, wage, and fuel inflation. The current pair of collections contracts came into effect with the economic downturn and the accompanying decline in commodity prices. As a result, the first inflation adjustment in 2010 was -1.9 percent. Inflation adjustments have averaged 2.5 percent annually since then. Processing and disposal contracts are based only on CPI indices stated in contract terms.

IV.C.3.b. O&M Expense

Figure IV-15
Solid Waste Fund
2014-2020 Baseline O&M Spending



As Figure IV-14 shows, O&M accounts for the largest portion of the 2015-2020 baseline increase relative to 2014 spending. The O&M baseline drivers are labor, non-labor, and City central costs (allocated costs to other City departments).

There are three major components to the labor cost increases:

- Health care benefit costs are expected to inflate by seven percent per year.
- The City's contribution to the retirement system is assumed to continue to increase.
- Real wages are rising slightly higher than the rate of inflation. The annual cost of living adjustment (COLA) is assumed to be 2.5 percent for all City employees. In addition to this, other factors are driving SPU wages above COLA. These include the fact that changing business needs and more automation result in needing fewer entry-level (lower paid) positions, and more and more new employees are calling for higher starting salaries as a condition of employment.

Most non-labor costs assume a general inflation rate of two percent on most goods and services. However, based on the eight-year inflation average (2005-2012), some cost centers are estimated to rise beyond two percent per year. These include fuel, professional and technical services, and utilities. See Appendix D for a complete list of inflation assumptions.

In addition to inflation on non-labor costs, the O&M baseline is changing because of specific adjustments made to either maintain current service levels. In the solid waste line of business examples of this include:

- Continuation of programs in support of SPU's recycling goals, which results in a net savings by reducing disposal costs;
- Increased staffing for the new North Transfer Station, starting in 2016;
- Reduced transfer station hauling costs for organics due to having the new contractors provide hauling services;
- Higher vendor costs for software maintenance and support; and
- Higher payments to City Light when the new customer billing system is launched.

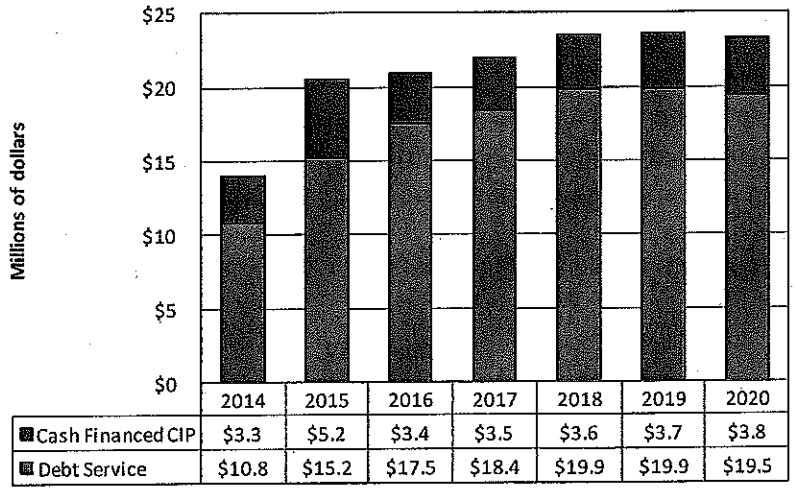
Finally, the last O&M baseline driver is City central costs. These are costs that are allocated to SPU for services provided by other departments in support of general City operations. This includes payments to the Finance & Administrative Services (FAS) Department, the Department of Information Technology (DoIT), the City Auditor's Office, the Law Department, the City Council, the City Budget Office, etc. As with non-labor costs, based on the eight-year inflation average (2005-2012), several City central costs are estimated to rise beyond two percent per year. See Appendix D for a complete list of inflation assumptions.

CPI inflation is based on City guidance and ranges from two percent to 2.6 percent. Applicable indices averaged 0.5 percent during the recession (2008-2010) and three percent during the recovery (2010-2012). See Appendix D for a further breakdown of inflationary assumptions.

IV.C.3.c. Capital Financing

As discussed in Section IV.C.2.c, capital expenditures in any given year are paid for with a combination of revenue bond proceeds and Solid Waste operating and non-operating revenues. These revenues are also used to pay the debt service (interest and principal payments) on the current and prior revenue bond issues. Figure IV-16 presents the projected components of annual Solid Waste Fund capital financing expense from 2014 through 2020.

Figure IV-16
Solid Waste Fund Capital Financing Expense 2014-2020



Over the period, total capital financing expense is projected to increase by $9.2 million, from $14 million in 2014 to $23.2 million in 2020, an increase of 66 percent.

Table IV-5 presents the change in annual capital financing by component. The change in expense is what drives changes to rates.

Table IV-5
Change in Solid Waste Capital Financing Expense, 2015 to 2020
($ in millions)

	2015	2016	2017	2018	2019	2020	Total
Debt Service	$4.5	$2.3	$0.9	$1.5	$0.0	-$0.4	$8.7
Cash Financed CIP	$2.0	-$1.8	$0.1	$0.1	$0.1	$0.1	$0.5
Total	$6.5	$0.5	$1.0	$1.6	$0.1	-$0.3	$9.2

Debt service is the predominant driver of the increase, accounting for $8.7 million of the net increase in capital financing expense. The increases in debt service assume that the Solid Waste Fund will issue about $143 million in new revenue bonds through 2017 ($65 million in 2014; $48 million in 2015; and $30 million in 2017). Significant new debt is required during this period fund construction of new solid waste facilities (75 percent of planned spending) and to comply with regulatory requirements related to the South Park landfill (19 percent of planned spending). See Section IV.C.4 for additional detail.

Cash-financed CIP adds only $0.5 million in net increased expense between 2014 and 2020. Rates are set to fund the greater of 10 percent of annual CIP spending or $2.5 million annual cash financing minimum, expressed in 2003 dollars, which ranges from $3.3 million in 2014 to $3.8 million in 2020. In

all years except 2015, 10 percent of CIP spending is below the $2.5 million (inflated to current dollars) target, resulting in a cash contribution that fluctuates very little across the period.

IV.C.3.d. Taxes

The Solid Waste Fund pays taxes on SWF revenues and tonnage (transfer) taxes on garbage tons transferred by SPU within the City. City and State revenue taxes are percentage based and thus vary proportionally with increased revenues. City Council adopts rates for the tonnage tax, which is a City-levied per-ton tax on non-recycling solid waste transferred for disposal in Seattle.[79]

Table IV-17 presents projected Solid Waste Fund taxes for 2015 through 2020.

Table IV-17
Solid Waste Tax Spending Requirement, 2015 to 2020
($ in millions)

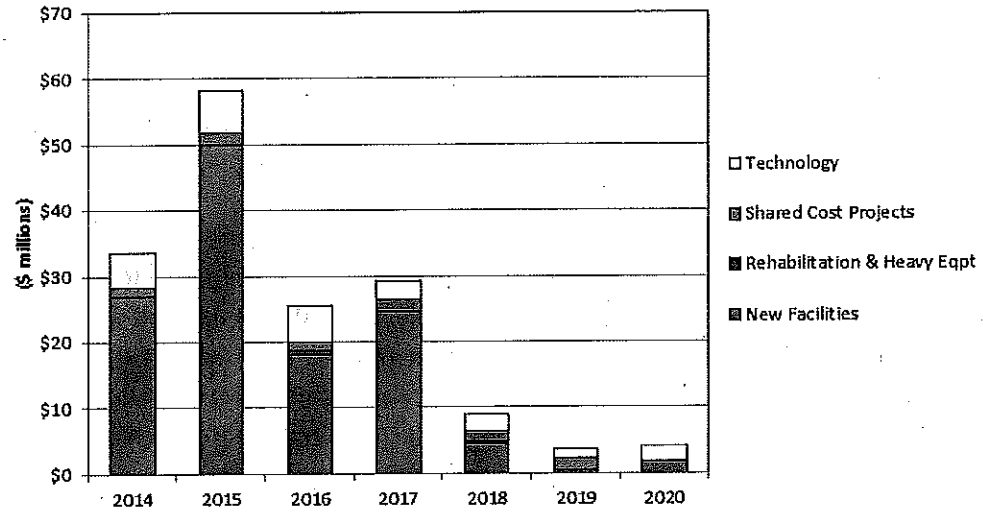
	2015	2016	2017	2018	2019	2020
City Tonnage Tax	$3.8	$3.6	$3.5	$3.5	$3.4	$3.4
City Utility Tax	$14.1	$14.5	$15.2	$15.9	$16.4	$17.3
State B&O Tax	$3.2	$3.3	$3.4	$3.5	$3.7	$3.8
State Solid Waste Tax	$4.8	$4.9	$5.1	$5.3	$5.5	$5.7
Total Taxes	$25.9	$26.3	$27.2	$28.2	$29.0	$30.2

IV.C.4. 2014-2020 Baseline Capital Spending

Planned spending in the Solid Waste CIP is $130 million over the 2015-2020 period. Unlike the Water and Drainage & Wastewater CIP, the Solid Waste CIP is episodic. In the seven years prior to the initiation of the transfer station rebuild projects, the solid waste CIP (excluding Technology) averaged $4.7 million annually. In the years when the transfer station rebuild projects are included, the solid waste capital budget (excluding Technology) averages $21 million annually. Once the stations are completed, the core solid waste CIP is expected to return closer to the lower, historic levels.

[79] SPU pays the tax as both a collector of solid waste and an operator of a transfer station in the City. The tax is also paid by other entities for the non-contract tons they transfer within the City limits. The tax provides funding for Clean Cities programs. Solid waste rates are set to recover the cost of paying the tonnage taxes to the City. SPU recovers revenue in the rates, pays the City its tax obligation and then the City transfers the total tonnage tax receipts back to SPU to pay for Clean Cities related costs

Figure IV-18
Solid Waste Fund Planned Capital Expense, 2014-2020



The solid waste fund places a high priority on managing environmental issues and addressing regulatory requirements related to current and historic solid waste facilities while protecting human health and safety.

Major 2015-2020 solid waste CIP projects include:

- Rebuilding the North Transfer Station;
- Constructing a recycling/re-use facility at the South Transfer Station; and
- Completing the South Park Redevelopment project.

IV.D Financial Baseline Rate Projections

The Baseline Rate Path is the series of increases to current solid waste rates which will be required to generate revenues sufficient to maintain existing service levels plus meet firm regulatory requirements. As described in Section II.C, *"Maintaining existing service levels"* means that *actual* service quality (as opposed to *targeted* service quality) neither degrades nor improves through 2020.

Four factors determine the size of annual rate increases: a) annual spending levels; b) financial policy requirements; c) non-rates sources of funding; and d) solid waste demand.

The first three factors combined determine how much total revenue must be generated by solid waste rates, also known as the rates revenue requirement[80]. Rate increases are required to fund increases in the revenue requirement from one rate setting period to the next. Where demand is constant, the average rate increase will equal the increase in the revenue requirement. Increasing demand (i.e., customers disposing of more tons of waste or using larger waste containers) will reduce the required rate increase and declining demand will increase the rate increase relative to the change in the revenue requirement.

Section IV.A. discusses the drivers of historical rate increases, including adopted increases through 2016. This section focuses on the impacts of proposed baseline spending on new rates to be adopted for 2017 through 2020. Unlike other SPU lines of businesses where new rates take effect on January 1, new Solid Waste rates take effect on April 1. This schedule allows for rate increases to be in line with changes in solid waste contract expense which is the single largest component of Solid Waste expense. Solid waste contract rate adjustments are made on April 1 of each year.

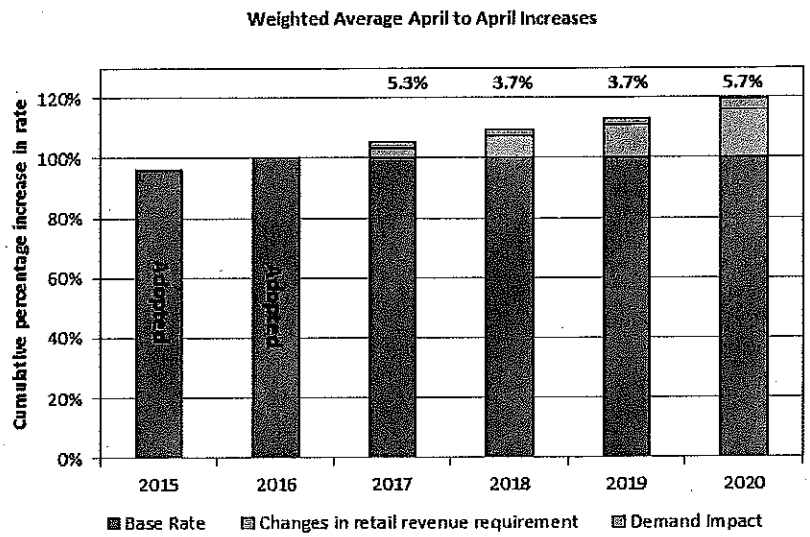
Figure IV-19 presents a breakdown of projected annual and cumulative rate increases required to maintain current service level. [81] These are increases to the projected April-to-April weighted average rate.[82]

[80] The **revenue requirement** is the amount of revenue required to pay for solid waste operating expenses spending and meet financial policy targets, including the funding of a portion of capital expenditures with rates and non-rates revenues. The **rates revenue requirement** is equal to the revenue requirement, less funding from sources other than rates including drawdowns of cash balances, and other operating/non-operating revenues.

[81] The change in the retail revenue requirement includes all increased costs that exceed the base used to set 2016 adopted rates. The demand impact shows additional year to year increases required to recover cumulative increased costs at lower levels of demand.

[82] The April to April rate increases are consistent across all customer classes, with the exception of Self-Haul rates that increase at a different rate than other classes through 2017. The weighted average rate takes into account this differential.

Figure IV-19
Projected Solid Waste Fund Rate Increase, 2017-2020



Between 2017 and 2020, rates must increase by 20 percent, or an average of 4.6 percent per year to generate rates revenues sufficient to maintain current service levels.[83]

Tables IV-6 presents the contribution of each of the components of the Solid Waste rates revenue requirement (spending, financial policy impacts, and non-rates funding) and of demand to the weighted average April-to-April rate increases.

Table IV-6
Solid Waste Rate Increase Factors by Year

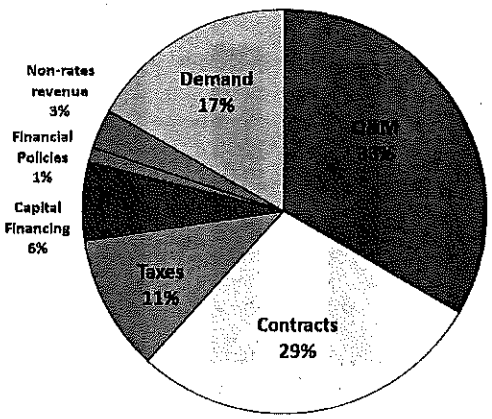
		2017	2018	2019	2020
SPENDING	+	*3.7%*	*4.1%*	*3.4%*	*3.4%*
FINANCIAL POLICIES	+	0.0%	0.0%	0.0%	0.2%
NON-RATES FUNDING	+	-0.5%	-0.3%	0.2%	1.1%
DEMAND IMPACT	=	2.0%	0.0%	0.1%	1.1%
Average Weighted % Rate Change		**5.3%**	**3.7%**	**3.7%**	**5.7%**

Although there are annual fluctuations in the contribution of each factor, spending increases are the largest driver of rate increases from 2017 through 2020. The "re-setting" of demand in 2017 is also a significant rate driver at the beginning of the period.

[83] The average annual increase across the 2015-2020 plan period is 3.2 percent, including adopted rate increases for 2015 and 2016.

Figure IV-20 presents the composition of the factors increasing solid waste rates.

Figure IV-20
Composition of Additions to Solid Waste Rate, 2017 to 2020



Spending (O&M + contract + taxes + capital Financing) accounts for about 79 percent of the total increase in rates between 2017 and 2020, with O&M being the largest driver, accounting for 33 percent of increased spending. Contracts are also a major component of the increase, accounting for 29 percent of the total. Taxes (11 percent) and capital financing (six percent) are smaller components of the increase. "Non-spending" factors account for 21 percent of the overall rate increase, with declines in demand for solid waste services being the largest component (17 percent). A net decline in non-rates funding sources (three percent) and financial policy requirements to maintain targeted operating cash balances (one percent) are more minor factors.

Additional information on spending increases is found in Section IV.C.3. Section IV.D.1 discusses the impact of changes in non-rates funding sources on solid waste rates. Section IV.D.2 presents assumptions underlying the solid waste demand forecast used in developing the 2017 through 2020 rate path.

All 2016 spending, financial policy, non-rates revenue, and demand assumptions used to determine rate drivers are based on assumptions for 2016 used to set 2016 rates, <u>not</u> the current 2016 spending projections presented in Section IV.C. In a new rate setting year, the size of rate increase is set in relation to how rates were last set for the prior year. Differences between actual spending and revenue in a given year, and assumptions underlying rates for that year, will be reflected in revised year-end cash balances.

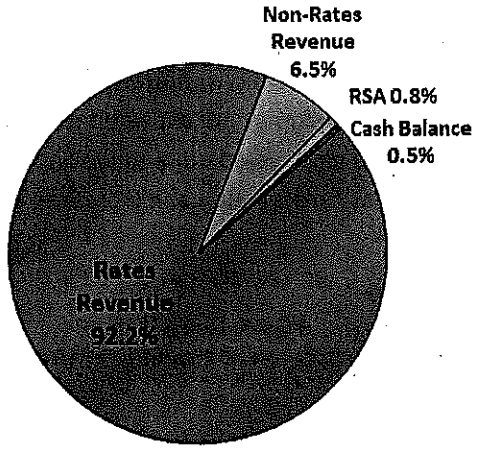
IV.D.1 Non-Rates Funding Sources

Between 2017 and 2020, SPU project that about 6 percent of the total funding requirement will be paid for cash reserves and other non-rates revenues, including capital contributions, grants, permit fees,

interest income and other miscellaneous revenues. The use of cash and other funding sources reduces the amount to be recovered through direct service and rates and therefore are reflected as reductions to the total revenue requirement in each year.

Figure IV-21 below presents the sources (rates and non-rates) of funding for the new rate setting periods between 2017 and 2020. Rates revenues are projected to fund about 92 percent of the solid waste revenue requirement, other non-rates revenues 7 percent, with the balance funded with Rate Stabilization Account[84] (RSA) withdrawals and draw down of cash balances.

Figure IV-21
Solid Waste Sources of Funding, 2016-2020



Between 2017 and 2020, non-rates funding sources decline by $0.8 million on net, increasing the amount of funding which must be generated through rates. The largest source of this decline is the reduction in the amount of cash balances available to fund expenditures from 2018 forward, which adds $1.7 million to the rates revenue requirement. Withdrawals of balances in the RSA are used in each year of the 2017 through 2020 rate period. The amount used fluctuates up and down but on net, reduces the rates revenue requirement by $0.6 million.

IV.D.2 Demand Assumptions

Tonnage forecasts are derived from SPU's Recycling Potential Assessment (RPA) Model. The RPA is an overarching model used by SPU to determine the financial and societal benefits of potential programs.

[84] In the 2013-2016 solid waste rate study, the Council approved conditions for the deferral of "excess" revenues and cash to and from a Rate Stabilization Account (RSA). Excess revenues to be deferred would be equal to the amount that SWF operating cash balances at the end of each year exceed year-end cash balances projected in this rate study, as long as such a deferral would still allow the Fund to meet all financial policy targets. Revenues in the RSA may be withdrawn in a future year to allow the SWF to meet financial policy targets or to reduce the size of any 2015 or 2016 rate adjustment, as long as financial policy targets and required year-end cash balances (as projected in the rate study) are still met.

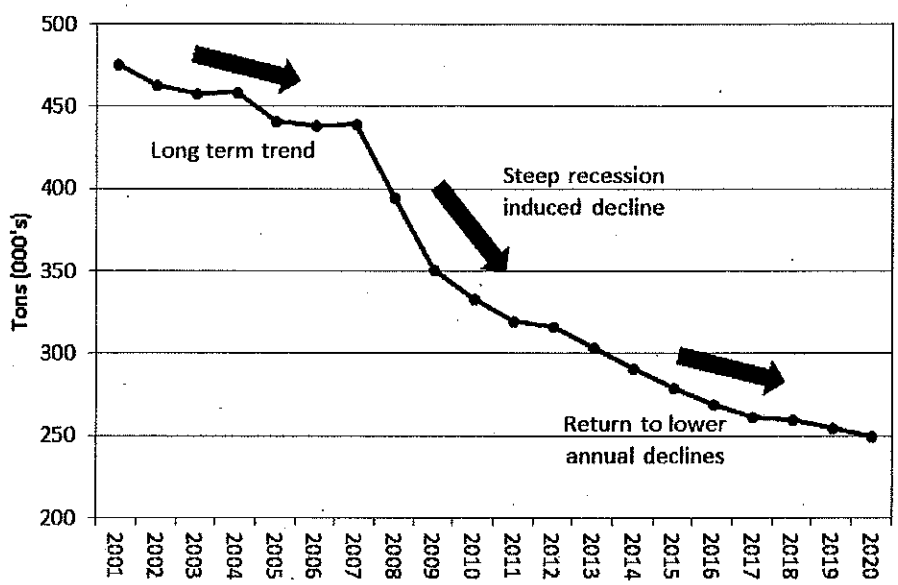
Demand forecasts in the RPA are based on econometric modeling using economic, demographic, price and weather variables.

Forecasts for demand for individual rates are based on historic regressions of the performance of those rates. These individual rates include, for example, average residential can size and dumpster pickup volume and frequency.

The solid waste historical tonnage and forecast through 2020 are shown in Figure IV-22. The demand forecast projects declining volume and tonnage through 2020. Tonnage forecasts assume a one percent annual decline in tonnage, which is slightly more than the long-term pre-2009 trend. From 2009 to 2011, SPU's rate increase, better diversion programs, and a weak economy lead to four percent to 10 percent annual reductions in volume. This steep decline slowed in 2012.

Similarly to volume, the average residential can size declined by two percent a year with the implementation of new contracts. Average can subscription size is expected to decline 0.1 percent to 0.7 percent per year. Residential dumpster volumes are expected to decline by less than 0.1 percent a year. Commercial dumpster volumes have not leveled out and are continuing to drop four percent a year. This trend is expected to continue as conservation and increased diversion reduces volumes sent to the landfill.

Figure IV-22
Solid Waste Sources of Funding, 2016-2020



Declining demand has the greatest impact on rates in the first year of the new rate period (2017), increasing the rate by two percent over the change in the rates revenue requirement. There is a larger

differential between 2016 rates assumptions and 2017 projected demand than the year on year change in subsequent years as actual demand during the current rate period is lower than what was anticipated when rates were originally set.

Section V. AFFORDABILITY

Affordability is one of SPU's objectives in the Strategic Business Plan. SPU understands the importance for bills to be predictable and affordable to its customers. SPU has examined the issue of affordability since 2007 and continues to build this objective into the rates setting processes.

The question SPU and other utilities have grappled with is "At what level are utility bills so high they become unaffordable?" The standard industry definition of affordability states that a customer should be able to pay his or her utility bills and still afford to pay for other essential goods and services such as housing, food, basic medical needs, etc.

Although several agencies and organizations have attempted to quantify an affordability threshold, there is no "magic metric" that truly defines affordable utility bills or rates. Given this and given the general definition mentioned above, the next question that arises is "To whom are utility bills unaffordable?"

There are essentially two groups of utility customers: those who are able to pay for essential goods and services and those who are not able to pay. For customers who are able to pay, the question is: "Are they willing to pay the rates that reflect the associated service levels and costs? Are these services and programs value for the money?" The challenge to SPU is to offer services and programs that are important to our customers and provide tangible benefits, provide transparency on the cost of these services, and continue to actively manage costs and be as efficient as possible. The Strategic Business Plan strives to achieve this.

For customers who are not able or struggle to pay their utility bills, they are faced with making difficult and undesirable choices about essential goods and services. For this group of customers, SPU offers several programs to reduce utility bills. These include the Low Income Rate Assistance Program (LIRA), the Emergency Assistance Program, and conservation programs. In terms of LIRA, Seattle has one of the more generous utility bill assistance programs for low-income customers in the country. But in light of continuing rate increases, the Executive and Utilities (SPU and Seattle City Light) are working to further expand the LIRA programs.

This section provides more technical information on affordability. Section V.A summarizes two past studies SPU completed on affordability, as well as a recent industry review, while Section V.B provides information about national rate trends. Section V.C discusses SPU baseline rates and affordability.

V.A. SPU Affordability Studies

V.A.1. 2007 SPU Affordability Study

In 2007 SPU submitted a Utility Affordability Study in response to Council Resolutions 30863 and 30928 which requested the identification of methods to assess the affordability of SPU's services. Affordability of SPU's rates was examined from several different perspectives. Affordability for SPU customers were evaluated using the percent of median household income approach developed by the EPA, as well as applying this approach for low income households. The study also estimated the utility bill's proportion of non-discretionary income using both traditional measures (e.g., Federal and State poverty definitions), as well as an index developed for regional analysis.

The ratio of median household income to the utility bill (percent of MHI) standard evolved from the EPA's Variance Technology Affordability formula,[85] which was one of the factors used to assess whether drinking water regulations required by 1996 changes to Safe Drinking Water Act were affordable to both rural and urban communities. The EPA percent of MHI standard is calculated as:

$$\%\text{MHI} = \left(\frac{\text{Total Annual Charges}}{\text{Annual Median Household Income}} \right) \text{x}100$$

In general, the EPA assumes that water consumption becomes "unaffordable" when the household affordability ratio exceeds two percent of the median annual income.[86] That is if an individual utility service such as water has total annual user charges of less than two percent of median household income, then this service is affordable.

Using this measure, SPU's affordability ratios for 2007 were determined as indicated in Table V-1.[87]

Table V-1
Utility Bills as Percentage of Median Household Income (percent of MHI)

	Solid Waste	Sewer	Water	Drainage
Median Customer	0.50 percent	0.70 percent	0.54 percent	0.25 percent
3- Person Low Income Household	0.51 percent	1.13 percent	0.68 percent	0.26 percent

Note: Utility Services are deemed affordable when percent of MHI is less than two percent

[85] EPA, "Information for States on Developing Affordability Criteria for Drinking Water", 1998.

[86] Initially, EPA's affordability standard was set at 2.5 percent of household median income. This standard was based primarily on then current expenditures levels for water and other public services from the Consumer Expenditure Survey, as well as what EPA viewed as "comparable" services. EPA concluded that median-income household could afford to pay between 1.5 percent and 3.0 percent of the household's income. Recently, those using this approach to assess affordability have been more conservative and employed a 2 percent MHI threshold.

[87] Bill values used are median residential bills for 2007. Median income is 2006 estimate from the U.S. Census ($58,311) updated to 2007 using Seattle CPI-U ($60,585).

All services were well under the two percent MHI rule proposed by the EPA, which might suggest that City utility services are affordable. However, the results also illustrated why this measure is not particularly useful. The two percent MHI threshold addresses whether a utility rate is affordable to the community as a whole but does not address whether it is affordable to specific customers. This measure also obscures income distribution while ignoring the population of low-income customers.

The 2007 study went a step further in analyzing the low income customer segment. SPU's services are a basic necessity and although customers can reduce their usage of these services, they cannot generally eliminate them. Those with the lowest incomes generally have the least ability to pay their bills and to absorb rate increases.

SPU offers rate assistance to low income customers through the Seattle Human Services Department (HSD) managed assistance programs. HSD requires those in the program to submit information about income, family size, etc. SPU developed summary statistics of this customer segment and calculated affordability directly. The following table showed a calculation of household affordability indices for customers participating in SPU's low-income utility credit (LIUC) program. Since these customers receive a 50 percent subsidy on their bills, the affordability indices are half of what they would be otherwise.

Table V-2
Median Annual Bills and Median Household Affordability for Low Income Utility Credit (LIUC) Customers

Household Size					
	1	2	3	4	Greater than 4
Sewer	0.73 percent	0.88 percent	1.13 percent	0.97 percent	1.04 percent
Water	0.66 percent	0.64 percent	0.68 percent	0.59 percent	0.60 percent
Solid Waste	0.63 percent	0.58 percent	0.51 percent	0.45 percent	0.38 percent
Drainage	0.40 percent	0.29 percent	0.26 percent	0.24 percent	0.20 percent

Note: Median bills shown assume the low-income discounted rate.

The above results showed that, as household sizes increase, median bills tend to increase for sewer and water but stay relatively flat for solid waste and drainage. In terms of affordability, sewer tends to decrease with family size, water tends to be fairly constant, and solid waste and drainage affordability tends to increase with family size.

V.A.2. 2008 SPU Affordability Study

In May 2008 SPU submitted its report on "Affordability Measures for City Utility Services and Improvements to Low-Income Programs" in response to Mayor Nickels' request to improve participation

rates in low-income assistance programs. The report provided a basic framework for evaluating affordability, looked at both aggregate and individual measures of affordability, discussed different minimum income thresholds for low income program application, provided options for specific affordability measures and rate assistance structure, and proposed strategies for increasing participation in the program.

The report recommended the following actions to increase participation in SPU's rate assistance program:

1. Allow automatic enrollment with income self-certification for applicants;
2. Raise/standardize the income criteria to 70 percent of state median income and merge the low-income and senior with disabilities programs; and
3. More intensive and proactive outreach strategies.

In addition, the following recommendations were made to better address affordability:

1. Do not adopt the two percent rule or other ratio indicator to measure affordability; and
2. Continue to evaluate and promote the Self-Sufficiency Standard.[88]

V.A.3. Recent Industry Affordability Review

According to the 2012 American Water Works Association (AWWA) Water and Wastewater Rates Survey, nationwide, the median charges as a percentage of household income (affordability) for a customer with 1,000 CCF usage is 0.71 percent for water and 0.90 percent for wastewater.[89]

Recent discussion on the application of EPA's affordability guidelines has highlighted limitations. Federal mandates related to water and wastewater can place a financial hardship on many U.S. communities, and those who are least fortunate are the ones that are most adversely impacted. The EPA's affordability measure as it relates to potable water supply is limited to assessing the national-level affordability of regulatory options for small communities. The measure is not intended to pertain to individual utilities, or to the category of medium and large utilities.

[88] The Self-Sufficiency Standard is an index which constructs the costs required to live in a specific location individually and then aggregates these values to get the total income sufficient to live without government assistance. It is calculated for a specific location and takes into account family composition and the net effects of taxes and tax credits. The sufficiency income varies with family composition and is useful since it accounts for many factors that determine expenses like the presence or absence of small children (and therefore childcare).

[89] By comparison, the SPU affordability percentages for a customer with 1000 CCF usage (typical consumption) are 1.02 percent for water and 2.03 percent for wastewater, while the SPU percentages at its typical consumption of 500 CCF are 0.63 percent for water and 1.01 percent for wastewater.

A recent 2013 report developed for the U.S. Conference of Mayors, American Water Works Association and Water Environment Federation[90] suggested that the use of median household income can be highly misleading for the following reasons:

- MHI is a poor indicator of economic distress and bears little relationship to poverty or other measures of economic need within a community;
- MHI does not capture impacts across diverse populations;
- MHI provides a "snapshot" that does not account for the historical and future trends of a community's economic, demographic, and/or social conditions;
- MHI does not capture impacts to landlords and public housing agencies; and
- The" Residential Indicator" used by the EPA does not fully capture household economic burdens.

The report suggests that impacts of customer bills be assessed as follows:

- Across the income distribution, especially at the lower end.
- Across potentially vulnerable household types (e.g., renters and elderly).
- Across neighborhoods, especially those that are economically at risk

V.B. National Rate Trends

V.B.1. Water and Wastewater

In the past 35 years, the Federal share of investment in water infrastructure has plummeted from about 75 percent to about three percent, according to Ken Kirk of the National Association of Clean Water Agencies.[91] This reduced funding has coincided with a significant uptick in infrastructure investments required to protect health, comply with state and federal regulatory requirements, and replace aging infrastructure.

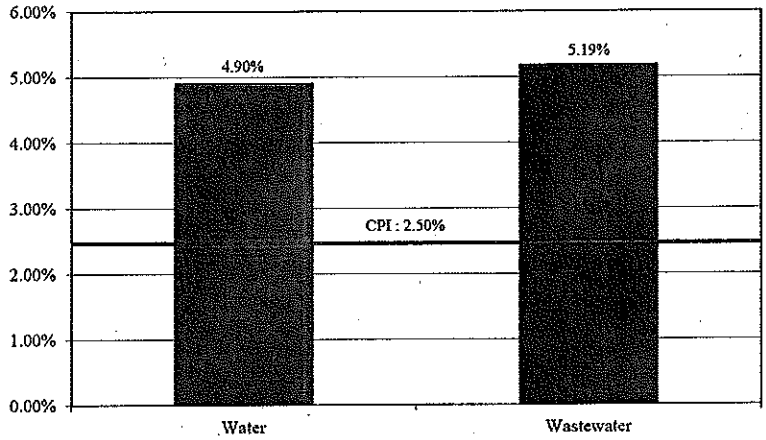
Both water and wastewater rates have grown faster than the rate of inflation over the past 15 years in order to fund an ever larger local share of a growing cost base. According to the 2012 AWWA Water and Wastewater Rates Survey, between 1996 and 2012 annual water and wastewater charges for residential customers[92] increased an average of 4.90 percent and 5.19 percent, respectively, compared with an average 2.5 percent annual increase in CPI.

[90] "Assessing the Affordability of Federal Water Mandates." *American Water Works Association* and *Water Environment Federation*. 2013.

[91] "Why Your Water Bill Must Go Up." The Atlantic Cities. 28 November 2012.

[92] Based on usage of 10 ccf of water per month.

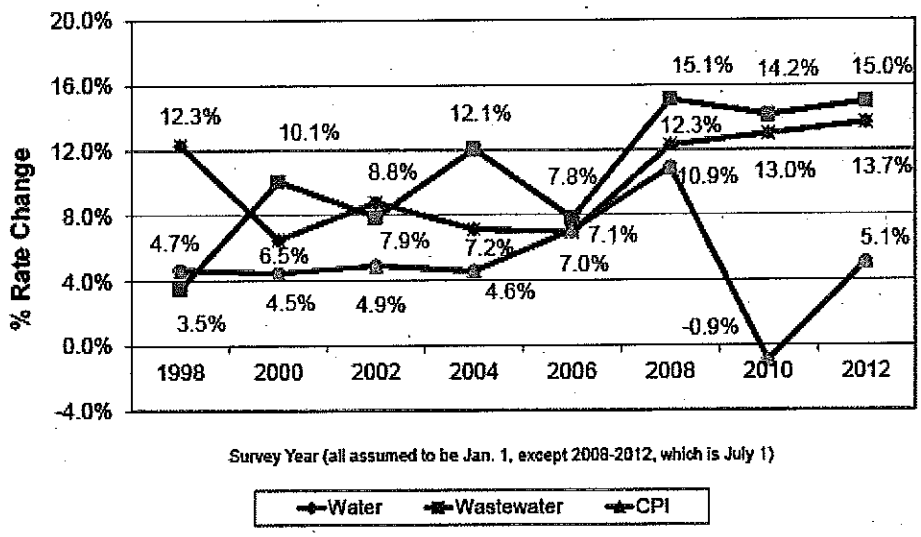
Figure V-1
Average Annual Water and Wastewater Rate Increase from 1996 to 2012



This trend accelerated over the past few years, with residential water and wastewater monthly charges increasing by an average of 13.7% and 15.0%, respectively, over the two year period between July 1, 2010 and July 1, 2012. The Consumer Price Index (CPI) for all urban customers increased by only 5.1% during this same period. Figure V-2 below shows this widening gap between growth in water and wastewater rates and growth in CPI through 2012.

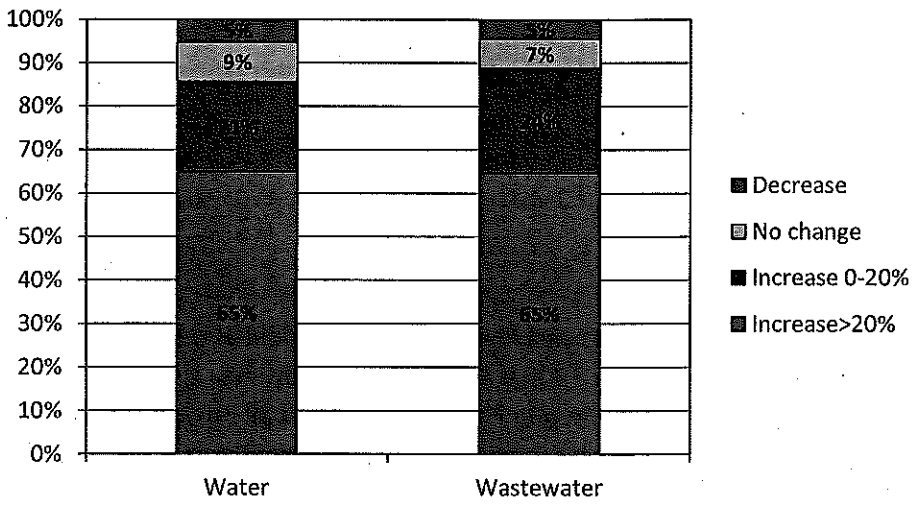
Figure V-2

Trend in CPI and Water/Wastewater Rate Growth, 1998 to 2012



The AWWA 2012 Survey provides additional detail on the size distribution of 2012 rate increases across 194 water utilities and 133 wastewater utilities. Figure V-3 presents the percentage of total utilities surveyed with varying levels of 2012 rate increases. The patterns are very similar between water and wastewater utilities, with about 65% of both groups experiencing 2012 rate increases in excess of 20%.

Figure V-3
Size Distribution of 2012 Water and Wastewater Rate Increases



In 2013, water prices increased an average of 6.7 percent in 30 major cities, a slower rate than in recent years but well above the 2.1 percent increase in the U.S. Bureau of Labor Statistics' Consumer Price Index for 2012. The median increase in water prices was 6.2 percent. [93]

V.B.2. Drainage/Stormwater

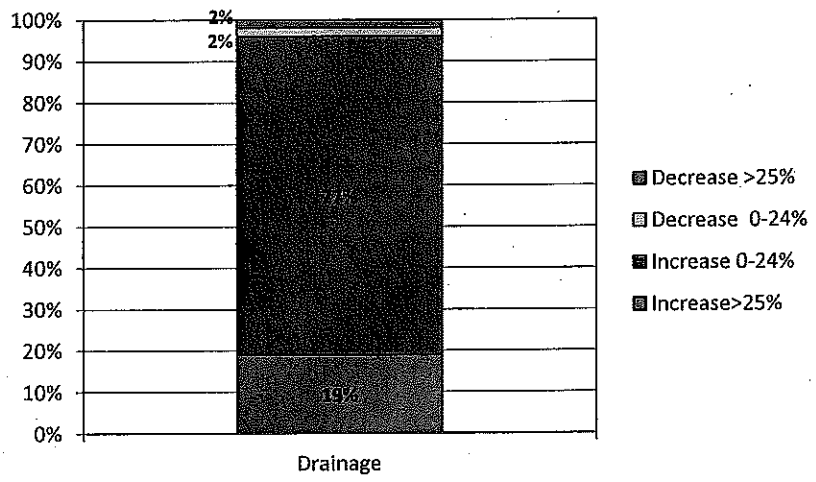
Unlike water and wastewater, stormwater charges are established based on surrogate measures for metered usage, such as impervious area. In fact, 89 percent of participants in the 2012 Black & Veatch Stormwater Utility Survey use impervious area information in the calculation of their stormwater fees.

When asked about the magnitude of the last change in stormwater fees:

- 19 percent of utilities had an increase between 25 percent and 50 percent;
- 77 percent had an increase of less than 25 percent; and
- 2 percent had a decrease of less than 25 percent.

[93] "The Price of Water 2013: Up Nearly 7 Percent in Last Year in 30 Major U.S. Cities; 25 Percent Rise Since 2010." *Circle of Blue.* 05 June 2013.

Figure V-4
Magnitude of Last Change in Stormwater Fees



V.B.3. Solid Waste

Solid Waste business models vary in terms of who provides service and the type of service provided. Services may be provided by public entities, private entities or a mix of the two. Rates cover varying types of service, from incinerator only, to managing landfill risk to a mix of owning and/or contracting out parts of the collection/transport process. SPU falls into this latter category. It owns transfer stations, but not landfills, and contracts out for collection and transport to the transfer station, but manages its own rail transfer to the landfill. Due to the lack of true comparables, Solid Waste Utilities are not included in this section.

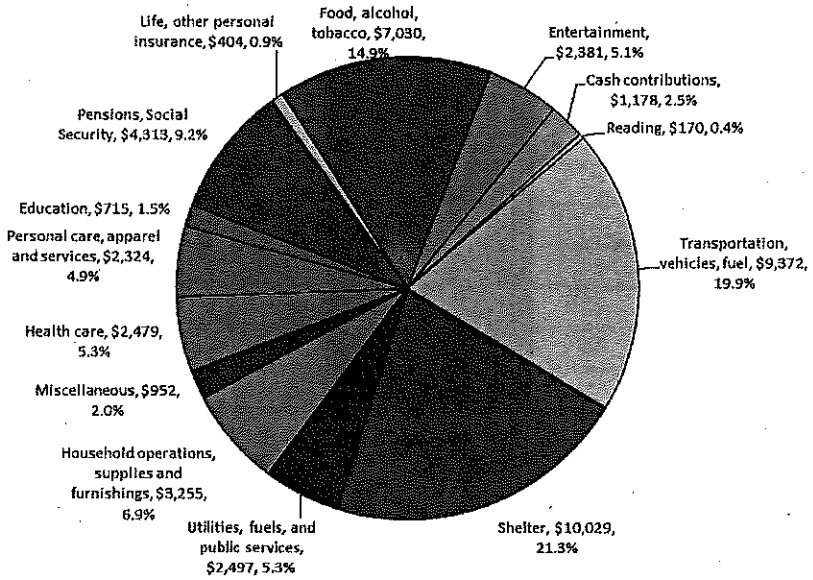
V.C. SPU Rate Affordability

A general definition of affordability should address the concept that everyone should be able to meet their basic needs. While there are varying definitions of affordability, there is no single "magic metric". The City Council discussed affordability during SPU most recent rate reviews and chose to take a holistic approach to costs and services by means of having SPU develop its Strategic Business Plan.

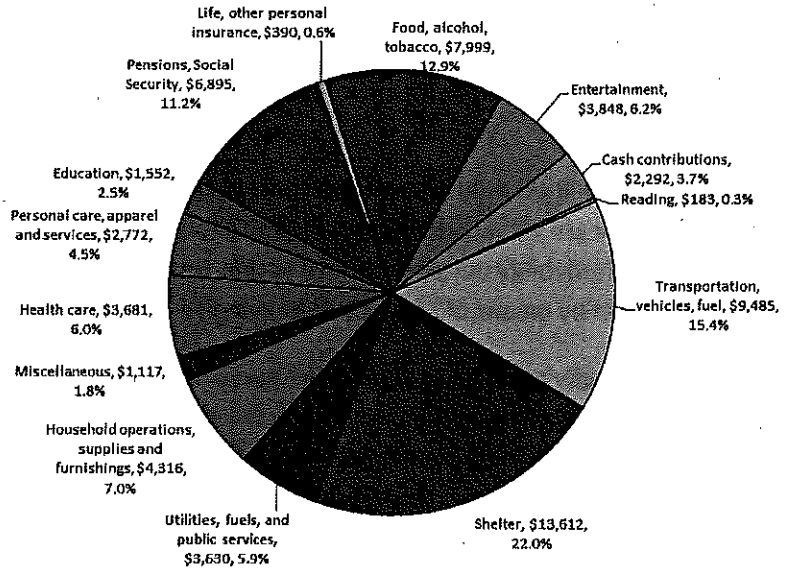
One indication of the affordability of utility charges is the percent of a household's expenses that are dedicated to these expenses. According to the U.S. Bureau of Labor Statistics[94], in the Seattle Metropolitan Service Area (MSA), in 2001 5.3 percent of a consumer's unit expenditures went to utilities, fuels and public services. In 2011, this portion of expenditures had increased slightly to 5.9 percent.

[94] Consumer Expenditures (U.S. Department of Labor, U.S. Bureau of Labor Statistics)

Seattle MSA Consumer Unit Expenditures - 2001



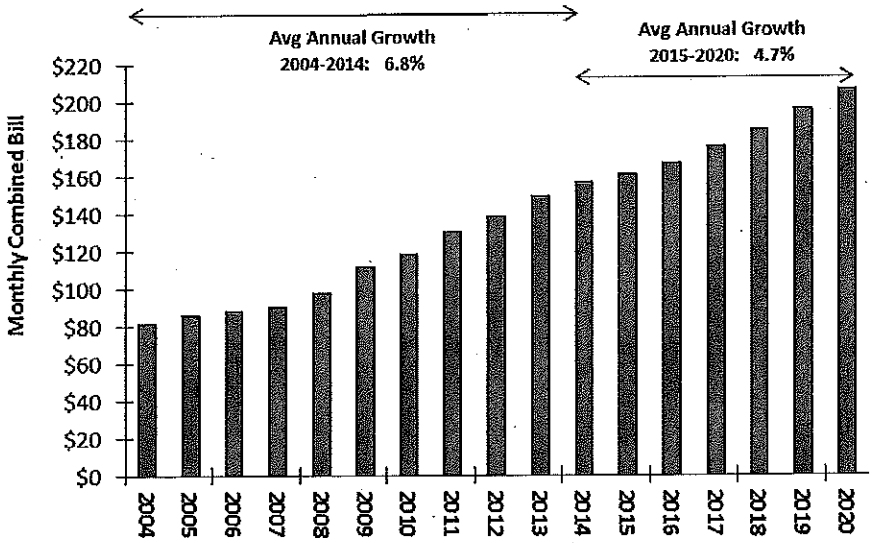
Seattle MSA Consumer Unit Expenditures - 2011



As summarized earlier, in order to address regulatory requirements and maintain current levels of service, SPU rates will need increase in the future, but by much less than in the last decade. The

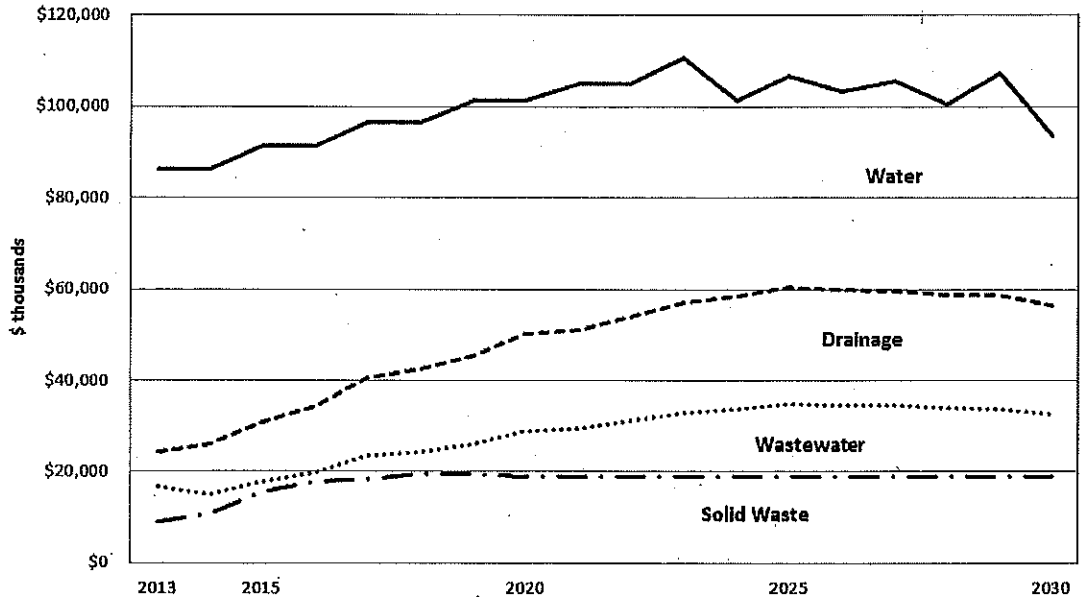
projected *average annual* baseline bill increase for SPU's four lines of business is *4.7% per year* over the six year period from 2015 through 2020, compared to a 6.8 per year average between 2004 and 2014.

Figure V-5
Growth in Typical Monthly Single Family Residential Combined Utility Bill 2004-2020



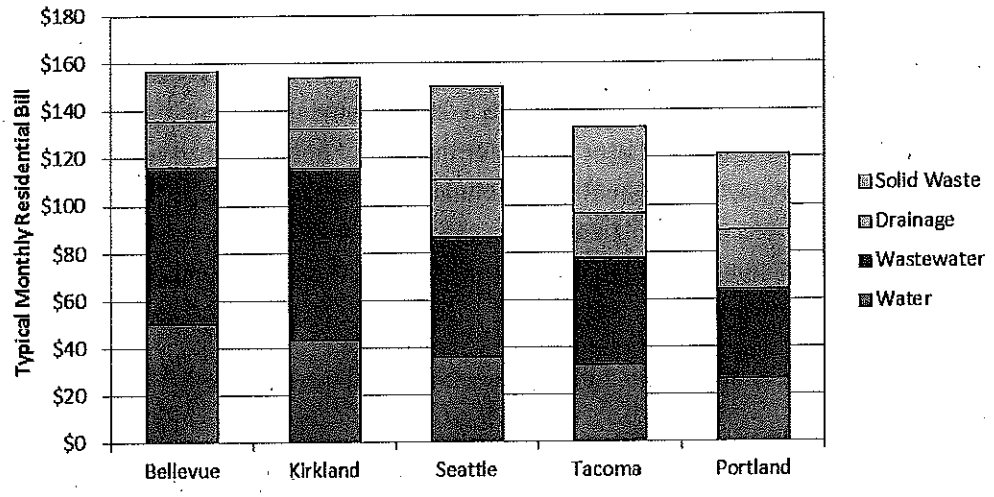
Though SPU will require rate increases that are higher than inflation in the short-term, in the absence of additional regulatory requirement, future rate increases will not be as significant as SPU begins to retire more outstanding debt than issuing new debt. One of the key indicators when rate increases will eventually trend more closely with inflation is the debt required to finance SPU's future capital programs. Though water CIP will fall to more moderate levels in the future, due to the large historical outstanding debt, debt service for the Water Fund will not start to fall off until the early 2020's. Regulatory requirements will lead to growing drainage and wastewater CIP which will cause debt service to continue to grow into the late 2020's. Solid waste debt service will level off in the near future as new bonds are only required in the short-term to finance the remodeling of SPU's two transfer stations.

Figure V-6
2013-2030 Debt Service Payments



While Seattle customers have faced recent significant rate increases, the total SPU utility bill is comparable to that of other regional utilities. Figure V-2 shows the total SPU combined utility bill for a typical residential customer compared to other regional utilities.

Figure V-2
Regional Comparison of 2013 Typical Monthly Residential Bill

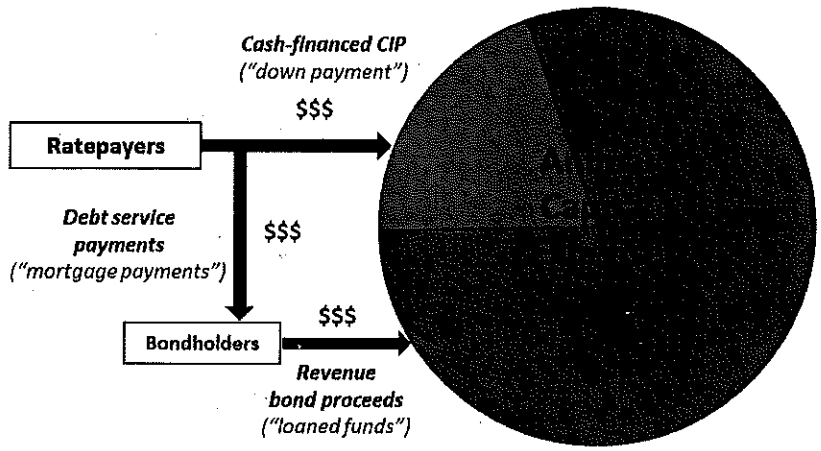


Appendix A: Capital Financing Context

Capital expense is paid for through a combination of current year revenues (cash-financed CIP) and proceeds from periodic revenue bond issues. Annual debt service payments of principal and interest represent the annual cost to the fund of issuing revenue bonds. This process is similar to home financing, with cash-financed CIP equating to a down payment, revenue bond proceeds equating to funds that the mortgage lender uses to pay for the cost of home in excess of the down payment, and annual debt service payments equating to annual mortgage payments to the lender. Both the cash and debt financed portions of capital financing expense are paid out of operating revenues, much as a homeowner uses annual income to pay for the initial down payment and subsequent mortgage payments on a home purchase.

Figure A-1 graphically depicts the funding flow for capital expenditures

Figure A-1
Funding Flow for Capital Expenditures



While a typical homeowner only purchases one home over the course of a multi-year period, utilities typically "purchase" new infrastructure every year over multi-year periods. Consequently, each year there is a new "down payment" which is a percentage of capital spending in that year. Revenue bond issues are typically sized to fund about two years of capital expenditures. So every few years, new bonds must be issued to pay for the portion of ongoing capital expenditures not paid for with current revenues. Debt payments are typically spread over 30 years, so a utility may be paying debt service payments on MULTIPLE bond issues in any one annual period. This equates to having to pay multiple mortgages on multiple homes purchased over several years.

Impact of Capital Financing on Rates

Assuming constant demand and no change in other funding sources, a rate increase will be required to fund **incremental** annual increases to a utility's revenue requirement. Growth in operating spending impacts the revenue requirement in a different manner from growth in CIP spending. Incremental increases to operating expense will drive a linear dollar for dollar increase to the revenue requirement. So if operating spending in Year 1 is $50,000,000 and in Year 2 is $55,000,000, the revenue requirement will increase by $5,000,000[95].

The relationship between changes in capital spending and changes to the revenue requirement varies between the two financing options of cash and debt.

Cash-Financed CIP. Increases in capital spending will result in incremental increases to cash-financed CIP, assuming a constant percentage funded from year to year. However, there is not a 1:1 relationship between increases in capital spending and the resultant increase in the revenue requirement. For example, if 20 percent of total annual capital spending is financed each year with cash, then a $1.00 increase in capital spending will result in a $0.20 increase to the revenue requirement. If there is no change in CIP spending from year to year (and no change in the percentage financed), there will be no change in total cash financing and thus no change in the revenue requirement.

Debt Payments. Revenue bond proceeds are used to finance the total annual debt-financed portion of capital spending not just the incremental change in capital spending from the prior year. Therefore, any capital spending, even if it is less or the same as the prior year, will generate an increase in debt service. How large this increase is depends on the amount financed and other financing terms (variable/fixed structure, current market interest rates, term of debt), not the rate of inflation.

[95] This is a simple example that does not take into account revenue tax impacts. Additional revenue generated to fund increased spending must fund both the spending and increased taxes on the additional revenue. Assuming a 10% tax rate, in the example above, rates must be set to generate an additional $5,555,556 in revenue, with $5,000,000 used to pay for increased spending, and $555,556 used to pay for increased taxes on the higher revenues.

Table A-1 below presents a numerical example of the relationship between capital spending and capital financing expense.

Table A-1[96]
Impact of Capital Spending on Capital Financing Expense

Current Year Capital Spending	**Year 1**	**Year 2**	
Total Capital Spending	$50,000,000	$50,000,000	
Cash-Financed CIP (20 percent)	*$10,000,000*	*$10,000,000*	
Debt-Financed CIP (80 percent)	*$40,000,000*	*$40,000,000*	
Total Annual Capital Financing Expense			**Change ($$)**
Cash	$10,000,000	$10,000,000	$0
Debt Payments[97]	$2,752,200	$5,504,000	$2,752,000
Payment on Year 1 spending	*$2,752,200*	*$2,752,200*	
Payment on Year 2 spending		*$2,752,200*	

In the above illustrative example, capital spending remains constant from year one to year two, as does the percentage of spending financed with cash and debt. Under this constant spending assumption, the cash financed portion of annual capital financing expense does not change. However, annual debt service payments increase, thus increasing the revenue requirement (and rates). In fact, as annual debt service is cumulative, i.e. the sum of payments related to all prior outstanding issues[98], debt service will increase with new bond issues even when capital spending declines.

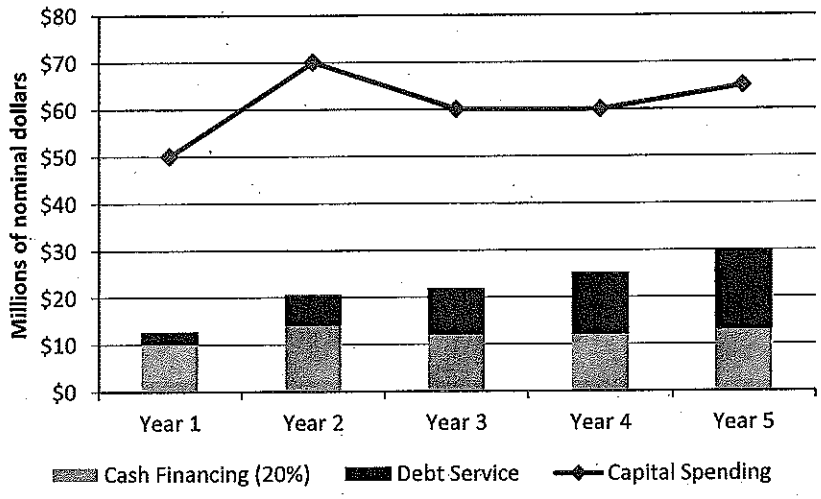
Figure A-2 presents the relationship between capital spending and the two capital financing components.

[96] To isolate the relationship between capital spending and debt service, this table assumes a new bond issue in each year which is sized to fully fund the debt-financed portion of capital spending in each year. In practice, debt issues are typically sized to finance 18 to 24 months of capital spending.

[97] Annual principal and interest payment assuming 5.5 percent annual interest on 30 year fixed debt.

[98] As debt is retired (after 30 years), decreases in base debt service will help to offset an increases associated with new debt issues.

Figure A-2
Relationship between Capital Spending and Capital Financing Expense[99]



The figure above presents capital spending and financing expense across a five-year period. The line represents annual capital expense which fluctuates across the period. Cash financing held at a constant 20 percent of spending fluctuates in the same direction as capital spending, increasing when spending increases and declining when expense declines. Debt service, on the other hand, continues to increase regardless of the direction in capital spending.

[99] Assumes 20 percent constant cash financing; 5.5 percent annual interest rate on debt service and a 30-year fixed term.

Appendix B: Financial Policy Considerations

Policy Metrics

Financial policies may provide general operating guidance that impacts performance (i.e. maintain equipment in good operating conditions) or highly specific financial targets which measure performance against industry standard metrics, such as net income or debt service coverage. Table B-1 describes common industry metrics used to measure utility financial performance and which form the basis for SPU's utility funds' financial policy targets.

Table B-1
Description of Financial Policy Metrics

Metrics	Objective	Importance
Net Income	Financial certainty	Measure of the sustainability of an enterprise over time. Signals to rating agencies the City's commitment to establishing fees that cover costs.
Year-End Cash Balance	Financial certainty Rate stability	Ensures that an enterprise has sufficient cash to meet near-term operating needs and absorb some unexpected changes to revenues and expenditures.
Variable Rate Debt	Financial certainty Rate stability	Balances the advantages of lower interest costs with the risk of unexpected interest rate increases.
Rate Stabilization Fund/Account	Financial certainty Rate stability	Provides a cushion to protect utilities from short-term revenue shortfalls caused by fluctuations in consumption.
Debt Service Coverage	Financial certainty Debt management	A higher coverage ratio means more "excess" revenue is available after making debt payments. This reduces financial risk and provides more flexibility to respond to unexpected needs or revenue shortfalls. Rating agencies particularly emphasize this metric.
Debt-to-Asset Ratio	Financial certainty Debt management	An indicator of reliance on debt for infrastructure financing. A high ratio suggests less flexibility, as a greater portion of each year's revenues is used to repay debt.
Cash-financed CIP	Debt management	Helps to prevent a rapid increase in debt levels and to limit an escalation in the debt-to-assets ratio. If implemented as an average, may be used to smooth rate increases when CIP spending is uneven from year to year.

Financial Policy Implementation Considerations

There is not one universal metric for measuring financial performance. As noted in Table B-1, each metric addresses a different (or different set) of policy objectives. Each utility establishes a mix of financial policies that best suits its individual requirements. Different mixes may achieve similar objectives. The City's Financial Advisor noted the following factors that influence an entity's choice of financial policies:

- **Management to policies**. Utilities take different approaches in how they manage financial policies:
  - Active management of rates and expenses to ensure that policies are met.
  - Use of conservative planning assumptions to provide a significant cushion against negative variances.
  - Setting rates to target meeting financial policy goals and managing the achievement of these goals from an expense standpoint while considering a revenue solution only in extreme situations, even if this means that financial policy targets won't be met.

  Financial policies managed in the manner noted in the last two bullets need to be more robust than those where utilities actively adjust rates and costs to ensure financial policy targets are always met.

- **Rate cycles**. Shorter rate cycles (i.e. annual revisions) allow ongoing adjustment to rates if there are financial performance shortfalls in a given year. Longer rate cycles (more typical of SPU utilities) require management of performance over time. More stringent policies provide a cushion when rates cannot be raised to address underperformance.

- **Capital plan size**. More stringent financial policies are particularly important in limiting debt buildup for jurisdictions with large ongoing capital programs.

- **Debt management considerations**: A package of financial policies is particularly important in providing an overall framework for debt management. For example, even with formal cash-financing policies, a utility may end up not meeting legal coverage requirements in the absence of other policy mechanisms that allow for an increase in revenues **before** a critical level of debt relative to revenues is reached. Heavy dependence on debt can eventually limit future options to issue debt due to additional bonds test requirements[100]

[100] Prior to issuing new revenue bonds, the issuer must show that the new debt will not dilute the returns to existing bond holders. The additional bonds requirement test is a metric which demonstrates that prior year's revenues (or in some cases future revenues) are more than sufficient to pay debt service on both existing and new bonds.

Appendix C: Solid Waste Contracts

SPU contracts with private companies for the collection, transfer, processing, and disposal of garbage, organics, and recyclable materials. Contract payments accounted for about 69 percent of total Solid Waste Funds operating and maintenance expense (excluding taxes and debt service) in 2013. Table C-1 presents a summary of 2013 expense, current contractors by contract type, and the demand unit that forms the basis of payment. Following the table is a brief overview of the various solid waste contracts.

Table C-1
2013 Solid Waste Contract Expense

	Amount (000'	% of SWF Operating Expense	Current Contractors	Demand Unit for Payment
Collection	$72,368	54%	Waste Management, Cleanscapes	Per household (with adjustment for tonnage); volume, frequency of pick-up
Transfer	$857	1%	Waste Management	Tonnage
Processing	$5,161	4%	Republic Services (recyclables), Cedar Grove (organics)	Tonnage
Disposal	$13,508	10%	Waste Management	Tonnage
Total	**$91,894**	**69%**		

Collection Contracts

The City has contracted with private companies for waste collection for almost a century. The City transferred commercial collection to State-regulated franchises during the period 1960-2000, and then returned the services to City contracts in 2001. Residential collection has been continuously contracted. With limited exceptions, City ordinance prohibits collection of non-recyclable waste within the City by companies that are not under contract with the City. The City currently contracts for collection services with Waste Management of Washington ("Waste Management"), a subsidiary of Waste Management, Inc. and Cleanscapes, Inc., a subsidiary of Recology, Inc. Each contract covers designated areas in the City and includes garbage, recycling, and food/yard waste collection from businesses and residents. The current collection contracts went into effect in 2009. The collection contract with Cleanscapes Inc. expires in 2017, with City options to extend the term to 2019 and 2021, and the collection contract with Waste Management expires in 2019, with City options to extend the terms to 2021. Independent private operations also provide commercial recycling collection in the City.

Appendix C: Solid Waste Contracts

Transfer Contracts

Collection contractors transport garbage and organics to City owned transfer stations, which also accept garbage/organics/recycling "self-hauled" by the public. The City opened a new south-end transfer station in 2013. The old north-end station was demolished in January 2014 and a replacement station is currently under construction.

The City contracts with Waste Management to transfer a portion of contractor-collected[101] garbage and organics at their private transfer station. Waste Management currently delivers sealed containers of compacted garbage to the railhead operated by the City's disposal contractor, and organics to the City's local organics processing contractor. This contract expires in 2019 with options to extend to 2021.

Processing Contracts

The City contracts with Rabanco Ltd., a subsidiary of Republic Services, for processing of contractor-collected recyclables. The current processing contract with Rabanco Ltd. expires in 2016, with an option for Seattle and Rabanco to extend to 2019. The City contracted food/yard waste processing with Cedar Grove through 2014 and with Lenz Enterprises and PacifiClean environmental from to 2020.

Disposal Contracts

The City contracts with Waste Management to haul the City's waste by rail from Seattle and dispose of the waste at Waste Management's Columbia Ridge landfill in Arlington, Oregon, owned by Waste Management Disposal Services of Oregon, Inc., a subsidiary of Waste Management, Inc. If Columbia Ridge were to close, Waste Management would be obligated to deliver the waste to an identified alternative landfill. The disposal contract expires in 2028, with City options to opt out in 2019 and 2021. Union Pacific Railroad provides the rail haul under subcontract with Waste Management.

[101] The City directly transfers the balance.

Appendix D: Inflation Assumptions

Table D-1 table shows the inflation assumptions that were used in the development of SPU's Strategic Plan baseline.

Table D-1
Strategic Business Plan
Inflation Assumptions

Item	Inflation Assumption		Basis
Labor	2015 1.6% 2016 2.2% 2017+ 2.5%		Seattle CPI-W (growth rate for 12 months ending in June)
Health Care	7% / year		8-year average for 2005-2012
Workers Compensation	3% / year		
Professional Services	3% / year		
Other O&M	2% / year		
	Yr 1 of biennium	Yr 2 of biennium	
Charges from other City departments:	8%	4%	
General allocations	8%	5%	
FAS	12%	5%	
DoIT allocation	12%	7%	
DoIT billed	11%	7%	
Fleets – allocation & fuel	11%	4%	
Fleets – maintenance	11%	11%	
Fleets - other			
Capital Project	1.7% - 3.5% / year		Global Insight Price Deflators for Government Purchases, State & Local Construction, August 2013

Appendix E: Updated Baseline Assumptions

Built into the baseline rate path are numerous assumptions about the revenue requirement and demand. Following the drafting of the body of this document, certain updates were made to the the assumptions underlying the text, tables, and charts contained herein. Below is a list of many of these updated assumptions, most of which are technical in nature. The overall goal is to have a reasonable set of assumptions that are neither too conservative nor too stringent. Overly conservative assumptions can lead to setting rates higher than necessary while overly stringent assumptions can place SPU in a financial bind in future years.

Baseline Policy Assumptions

	Topic	Updated Baseline Assumptions (May 2014)
1	Use of excess cash in Water Fund's Revenue Stabilization Fund	Assume current $10M surplus in Revenue Stabilization Fund is used to buy down rates over 2015-2020. Place 2018 funds from the Cascade Water Alliance in the Revenue Stabilization Fund.
2	Low Income Rate Assistance participation	Double LIRA participation by 2018, per Mayoral directive.
3	Solid waste financial policies; 2015 rate adjustment	Add new debt coverage financial policy; adjust 2015 and 2016 rates in 2014.
4	Risk placeholder	No change from baseline assumption of $1.2M per year, which is roughly 0.1% of SPU's annual revenue requirement.

Updated Baseline Technical Assumptions that Differ from Baseline Paper Assumptions

NOTE: City Budget Office Staff, Council Central Staff, and SPU Staff all agree these assumptions are reasonable

Topic	Baseline Paper Assumptions (from February 2014)	Updated Baseline Assumptions (from April 2014)	Rate Impact
Retirement costs	1%/yr increase to total City contribution of **20.41%** in 2020	Total City contribution **15.3%** in 2015-16; **16.3%** in 2017-2020	-
Retirement opt-out	No opt-out savings assumed	Assume savings of **$110k-$189k per year** plus one additional person every other year	-
Salary inflation	**3.6% -3.9%** per year	Lower salary inflation to **1.4% above COLA** in 2015; **1.0%** thereafter	-
CIP	**$1,132M** over 6-year period	**$1,026M** over 6-year period	-
Bond interest rates	**5.25%-6.0%**	Lowered based on recent rates to **4.50%-5.75%**	-
Water demand	Average **0.4%** decrease per year	Update to average **0.2%** decrease per year	-
Sewer demand	**0.6%-1.2%** decline per year	Update to **0.4%-0.8%** decline per year	-
Solid waste demand	0.9% decline/year	Update to **1.0%** decline/year	+
Solid waste rate path calculation	Earlier rate path based on yearly calculation	Rate path calculation adjusted for mid-year (April) rate start date	+

Appendix E: Updated Baseline Assumptions

Other Significant Technical Assumptions

Noted for Documentation Purposes; No Issues Raised by City Staff – Pending Updated Assumptions from CBO

Topic	Baseline Document Assumptions and Final Baseline Assumptions
Health care inflation	7%/year
Workers comp inflation	3%/year
Professional services inflation	3%/year
Charges from other City departments: ▪ General allocations ▪ FAS ▪ DoIT allocation ▪ DoIT billed ▪ Fleets – allocation & fuel ▪ Fleets – maintenance ▪ Fleets - other	Yr 1 of biennium/Yr 2 of biennium: ▪ 8%/4% ▪ 8%/5% ▪ 12%/5% ▪ 12%/7% ▪ 11%/7% ▪ 11%/4% ▪ 11%/11%
Other O&M inflation	2%/year
Capital Project inflation	1.7%-3.5% per year
Drainage demand	No change
Bond refunding opportunities	Assume no opportunities

Final Baseline Rate Path and Rate Spending Path For Each Line of Business

Incorporation of the updated assumptions in the financial models slightly altered the projected 2015 to 2020 baseline rate paths presented in the body of this document for some lines of business but did not impact the overall combined baseline rate path.

Line of Business	2015-2020 Average Rate Path
Water	3.6%
Wastewater	3.9%
Drainage	8.6%
Solid Waste	4.1%
Combined	**4.6%**

***Solid Waste bill path represents average increase assuming new rates are effective April 1 of each year**

Exhibit 4

Last Revised: June 2, 2014
Diane Caviezel Clausen
SPU Strategic Business Plan Exhibit 4
June 23, 2014
Version #1

Action Plans: Summary & Detail

Costs shown in $000s

Title	Short Description	2015-2020 O&M*	2015-2020 CIP*	Page #
FOCUS AREA: Protecting Your Health and Our Environment				
Climate Change Adaptation and Resiliency	Prepare for water supply and utility system threats that may occur from climate change.	$1,686	$3,533	3
Decentralized "Green" Systems	Develop policies to respond to "green" decentralized service alternatives like rain capture.	$0	$0	6
Energy management & Carbon Neutrality	Implement a program so that Utility can achieve carbon neutrality.	$1,309	$0	8
Watershed roads	Maintain identified roadways in the Cedar River watershed to preserve tribal access.	$799	$1,680	10
Street Sweeping	Expand existing street sweeping to remove 440 tons of pollutants from our streets and drainage to reduce Sound and waterway pollution.	$4,408	$345	12
FOCUS AREA: Improving How We Work to Deliver Consistent, High Quality Services				
DWW Planning and Policies	Improve the quality of drainage and sewer services through accelerated mapping, modeling, planning, and policy development.	$5,762	$0	14
Accelerate Broadview and South Park Projects	Accelerate flooding and sewer backup prevention projects in the Broadview and South Park neighborhoods.	$0	$20,000	16
Sewer Inspection & Rehabilitation	Increase sewer pipe inspection and rehabilitation to reduce sewer backups and overflows.	$3,589	$64,350	18
Sewer Cleaning	Increase sewer pipe cleaning to reduce sewer backups and overflows.	$9,625	$1,000	20
Emergencies and disasters	Create a comprehensive emergency plan for maintaining and restoring essential services in emergencies.	$481	$0	23
Seismic Vulnerability	Develop a plan to protect the drinking water system from earthquakes.	$934	$0	25
Valves	Improve maintenance and operation of the approximately 60,000 valves in the drinking water system.	$2,619	$0	27
System Development Charges	Require new developments to pay for a share of the Utility's systems to help fund the needs resulting from growth.	$0	$0	28
Billing Meters	Centralize meter management within the Utility and improve replacement and repair services.	$1,794	$408	30
Revenue recovery	Create a more comprehensive approach to collect non-rate-related revenues.	$0	$0	32
Technology Services	Improve the use of technology and data to create business knowledge to support core utility services.	$4,450	$0	34
SPU Facilities Management	Develop a centralized facility management program to improve the efficient use of energy and utility resources in existing facilities.	$1,539	$23,200	38
Managing Data & Information	Implement a data and quality assurance program so that the Utility can more effectively use its information.	$856	$0	40
Materials management	Continue to implement a centralized materials management system for everything from procuring to inventory to use.	$543	$0	43

Title	Short Description	2015-2020 O&M*	2015-2020 CIP*	Page #
FOCUS AREA: Enhancing Our Services by Continually Updating Employee Skills				
HR Data and Performance Measurement	Develop effective data and tools to support improved employee performance	$3,298	$0	45
Employee Performance Management	Develop effective systems, tools, and practices to continuously improve employee performance to deliver higher quality services at lower costs.	$443	$0	47
Leadership Development	Develop leadership skills at each level of management to improve project and service delivery.	$1,146	$0	49
Talent Management	Implement a comprehensive talent management system keep critical knowledge in the Utility and empower employees to achieve more.	$1,649	$0	51
Absence and Disability management	Develop a system for managing and preventing employee absences and disabilities.	$2,292	$0	53
FOCUS AREA: Making it Easier for You to Get Help and Answers				
Service equity	Actively ensure that all communities and customer groups have equal access, service delivery, and ability to use services.	$0	$0	55
Web Presence	Develop websites where customers can easily accomplish their tasks, whether it's to look up information, pay a bill, or submit a request.	$1,630	$0	58
Development Services	Centralize and streamline the utility permit, service, and sales functions for development customers.	$1,146	$2,000	60

Focus Area: Protecting your health and our environment

Action Plan: Climate Change Adaptation & Resiliency

Strategic Objective: Anticipate, adapt to change
Owner: Paul Fleming, Corporate Asset Management Division

Summary of proposed action

Improve SPU's ability to anticipate changing climatic conditions, enhance our understanding of the implications of these conditions on SPU's built and natural infrastructure and services, and develop adaptation strategies to address those implications. If implemented, this proposal will:

- Provide O&M funding to assess climate impacts on the drainage & wastewater and watersheds, develop an adaptation strategy for the DWW LOB, obtain new climate data and implement a Tier 1 adaptation option for the drinking water systems;
- Provide capital funding to implement a "Tier 1" adaptation as part of our drinking water supply delivery system.

Benefits of investment: Taken together, these investments represent the next phase in SPU's climate program. The investments will improve our climate preparedness by implementing adaptation options for the water LOB that should mitigate some of the effects of climate change on our drinking water supply. They also will lead to a better understanding of how sea level rise and changes in precipitation could affect our DWW LOB services and the development of a strategy to address and mitigate those effects. Given that our understanding of climate change is continually involving, these investments will enable us to obtain and use the best available science over time.

Description of the problem this action solves

Changes in the timing and intensity of rainfall and snowpack accumulation may dramatically affect SPU's built and natural utility infrastructure, and the reliability of the services that depend upon those systems. Sea level rise also has implications for the location and functioning of SPU's infrastructure, especially storm and sewer pipes and pump stations.

While we have enhanced our understanding over the past several years of the implications of climate change on SPU's systems, we have an incomplete and inadequate understanding of those implications. There is considerable uncertainty regarding the exact nature, magnitude and timing of those climate impacts; this uncertainty challenges SPU's ability to implement appropriate management and adaptation strategies. Continuing to strengthen and enhance our understanding of climate change will enable us to make sound infrastructure investments and develop resilient utility systems that support the reliability of the overall system, our services, and ultimately, Seattle's livability.

More detailed description of the proposed action

As described below, this proposal builds on existing work to complete an evaluation that will enhance our understanding of the exposure and sensitivity of our drainage and wastewater (DWW) systems to sea level rise and changes in precipitation patterns. This product will set the stage for the development of subsequent products, including an adaptation strategy for the DWW LOB, as

well as the updating of Intensity, Duration and Frequency (IDF) curves, which are used to inform the design of capital projects, as well as obtaining the next generation of climate data. In addition, this proposal will further our understanding of the vulnerability of our drinking water watersheds to climate change. All of the aforementioned work will be funded via O&M at a cost of roughly $120,000/year on average.

The proposal also includes the implementation of two adaptation options for the drinking water LOB that were identified and evaluated as Tier 1 options (i.e., options that would be implemented first) in 2007:

- The first Tier 1 option is the Chester Morse refill, which allows us to fill the lake to a higher elevation but also requires significant analysis to address the regulatory needs of the State Dam Safety Office. Chester Morse refill would be funded by O&M.
- The second Tier 1 option, improvements to overflow dike, would be funded via CIP dollars, and augments the effectiveness of the Chester Morse refill project. These two adaptation options would significantly enhance our ability to store additional water, which will help us deal with the year to year climate variability that we face now as well as longer term climate change. The following proposed activities build on existing practices1 to help us adapt to climate-related threats and continue to meet our customers' expectations for service levels into the future.

Drainage and Wastewater

- Identify precipitation thresholds for basins not influenced by Puget Sound tides. This identifies how sensitive our piped drainage and wastewater network is to changes in precipitation.
- Evaluate a portfolio of adaptation strategies (operational, maintenance, new or renovated infrastructure, etc.) that can be implemented to improve preparedness for increased frequency and severity of urban flooding, higher sea levels and sewer back-ups.

Drinking Water

- Evaluate climate-related vulnerabilities of the Tolt and Cedar watershed ecosystems (including water supply, forest fires, habitat, and wildlife) and develop adaptation strategies. Fund 0.2FTE for this work.
- Make improvements to the overflow dike separating Masonry Pool and Chester Morse Lake in the Cedar Watershed and modifying reservoir operations will increase our ability to manage flood events, water storage, and downstream flow concerns related to changing precipitation patterns.

SPU-wide – Institutionalize best practices

- Update climate change projections in 2019 to keep SPU's climate impacts assessment current and provide a common climate framework across SPU.

[1] Current baseline climate-related activities include: obtaining and using the current generation of climate projections, improving storm event and overall weather forecasting capabilities, collaborating with other City departments on a city-wide adaptation strategy, interacting climate considerations in SPU's capital planning; evaluation of a portfolio of adaptation strategies for inclusion in the 2019 Water System Plan and participating in water-industry and federal government climate initiatives.

Implementation plan and timeline

O&M: Gap Action Plan (excluding 0.2 FTE cost)	2015	2016	2017	2018	2019	2020
Non-tidal basin study (DWW Climate Resiliency Study)	$60K					
DWW adaptation study and strategy		$150K	$100K	$100K	$100k	
Update of Intensity, Duration, Frequency curves	$40K	x	x	x	x	$40K
Watershed vulnerabilities studies	$20K	x				
Implement Tier 1 adaptation: Chester Morse refill	$490K	$500K				
CIP: Gap Action Plan						
Implement Tier 1 adaptation option: Overflow Dike	$1,480K	$2,053K				

Budget and FTE Changes (in $000s)

Fund: Drainage & Wastewater AND Drinking Water Funds

	2015	2016	2017	2018	2019	2020	Total
O&M Labor	0	0	0	0	0	0	**$0**
O&M Non-Labor	625	683	108	110	113	46	**$1,685**
O&M Subtotal	**625**	**683**	**108**	**110**	**113**	**46**	**$1,685**
CIP	1,480	2,053					**$3,533**
Total O&M and CIP	**$2,105**	**$2,736**	**$108**	**$110**	**$113**	**$46**	**$5,218**
FTE	0	0					

NOTE: Initial Action Plan to the Customer Panel included 0.2 FTE in 2015-16; this cost is now absorbed within baseline resources.

Plan for evaluating success or progress

This proposal includes developing reporting metrics in 2015.

Focus Area: Protecting your health and our environment

Action Plan: Decentralized "Green" Systems

Strategic Objective: Anticipate, adapt to change
Owner: Nancy Ahern, Deputy Director, Utility Systems Management Branch

Summary of proposed action

Evaluate the challenges and opportunities created by the increasing availability of- and interest in-emerging, decentralized alternatives to SPU-provided services (e.g., onsite rain capture and treatment in lieu of centralized water and sewer systems). Develop policies to respond to the growing interest in decentralized utility systems.

Description of the problem this action solves

Traditionally, utility services have been provided through centralized systems that distribute water via a city-wide treatment and distribution network of pipes, or collect sewage and drainage via a sewer network that carries wastewater to a central treatment plant. Today, traditional utilities such as SPU are faced with responding to growing interest in smaller, decentralized or distributed approaches to providing the same services, at a building or neighborhood scale. Recent examples of decentralized systems proposed by Seattle developers include:

- The Bullitt Foundation's *"Bullitt Center"* is the first commercial building to meet the Living Building Challenge; it seeks to capture rainwater for tenants' use and treats most sewage and rainwater runoff on site.
- Amazon.com Inc.'s proposed downtown campus includes potential water reuse for non-potable use.
- Gates Foundation Headquarters harvests rainwater for non-potable uses.
- Yesler Terrace Redevelopment is considering storm water harvesting and reuse.

Most decentralized or distributed approaches seek to replace or augment centrally provided services with site-scale facilities – in some cases, seeking to go completely "off the grid." While still a tiny piece of the utility pie, these decentralized systems could, over time, have far-reaching effects on the provision of utility services.

SPU has participated in the projects described above, but currently lacks a good understanding of the potential long-term impacts of decentralized systems on our customers, the environment, and utility services. We have not yet developed comprehensive policies relating to private development involving decentralized systems or included them in system planning. Important policy questions raised by the increasing interest in decentralized systems include:

- What type of infrastructure and service delivery will best serve SPU's customers 20-30 years from now?
- Could rainwater harvesting help reduce flooding or mitigate reduced drinking water supplies due to climate change?
- What are the impacts of increased infiltration on groundwater?
- How can system costs be fairly allocated if some users reduce or eliminate their regular consumption?
- Who will ensure decentralized drinking water systems are properly operated and/or take them over when they fail?

More detailed description of the proposed action

SPU would form a cross-Branch Team to develop a proactive utility approach to decentralized systems, assess the potential pros and cons of different decentralized systems, and develop recommended policies to serve the long-term interests of our customers. The Team will:

- Gather information about technology, codes, regulations and other issues/benefits associated with decentralized/distributed systems.
- Organize a workshop that would bring experts from other utilities, industry associations, and research/non-profits to Seattle to help inform SPU how other organizations are tackling these issues.
- Develop a Decentralized System Strategy Report within 18 months that:
  - Defines the regulatory responsibilities related to decentralized systems.
  - Benchmarks what is being done on this topic in other places and institutions.
  - Describes how decentralized systems specifically affect each Line of Business.
  - Projects the likely pace and extent of demand or adoption of different decentralized technologies.
  - Identifies and prioritizes policy issues.
  - Recommends how the utility can best take advantage of the opportunities and manage the challenges from decentralized systems while continuing to provide high quality utility services.
  - Allows us to develop new policies on the decentralized approach when we have sufficient information.
  - Recommends next steps, including areas of focus, staff and resource levels, information-gathering, and policy development.

Beyond 2016, work will be guided by the report, and will likely include policy development and code revisions.

Implementation plan and timeline

	2015	2016	2017	2018	2019	2020
Gather information, benchmark other places	x					
Workshop	x					
Decentralized Systems Strategy Report		x				
Next Steps		x	x	x	x	x

Budget and FTE Changes (in $000s)

Fund: Multiple Funds

	2015	2016	2017	2018	2019	2020	Total
O&M Labor							$0
O&M Non-Labor	0	0	0	0	0	0	$0
O&M Subtotal	*0*	*0*	*0*	*0*	*0*	*0*	*$0*
CIP							$0
Total O&M and CIP	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*
FTE	0	0	0	0	0	0	

NOTE: The initial Action Plan to the Customer Panel included $50,000 in O&M non-labor resources in 2015 and $30,000 in each succeeding year; this cost is now absorbed within baseline resources.

Plan for evaluating success or progress

To be determined.

Focus Area: Protecting your health and our environment

Action Plan: Energy Management & Carbon Neutrality

Strategic Objective: Stewardship
Owner: Paul Fleming, Corporate Asset Management Division

Summary of proposed action

Conduct a variety of assessments and implement a program so SPU can achieve net zero greenhouse gas (GHG) emissions (i.e., carbon neutrality) by 2015, as directed by Executive Order #2013-02, Oct 2013.

Description of the problem this action solves

SPU's routine operations (e.g., use of it automobile fleet, heavy equipment, and water treatment facilities) emit thousands of tons of GHGs every year. In 2009, SPU's activities emitted ~14,000 metric tons of GHGs. This is roughly equivalent to the annual emissions from 2900 passenger vehicles[2]. Seattle City Light, which has been carbon neutral since 2005, annually purchases carbon offsets in the range of 100,000 to 300,000 metric tons. This proposal reflects a significant policy change and strategy to achieve net zero GHG emissions by 2015.

More detailed description of the proposed action

The proposed Energy Management & Carbon Neutrality Program (EMCNP) builds on the existing (baseline) work on the 2013 GHG inventories and policy work being completed in 2013 and 2014.

In the near term (2014-2020), the EMCNP reduces SPU's GHG emissions by funding a half-time staff position to create an annual inventory of SPU's emissions and contribute to the development and implementation of the carbon neutral strategy. The staff also would monitor SPU's energy use, assess opportunities to generate renewable energy within SPU's operations, implement energy efficiency measures, and purchase carbon offset credits and renewable energy credits as needed to achieve net carbon neutrality.

The longer term strategy combines the purchase of offset credits with implementation of energy efficiencies identified in the studies (funded by this proposal) and onsite energy generation. (Funding of the anticipated energy renewal and efficiency projects is not included in this proposal; we will propose such funding through SPU's ongoing infrastructure development program, also known as the CIP (Capital Improvement Program)).

The near and long term strategies result in a sustained effort to manage and reduce SPU's energy consumption and GHG emissions, as well as making SPU one of the first water utilities in the U.S. to achieve carbon neutrality.

[2] Assumes fuel economy of 21.5 mpg and annual vehicle miles traveled of 11,493.

Implementation plan and timeline

	2014	2015	2016	2017	2018	2019	2020
Develop and verify annual inventory of SPU's GHGs.	x	x	x	x	x	x	x
Identify options for energy efficiency measures	x						
Conduct renewable energy potential assessment (REPA)	x	x					
Identify and resolve carbon neutrality policy issues	x						
Develop draft carbon neutrality portfolio pathways	x	x					
Implement recommendations for pump station optimization		x					
Further develop REPA strategies		x					
Implement carbon neutrality portfolio (carbon offset credits)		x	x	x	x	x	x
Conduct efficiency studies as needed to identify more opportunities to reduce emissions			x	x	x	x	
Request capital funds needed for renewable energy work			x	x	x	x	x
Evaluate and adjust carbon neutrality portfolio				x		x	

Budget and FTE Changes (in $000s)

Fund: All three funds

	2015	2016	2017	2018	2019	2020	Total
O&M Labor	0	0	0	0	0	0	$0
O&M Non-Labor	205	210	215	221	226	232	$1,309
O&M Subtotal	*205*	*210*	*215*	*221*	*226*	*232*	*$1,309*
CIP							$0
Total O&M and CIP	*$205*	*$210*	*$215*	*$221*	*$226*	*$232*	*$1,309*
FTE	0	0	0	0	0	0	

NOTE: The initial Action Plan to the Customer Panel included 0.5 FTE in 2015-2020; this cost is not absorbed within baseline resources.

Plan for evaluating success or progress

Monitor SPU's greenhouse gas emissions over time and evaluate the effectiveness of the carbon neutrality portfolio in achieving neutrality and in addressing other policy objectives.

Focus Area: Protecting your health and our environment

Action Plan: Watershed Roadways

Strategic Objective: Partnership w/ stakeholders
Owner: Cyndy Holtz, Suzy Flagor, Cedar River Municipal Watershed

Summary of proposed action

This proposal provides funding to implement work, required by law and regulation, on up to 121 miles of forest roads within the City's Cedar River Municipal Watershed (CRW), the source of 70% of the City's drinking water, to help facilitate the Muckleshoot Indian Tribe's (MIT) access to traditionally significant hunting, gathering and spiritual sites. Adds 2 FTE.

Description of the problem this action solves

SPU has been in ongoing discussions with the MIT on how it can honor the MIT's interests as it relates to exercising their tribal rights to access the watershed, while upholding the terms of the Habitat Conservation Plan (HCP) and taking into consideration operational costs and impacts to drinking water rate payers. In October 2013, the City reached a preliminary agreement with the MIT on a level of road retention within the CRW. This proposal funds both the maintenance and improvement on those roads we agreed not to abandon immediately.

More detailed description of the proposed action

One of the City's mitigation obligations under the HCP is to decommission 236 miles of forest roads in the CRW. The MIT has expressed concerns about SPU's decommissioning of certain roads that SPU has identified for removal. These roads are either not needed for SPU's operations and/or are in poor condition, and in some cases contribute sediment into stream and creeks in violation of State forest and fish protection laws. These roads are also more expensive to maintain than to decommission.

SPU and MIT have reached preliminary agreement that SPU will decommission only 236 miles of road, as required under the HCP, and will retain 121 miles of road originally slated for abandonment as part of the approved 2010 CRW Transportation Business Cases. Once SPU completes decommissioning as required by the HCP in approximately 10 years, SPU will start new discussions with MIT on possible further road decommissioning.

Funding is sought for the following elements:

- Additional road improvement projects within the 121 mile expansion of the permanent road system resulting from access needs expressed by the MIT. These roads had been slated for decommissioning per the adopted 2010 Cedar River Watershed Transportation Management Plan.
- Maintenance for the added 121 miles of roads.
- Improved access to traditional hunting, gathering and spiritual sites.
- 2 FTE positions, a Forest Maintenance Worker and an Equipment Operator.

Benefits of the proposed action

This proposal helps us honor our commitment and legal obligation to the Muckleshoot Indian Tribe.

Implementation plan and timeline

	2015	2016	2017	2018	2019	2020
Improvements within additional 121 miles of road	214K	214K	214K	214K	214K	214K
Maintain 121 miles of road	188K	188K	188K	188K	188K	188K
Improve access to hunting and spiritual sites (costs included above)	x	x	x	x	x	x

Budget and FTE Changes (in $000s)

Fund: Drinking Water

	2015	2016	2017	2018	2019	2020	Total
O&M Labor	52	54	55	56	58	59	**$334**
O&M Non-Labor	73	75	76	78	80	82	**$464**
O&M Subtotal	**125**	**129**	**131**	**134**	**138**	**141**	**$798**
CIP	280	280	280	280	280	280	**$1,680**
Total O&M and CIP	**$405**	**$409**	**$411**	**$414**	**$418**	**$421**	**$2,478**
FTE	2.00	2.00	2.00	2.00	2.00	2.00	

Note: A portion of the staff cost is captured in the CIP budget.

Plan for evaluating success or progress

To be determined.

Focus Area: Protecting your health and our environment

Action Plan: Street Sweeping

Strategic Objective: Environmental & Health mandates
Owner: Shelly Basketfield, Utility Systems Management Branch

Summary of proposed action

Expand the existing street sweeping program to increase the sweeping frequency, extend the sweeping season, and add a route. This increases the annual amount of pollutants removed by 40 percent (more than 400 tons from the streets and 40 tons from the City's drainage system) and contributes importantly to the water quality of our urban streams, Lake Washington, and Puget Sound.[3]

Description of the problem this action solves

Streets constitute more than 16% of Seattle's surface area and they are the source of more than 40% of the total stormwater pollutant load. Street sweeping is a very cost-effective, flexible stormwater pollution control practice that removes pollutants from streets, keeping it out of storm drains where it would be carried untreated into creeks, lakes, the Duwamish River, and Puget Sound. Once in the aquatic sediments, contaminants present long-term, persistent risks to aquatic and human health.

The expansion of the existing street sweeping program cost-effectively increases the annual collection of street-borne pollution from about 100 tons to about 140 tons (~230 dump truck loads). Using state-of-the-art regenerative air technology, sweeping does a good job to remove the very fine (less than one sixth the diameter of a hair) particulates that, pound for pound, carry more pollutants than the larger particles. Collected contaminants of consequence include:

- Metals from automobile wear (copper from brake pads, zinc from tires, nickel and chromium from engines)
- Organic compounds from automotive exhaust (poly-aromatic hydrocarbons (PAHs), which are cancer-causing
- Tree detritus (leaves and needles) that stimulates algae growth and depletes oxygen in water (harming fish, and other aquatic life).

More detailed description of the proposed action

Street Sweeping is a collaboration between SPU and Seattle Department of Transportation (SDOT); SPU directs and pays for the sweeping routes that discharge water directly to "receiving waters," while SDOT provides the sweeping services and funds the routes that drain to a sewage treatment plant.

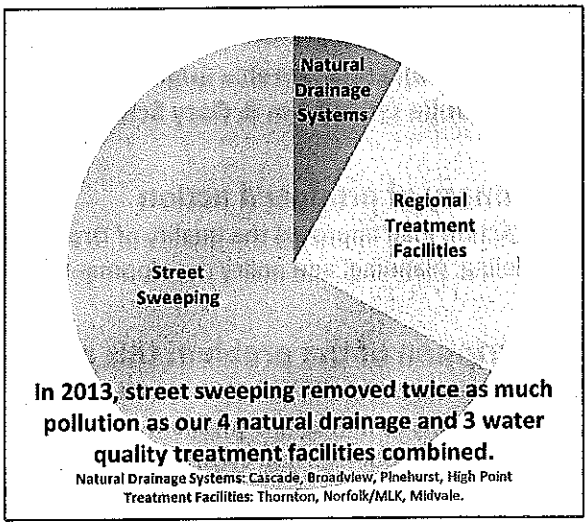
Expanding the existing street sweeping program in 2016 would increase the swept distance by 10,700 curb-miles per year, as depicted in the following table. The primary change is to increase the number of routes swept each week, from 4 to 21.

	Schedule			Outcomes (Storm Drain related, only. Not SDOT Sewer)		Efficiency
	Sweeping Season (weeks)	**Number Routes**[4]	**Number of Weekly Routes**	**Swept Distance** (curb-miles/year)	**Pollutants Removed** (tons/year)	**Unit Cost** ($/lb. of pollutant per year)
Current program	40	24	4	10,000	100	5
Proposed Program	46 to 48	25	21	20,700	140	7

[3] This program expansion will be submitted to the Washington Department of Ecology and EPA for consideration as part of the Integrated Plan being developed to comply with the CSO Consent Decree. The proposed expansion will be a regulatory requirement if the Integrated Plan is approved.
[4] A typical route is approximately 30 lane miles long and covers. About 75% of a typical route discharges to storm drains; 25% runs off to the combined sewer system.

Benefits of the proposed action

Street sweeping is a very effective means of removing pollutants before they reach water and aquatic sediments. Since 2011, more than 27,000 curb-miles of pavement have been swept, removing 3,500 tons of street solids at a life-cycle cost of about $5/pound of pollutants removed per year, substantially out-performing conventional stormwater treatment.



This proposal removes an additional 40 tons of pollutants per year at a cost of $11/pound of pollutant removed per year. To reduce an equivalent load with a water quality treatment facility, a capital budget between $10 and $20 million would be needed, and cost per pound of pollutant removed would be between $15 and $25. Plus, with street sweeping, we can start the cleaning immediately, and not wait to site, permit, and build a facility.

Street sweeping also provides multiple city-wide benefits (clean water, clean streets, and clean air). Extending the sweeping season to include fall leaf drop season also reduces flooding related to leaf-blocked drainage inlets.

Implementation plan

The program expansion will commence in 2016. Milestones include:

- **2014** – Develop new routes that optimize sweeping time, travel, and dump times as well as meet pollution removal objectives.
- **2015** – SDOT tests and adjusts routes, if needed. Buy new sweeper, if needed. Hire 2.5 FTE operators.
- **2016** – Begin expanded schedule route sweeping.

Budget and FTE Changes (in $000s) [5]

Fund: Drainage & Wastewater

		2015	2016	2017	2018	2019	2020	Total
O&M Labor & Non-labor	Sweeping (SDOT)	0	809	829	850	871	893	$4,252
O&M Non-labor	Monitoring (SPU)	$0	$0	$51	$52	$53	$0	$156
O&M Subtotal		**$0**	**$809**	**$880**	**$902**	**$924**	**$893**	**$4,408**
CIP	New Sweeper	$345						$345
Total O&M and CIP		**$345**	**$809**	**$880**	**$902**	**$924**	**$893**	**$4,753**
FTE - SDOT			2.5	2.5	2.5	2.5	2.5	

The O&M Labor & Non-Labor for SDOT shows as Non-Labor in SPU's budget.

Plan for evaluating success or progress

Program metrics include pollutant load reductions and program cost-effectiveness, from an operating cost per curb-mile basis and a life-cycle per mass of pollutant removed basis. The following information will be collected:

- Miles swept from GPS derived distance and time sweeping on the route, on the storm drain routes, and traveling to and from the route.
- Load removed from onboard scale readings for each route and truck scale readings for the wet load hauled from the temporary stockpiles to the disposal facility.
- Sample measurements from the temporary stockpiles which indicate the level of contaminants in the sweepings.

[5] The budget estimate and FTE changes are for the portion of the routes that drain to receiving waters. SDOT will fund the portion of the routes draining to the sewage treatment plant (~25% of the total sweeping effort or ~$250,000) using General Funds it will request in the 2015 budget submittal.

Focus Area: Improving how we work to deliver consistent, high quality services

Action Plan: Drainage and Wastewater Planning & Policies

Strategic Objective: Service quality

Owner: Julie Crittenden & Gary Schimek, Utility Systems Management Branch

Summary of proposed action

This Action Plan improves the quality of Drainage and Wastewater services through accelerated mapping, modeling, planning, and policy development.

Description of the problem this action solves

SPU's Drainage and Wastewater services tend to be reactive and largely in response to regulatory requirements or immediate problems. This action plan allows SPU to become more strategic and proactive in addressing Drainage and Wastewater needs. This includes planning for future growth, collaborating with major transportation projects that affect our infrastructure, and addressing current service level shortfalls in an integrated and systematic way. We also have critical policy gaps that lead to challenges when working with the development community and delineating responsibilities between SPU and other City departments.

More detailed description of the proposed action

This proposal addresses Drainage & Wastewater planning and policy needs through enhanced efforts in three areas:

- Geographic-area specific "Master" planning to identify current and anticipated future DWW system needs -- and to specify the capital projects and other investments that will address flooding, water quality and sewer overflow issues.
- Updated, more comprehensive mapping and modeling of our D&WW infrastructure so these basic tools can be used to define, investigate, and plan improvements.
- Clarification and development of policies that will support the work of the newly created Development Services Office and resolve conflicts with other City departments.

Master Planning: DWW's current planning efforts are focused on regulator-required, issue-based plans (such as the Combined Sewer Overflow Long-term Control Plan) and a variety of "one off" plans addressing specific problems, development projects or transportation projects. Recently, we have undertaken more rigorous planning and capital development efforts in areas such as Broadview and South Park (the subject of another Action Plan). This Action Plan would allow SPU to continue master planning for defined geographic areas in order to integrate sewer, drainage, water quality and natural systems into a comprehensive strategy to guide capital projects, development regulation, and operating programs. The two additional FTEs (one in USM, one in FOM) and $250k in consultant funding would support four to six new Master Plans by 2020.

Mapping, Modeling and GIS Analysis: Fundamental to running a line of business is an accurate understanding of the location and condition of infrastructure and how well it functions. This proposal allows for continuation of existing efforts to collect information about the location and condition of our assets; develop, calibrate and maintain DWW system models; and improve GIS mapping. Existing drainage system mapping and GIS analysis will be continued past 2016 by converting one temporary position to an FTE. An additional FTE will increase the rate of problem investigation and early CIP development.

Policy: This Action Plan allows unresolved policy issues to be addressed faster than would be possible under baseline resources and increases support and coordination for the new Development Services Office.

Examples of issues where clearer, updated policies are needed include: ownership and maintenance of drainage culverts; requirements and possible cost-sharing for mainline extensions from new development; and clear delineation of responsibilities for surfacing groundwater.

Benefits of the proposed action

- Develop Master Plans to identify system improvements and capital investments for four to six geographic areas. Anticipated planning areas include North Lake Union (including Fremont, Wallingford, Green Lake, and Densmore), Thornton Creek, Longfellow Creek (Delridge), the Duwamish River (South Park).
- Enhance the quality and utility of technical information that supports the D&WW line of business through system mapping, modeling, and GIS documentation.
- Ensure that adequate policies addressing items such as mainline extensions, latecomer agreements, and groundwater are in place.
- Ensure that our services and capital projects are being planned in an integrated manner across the line of business, and they are responsive to future growth.
- Ensure that services are provided equitably.

Implementation plan – Resources by Element

	FTEs	Labor O&M	Non-labor O&M[1]	Total O&M	CIP
Planning	2	$200k	$250k	$450k	0
Mapping, Modeling & GIS	2	$200k	$130k	$330k	0
Policy	1	$100k	0	$100k	0

[1] Non-labor O&M includes consultant contracts and technical support above the baseline.

Budget and FTE Changes (in $000s)

Fund: Drainage & Wastewater

	2015	2016	2017	2018	2019	2020	Total
O&M Labor	513	525	538	552	566	580	$3,274
O&M Non-Labor	390	399	409	419	430	441	$2,488
O&M Subtotal	903	924	947	971	996	1021	$5,762
CIP	-	-	-	-	-	-	$0
Total O&M and CIP	$903	$924	$947	$971	$996	$1,021	$5,762
FTE	5.00	5.00	5.00	5.00	5.00	5.00	

Plan for evaluating success or progress

- Track the number of master plans developed. Goal is 4-6 Master plans developed.
- Track the number of policy gaps resolved. Goal is 1-2 per year.
- Percentage of DWW systems modeled. Goal is 80% by 2018 (5 years sooner than under baseline).
- Baseline system/asset mapping in GIS completed.

Focus Area: Improving how we work to deliver consistent, high quality services

Action Plan: Accelerate Broadview and South Park Projects

Strategic Objective: Service quality

Owner: Andrew Lee, Gary Schimek, Utility Systems Management Branch

Summary of proposed action

Accelerate the implementation of already-planned infrastructure improvements to reduce surface flooding, sewer backups, and related human health, safety and property damage issues in the South Park and Broadview neighborhoods.

Description of the problem this action solves

- Recurring surface flooding and sewer backups in the Broadview neighborhood in NW Seattle and the South Park neighborhood in the Duwamish basin.
- Underperforming and inadequate drainage and wastewater infrastructure due to historical development patterns in these areas.
- This action plan will increase funding in order to accelerate implementation of planned work to address chronic problems in these two areas.

Benefits of the proposed action

- Reduce street flooding, surface flooding and sewer backups for the residents and visitors in the South Park and Broadview neighborhoods.
- In the South Park neighborhood, accelerated capital work under this Action Plan will, by 2020, bring us roughly half-way to the desired service level of no more than one serious flood every 25 years. (Additional funding of about $15M - 20M will be needed to complete the work.) Under the baseline funding, work in South Park would likely extend until 2030 or 2040. With the Action Plan, work can be completed ten years earlier.
- In the Broadview neighborhood, accelerated capital work under this Action Plan will address about 50% of the area's flooding and sewer back-up problems (up from an estimated 33% solution in the Baseline) by 2020. Under the baseline funding, work in Broadview would likely extend until 2030-2040. With the Action Plan, work could be completed between 2020 and 2030.

More detailed description of the proposed action

South Park: The South Park Pump Station and Water Quality Project, currently under way and funded in the Baseline, will construct a new water quality facility to treat stormwater flowing into the Duwamish River, as well as a new stormwater pump station to alleviate surface water flooding in the lower South Park basin during high tides. To completely solve the existing severe flooding problem in the basin, additional capital improvements are needed to improve the pipe conveyance system and carry water to the new pump station. The DWW baseline capital program includes a $1.5M project to start this work; this Action Plan provides $2M of additional funding to accelerate conveyance (i.e., new stormwater pipelines) improvements.

Broadview: In the Broadview basin, a project is under way to solve flooding and sewer backup problems. More than $70M of sewer and drainage improvements has been identified to address the basin's problems. Between 2012 and 2017, about $22 M has been budgeted in the baseline, which would address about 30% of the needed work. This Action Plan would provide additional funding to accelerate the system

improvements by $2 M per year from 2015 – 2020, which will enable completion of Broadview sewer and drainage improvements (e.g., pipeline upsizing, new underground storage, side sewer improvements, and natural drainage systems) approximately ten years earlier than would be possible under baseline funding.

Implementation plan and timeline

	2015	2016	2017	2018	2019	2020
South Park		$2M	$2M	$2M	$2M	$2M
Broadview		$2M	$2M	$2M	$2M	$2M

Budget and FTE Changes (in $000s)

Fund: Drainage & Wastewater

	2015	2016	2017	2018	2019	2020	Total
O&M Labor	-	-	-	-	-	-	$0
O&M Non-Labor	-	-	-	-	-	-	$0
O&M Subtotal	0	0	0	0	0	0	$0
CIP		4,000	4,000	4,000	4,000	4,000	$20,000
Total O&M and CIP	$0	$4,000	$4,000	$4,000	$4,000	$4,000	$20,000
FTE	0.0	0.0	0.0	0.0	0.0	0.0	

Plan for evaluating success or progress

- % completion of Broadview and South Park capital projects
- Attainment of flooding and sewer back-up service levels for Broadview and South Park residents

Focus Area: Improving how we work to deliver consistent, high quality services

Action Plan: Sewer Inspection and Rehabilitation

Strategic Objective: Service Quality
Owner: TBD, Field Operations and Maintenance Branch

Summary of proposed action or investment

By 2020, increase the annual level of rehabilitation of sewer pipes spending by $15.5 million to $21 million. (The $21M includes baseline spending of $5.5 million, described below.) This, combined with the Sewer Cleaning proposal, will allow SPU to significantly reduce the risk of exceeding the regulatory maximum of four sanitary sewer overflows per 100 miles of sewer pipe.

Description of the problem this action solves or addresses

The baseline Capital Improvement Program (CIP) budget provides $4.5 million in 2013 and $4.74 million in 2014 (and onward) for rehabilitating sewer pipes. This funding level is insufficient to rehabilitate even our greatest risk sewer pipes through 2020.

More detailed description of the proposed action or investment

First, $60.5 million will fund additional rehabilitation work on SPU's gravity flow sewer pipes, as follows:

- We will conduct a multi-factor risk analysis of each pipe and rehabilitate all pipes with a risk value of 70 or above, by 2020. This proposal allows more than 218 additional miles of pipe to be rehabilitated, for a total of more than 335 miles of rehabilitated pipe over the six-year period. Evaluation, risk assessment, and rehabilitation will continue past 2020; it is an ongoing body of work.
- Funds 7 new FTE added, beginning in 2016 and continuing past 2020. This includes:
  - Three (3.0) positions to staff planning, scheduling and system support to identify the highest-risk pipes, then plan and schedule rehab work. One position replaces a temporary position and therefore requiring no additional funding.
  - Four (4.0) positions to staff two new 2-person crews to examine (via closed circuit television (CCTV)) the selected pipes.

Additionally, $500,000 per year will be spent to rehabilitate sewer force mains. In 2014, SPU will conduct a pump station condition assessment which staff believe will reveal moderate and severe structural defects needing rehabilitation.

Benefits

This Action Plan provides several critical benefits:

- It lowers our risk of exceeding the regulatory maximum for sanitary sewer overflows of four backups per 100 miles of pipe; if this maximum is exceeded, we risk losing the flexibility the Environmental Protection Agency and the State Department of Ecology have given us to deal with water quality problems.

- By reducing the number of sanitary sewer overflows, we provide an appropriate and expected level of service to our customers.
- By funding a reasonable level of rehabilitation, we maintain the integrity of our infrastructure and avoid the large, unplanned future costs that would result from deferring needed work.

Implementation plan and timeline

	2015	2016	2017	2018	2019	2020
Purchase and overhaul CCTV trucks	x					x
New CCTV staff perform inspections		x	x	x	x	x
New staff conduct planning, scheduling and system support		x	x	x	x	x
Contractors rehabilitate pipes		x	x	x	x	x

Budget and FTE Changes (in $000s)

Fund: Drainage & Wastewater

The table below provides the cost detail for this Action Plan.

- **O&M labor costs** - assumes totally loaded staff cost of $100K/year. (One of the seven (7) new positions is funded in the baseline, as mentioned above.)
- **O&M non-labor costs** – operating two CCTV trucks
- **CIP costs**
  - ✓ $1.1 million for the purchase of two new CCTV trucks in 2015
  - ✓ $250K to overhaul the two trucks in 2020
  - ✓ $500K/year - sewer force main rehabilitation
  - ✓ An increasing amount for rehabilitation of gravity flow pipes:
    - $6.0M in 2016
    - $12.0M in 2017
    - $13.5M in 2018 and 2019, and
    - $15.5M in 2020.

	2015	2016	2017	2018	2019	2020	Total
O&M Labor	0	200	600	600	600	600	$2,600
O&M Non-Labor		126	126	126	126	126	$630
O&M Subtotal	0	326	726	726	726	726	$3,230
CIP	1,100	6,500	12,500	14,000	14,000	16,250	$64,350
Total O&M and CIP	$1,100	$6,826	$13,226	$14,726	$14,726	$16,976	$67,580
FTE	1	3	7	7	7	7	

Plan for evaluating success or progress

SPU will use the following metrics to evaluate this effort.

- Dollar expenditures on sewer pipe rehabilitation per year
- Percent of highest-risk pipes inspected, assessed, and if needed, rehabilitated
- Number of sewer backups per 100 miles of pipe

Focus Area: Improving how we work to deliver consistent, high quality services

Action Plan: Sewer Cleaning

Strategic Objective: Service quality
Owner: John Holmes, Field Operations and Maintenance Branch

Summary of proposed action

Increase the percentage of sewer pipes on maintenance and cleaning schedules to a best-practice level of 50%. This, combined with the Sewer Inspection and Rehabilitation Action Plan (OE-3), will allow SPU to significantly reduce the risk of exceeding the regulatory maximum of four sanitary sewer overflows per 100 miles of sewer pipe.

Description of the problem this action solves

Currently, only 21% of SPU's 1,416 miles of sewer pipe are on maintenance and cleaning schedules. Baseline additions will increase this to 25%, which is an improvement but still significantly below best practice levels. More than 1,100 miles of pipe are not routinely inspected for safety, leakage, or basic functioning. Pipes are placed on a cleaning schedule after they back up (potentially causing street flooding, property damage, public health issues, or environmental damage), or if maintenance problems are otherwise identified.

Once pipes are on a maintenance schedule, crews are very good at following the schedule (it has been several years since a sewer backup has been caused by missed maintenance), however we are far below best practice levels of pipe maintenance. The number of annual backups is approaching the regulatory maximum of four backups per 100 miles of pipe.

More detailed description of the proposed action

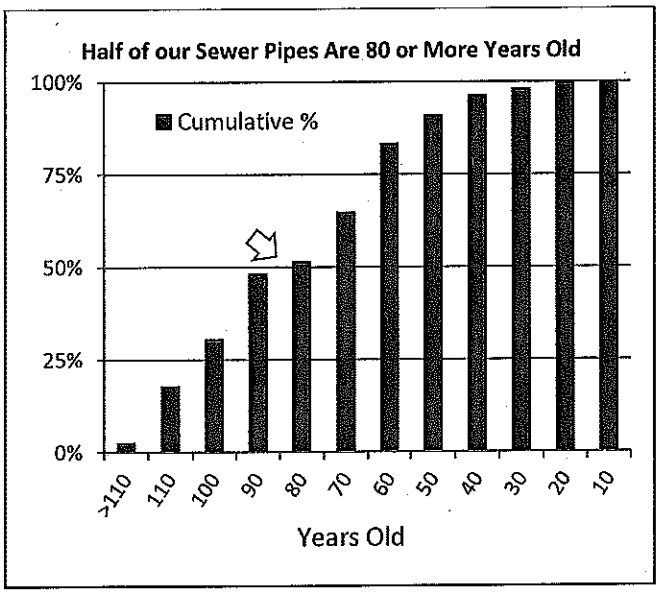
This proposal increases the percent of our total sewer pipe infrastructure that will get routine maintenance to 50% by 2020.

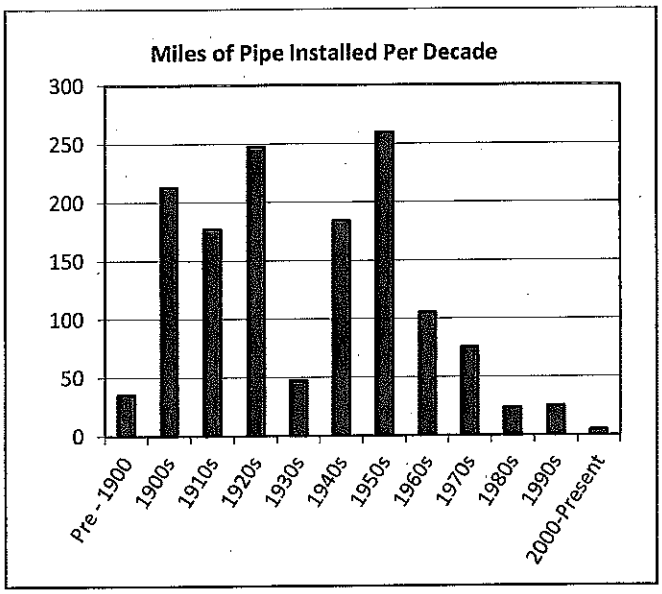
At an average age of 80 years of age, regular pipe maintenance and cleaning are required to keep the overall system functioning well. (See graphs, below).

A benchmarking study suggests having 50% of our pipes on a cleaning and maintenance schedule. We project that expanding routine maintenance and cleaning to 50% of our pipes by 2020 will reduce overflows from the current 3.8 annual overflows per 100 miles of pipe to about 2 overflows per 100 miles of pipe.

Moving from 25% of pipes to 50% of pipes on a maintenance schedule will require targeted assessment and selection of at-risk pipes – this will be supported by inspection crews using Closed Circuit Television (CCTV), as described in the Sewer Inspection and Rehabilitation Action Plan.

Figure 1.
50% of SPU's sewer pipes are more than 80 years old





Staffing

Currently 21 wastewater field employees are cleaning and maintaining sewer pipes. Assuming current levels of productivity by field crews, this proposal adds 14 wastewater field employees by 2020. However, this increase is largely offset by efficiency measures being undertaken over the same time period.

- Through increased productivity, we expect to decrease the number of wastewater field employees by 13 positions by 2020. This assumes increasing the average number of jobs per day from the current 3.5-4 jobs per day per crew to 8 jobs per day per crew. Furthermore, this assumes SPU builds a south-end grits facility, funding for which is included in the baseline CIP budget.
- Overall, between this proposal and the offsetting productivity gains, we expect to increase a net increase of one (1) wastewater filed employees by 2020, relative to the baseline.

Changes in staffing for Sewer Pipe Cleaning	2015	2016	2017	2018	2019	2020
Baseline staffing levels	21	21	25	25	25	25
Plus adds in this Action Plan	10	13	13	13	14	14
Less efficiencies from increased productivity	-6	-9	-13	-13	-13	-13
New staffing levels	25	25	25	25	26	26

Equipment

This additional staff requires the purchase of two vactor trucks ($500K each); the trucks have a 5-year life expectancy and annual operating costs of $182K.

Benefits of the proposed action

The benefits of this proposal are threefold:

- It lowers our risk of exceeding above our regulatory maximum for sanitary sewer overflows; if this maximum is exceeded, we risk losing the flexibility the Environmental Protection Agenda (EPA) and the State Department of Ecology (WSDOE) have given us to deal with water quality problems.
- It funds a reasonable level of annual pipe maintenance, thereby avoiding large, unplanned costs in the future.
- It reduces the impacts of flooding and backups on our customers.

Implementation plan and timeline

	2015	2016	2017	2018	2019	2020
Staff level increases over the years to achieve 50% target in 2019 (see budget table below to see staff costs (O&M Labor) increasing over time)	x	x	x	x	x	x
Purchase vactor trucks	x					

Budget and FTE Changes (in $000s)

Fund: Drainage & Wastewater

	2015	2016	2017	2018	2019	2020	Total
O&M Labor*	$1,025	$1,366	$1,400	$1,435	$1,584	$1,624	$8,434
O&M Non-Labor	$187	$191	$196	$201	$206	$211	$1,192
O&M Subtotal	$1,212	$1,557	$1,596	$1,636	$1,790	$1,835	$9,626
CIP	$1,000						$1,000
Total O&M and CIP	$2,212	$1,557	$1,596	$1,636	$1,790	$1,835	$10,626
FTE	10	13	13	13	14	14	

*The anticipated productivity/efficiency improvements, described above, largely offset these staff increases.

Plan for evaluating success or progress

SPU will use the following metrics to evaluate the success of this proposal:

- Average # jobs per day per crew. The target is 10 jobs per day per crew. In 2013, the actual number of jobs per day per crew is 6 jobs.
- Number of sewer backups per 100 miles of pipe. The regulatory maximum is 4 overflows per 100 miles of pipe per year. In 2013, the actual number of overflows per 100 miles of pipe was 3.7. An annual average closer to 2 overflows per 100 miles of pipe will significantly lower the probability of exceeding our regulatory maximum.

Focus Area: Improving how we work to deliver consistent, high quality services

Action Plan: Emergencies & Disasters

Strategic Objective: Effectiveness & Efficiency
Owner: Tim Ramsaur, Utility Support Division

Summary of proposed action

This proposal funds development of a comprehensive emergency plan, critical skill training, and workforce readiness to improve our capacity for maintaining and restoring vital utility services during an emergency.

Description of the problem this action solves

1) Out-of-date and unintegrated emergency response plans need to be updated to ensure the ongoing delivery of our life-safety and business services during or after a disaster or other emergency event.
2) Training on the updated plans will be key to their effective use in responding to emergencies, safeguarding the public, and moving quickly to recover from the event.
3) SPU's emergency plans need to align with recovery and resilience plans and efforts of the City, as well as King County and Washington State.
4) In order to qualify for mitigation grants from FEMA, SPU needs to track and document its work both on projects that are primarily disaster related (*e.g.*, mapping flood plains, slide zone stabilization) as well as projects that have disaster-mitigation elements to them (e.g., seismic resistant water distribution pipes), even if they are not primarily focused on disaster mitigation.

More detailed description of the proposed action

This builds on existing work that meets local, state, and federal requirements, and develops the following elements to mitigate the potential impacts of disasters (especially potential loss of life and property damage) and support a workforce that is aware of its duties in the event of large scale emergencies:

1. Develops a comprehensive, integrated emergency response plan – including damage assessment, prioritization, and plans for mitigating negative impacts and disruption of services, as well as the identification of key staff roles and personnel readiness.
2. Provides training and exercises for key personnel on plans, procedures, functions, and communications in large scale emergencies.
3. Establishes a practice for identifying and tracking SPU's work that provides mitigation benefits.

Benefits of the proposed action

Greater likelihood of an efficient and effective response and recovery from an emergency or disaster that disrupts the delivery of critical utility services.

Implementation plan and timeline

	2015	2016	2017	2018	2019	2020
Inventory existing emergency plans and other materials, identify and fill gaps in plan coverage, and develop up-to-date materials to meet post-emergency performance expectations	x					
Develop and conduct training		x	x	x	x	x
Continually review plan and update as needed		x	x	x	x	x
Develop business practices for tracking and documenting disaster-mitigation work undertaken in SPU's capital improvement program.	x					

Budget and FTE Changes (in $000s)

Fund: All Three Funds - DW, DWW, SW

	2015	2016	2017	2018	2019	2020	Total
O&M Labor							$0
O&M Non-Labor	205	53	54	55	57	58	$482
O&M Subtotal	205	53	54	55	57	58	$482
CIP							$0
Total O&M and CIP	$205	$53	$54	$55	$57	$58	$482
FTE							

Plan for evaluating success or progress

Achievement of deliverables, including planning documents, training, and drills.

Focus Area: Improving how we work to deliver consistent, high quality services

Action Plan: Seismic Vulnerability

Strategic Objective: Environmental & Health mandates
Owner: Rick Scott, Deputy Director, Field Operations and Maintenance Branch

Summary of proposed action

Address SPU's operational need to understand likely impacts of earthquakes on the drinking water infrastructure and develop mitigation scenarios and post-event performance goals.

Description of the problem this action solves

Provides needed baseline information about the water system's overall vulnerability to earthquakes, and helps develop plans for mitigating and minimizing the impacts of water outages to our customers.

More detailed description of the proposed action

Damage to water system infrastructure in five recent earthquakes (one each in Chile, Haiti, and Japan, and two in Christchurch, New Zealand) has renewed attention on the importance of recovering from such events and avoiding lengthy water outages to critical facilities and customers. A recent Water Research Foundation report recommends water utilities adopt earthquake Performance Goals for the water outages (geographical extent and duration), perform vulnerability analysis for earthquake hazards, and develop infrastructure improvement and emergency response plans to address weaknesses and improve preparedness.

In addition to the system-wide assessment and plan development described above, this Action Plan includes funding for a targeted seismic vulnerability assessment of the Cascades Dam at Lake Youngs. (The dam experienced cracking along the roadway during the Nisqually Earthquake.)

Benefits of the proposed action

This works sets expectations for system performance following an earthquake and helps identify specific improvements (including funding) needed to meet those expectations. This foundational work supports future efforts to reduce the extent and duration of post-earthquake service outages, a crucial element in the overall recovery of communities following destructive earthquakes.

Implementation plan and timeline

	2015	2016	2017	2018	2019	2020
Conduct vulnerability assessment, develop performance standards and mitigation concepts	**450K**	**300K**				
Cascades Dam (Lake Youngs) assessment		**150K**				

Budget and FTE Changes (in $000s)

Fund: Drinking Water

	2015	2016	2017	2018	2019	2020	Total
O&M Labor							**$0**
O&M Non-Labor	461	473					**$934**
O&M Subtotal	**461**	**473**	**0**	**0**	**0**	**0**	**$934**
CIP							**$0**
Total O&M and CIP	**$461**	**$473**	**$0**	**$0**	**$0**	**$0**	**$934**
FTE							

Plan for evaluating success or progress

Completion of the vulnerability assessment and establishment of performance expectations.

Focus Area: Improving how we work to deliver consistent, high quality services

Action Plan: Valves

Strategic Objective: Effectiveness & Efficiency
Owner: Tony Blackwell, Field Operations and Maintenance Branch

Summary of proposed action

Improve maintenance of the 50,000-60,000 valves in the Water transmission and distribution infrastructure. Through efficiencies, reallocate two existing crews (4 FTE) to do this work.

Description of the problem this action solves

Valves - SPU does not regularly inspect, exercise, or perform routine maintenance on any of the tens of thousands of valves in the water infrastructure system. Maintenance is "event-driven," whether from a valve failure or in conjunction with other work (e.g., replacing pipes) that makes it convenient to work on the valves. Lack of regular valve maintenance increases risks and impacts to customers, as well as costs and delays to field work being undertaken SPU and others, such as the Seattle Dept. of Transportation.

More detailed description of the proposed action

Work on valves and leaks is part of SPU's shift in focus from making major Water infrastructure improvements (building treatment plants and covering water reservoirs) to improving our understanding and maintenance of smaller elements of the water system infrastructure, including valves. More than 90% of large water utilities have proactive valve maintenance programs. In 2015, SPU proposes to reallocate two existing crews (4 FTE) to the valve maintenance function.

Benefits of the proposed action

Decrease risk of system failures, damage, costs, and customer claims due to malfunctioning valves.

Implementation plan and timeline

	2015	2016	2017	2018	2019	2020
Valve maintenance	x	x	x	x	x	x

Budget and FTE Changes (in $000s)

Fund: Drinking Water

	2015	2016	2017	2018	2019	2020	Total
O&M Labor	410	420	431	442	453	464	$2,620
O&M Non-Labor							$0
O&M Subtotal	410	420	431	442	453	464	$2,620
CIP							$0
Total O&M and CIP	$410	$420	$431	$442	$453	$464	$2,620
FTE	4.00	4.00	4.00	4.00	4.00	4.00	

Note: FTEs will be reallocated to valve maintenance through achievement of greater efficiency by field crews. After taking efficiencies into account, the net cost of this Action Plan will be *zero* FTEs and labor dollars.

Plan for evaluating success or progress

Valve maintenance performance targets to be developed.

Focus Area: Improving how we work to deliver consistent, high quality services

Action Plan: System Development Charges

Strategic Objective: Effectiveness & Efficiency
Owner: Danielle Purnell, Corporate Strategies and Communications

Summary of proposed concept

- Establish System Development Charges (SDCs) requiring those undertaking new development projects to "buy in" to a share of the City's existing water, wastewater and drainage utility systems.
- Set SDCs at a level comparable to the charges of other jurisdictions in the region.
- Focus SDC revenues back towards development to: a) foster growth and redevelopment where the City desires it; and b) more fairly distribute the costs of addressing system infrastructure requirements.

Description of the problem this action solves

Developer costs to address missing, substandard or at capacity utility system infrastructure (e.g. mains) in order to serve their development can be fiscally burdensome to individual developments and potentially inequitable. This is especially true with Seattle's growth pattern of infill and redevelopment where: a) improvements are often required to address pre-existing deficiencies (substandard or at capacity systems); and/or b) the cost burden to address requirements falls entirely on the "first in" developer and later developments, who benefit equally from the improvement, pay nothing. The City desires to encourage growth and redevelopment in designated areas of the City and to assign cost burdens equitably. However, if developers don't pay to address system infrastructure needs where they exist in developing areas then: ratepayers do; development happens but systems become more constrained; or development can't proceed due to the fiscal burden of utility costs.

A system development charge (SDC) requires that all new development projects pay equally (based on their impact on the utility system) for connection and access to existing utility system infrastructure. These charges are typically in addition to a developer's costs to bring the utility system to their property (if the main isn't there) and connect utility services into the building.

SPU has only one SDC charge for water and none for wastewater or drainage system connections. SPU's water charge is also the lowest in the Puget Sound area when compared with other local jurisdictions (e.g. Bellevue, Kirkland, Renton). SDC revenue could provide SPU with revenue to address development customer equity concerns without raising rates. Growth would more equitably pay for growth by using SDC revenues to offset some development costs to extend or upgrade infrastructure where it was needed to facilitate that growth.

More detailed description of the proposed action

SDC Charge Detail: The methodology used to establish SDC amounts is laid out in State law (RCW 35.92.025) and case law with City flexibility to set lower levels if desired. State law allows SPU to collect a more robust fee (than its nominal water charge) that reflects the full value of existing ratepayer assets less debt service as well as any future capital projects benefiting growth. Based upon SPU's system assets and future capital projects, SDCs could be in a range of:

	Existing Charge (per ERU*)	Possible Charge (per ERU*)
Water SDC	$1,063	$3,500 to $3,550
Wastewater SDC	n/a	$1,200 to $1,500
Drainage SDC	n/a	$1,300 to $2,000

*=Cost per Equivalent Residential Unit

SDC Revenue Detail: The potential revenue stream from SDCs is variable since it depends on new growth each year. Based on past building trends, SDC revenue for the possible charge amounts above could be in a range of:

	Possible Revenue (per year)
Water SDC	$3.3 M to $4.5 M
Wastewater SDC	$1.2 M to $2.5 M
Drainage SDC	$500 k to $1.6 M

SDC Expenditure Options: SDC revenue could be focused on growth in a variety of ways. Options for further exploration include:

- **Cost Share Fund** – SPU *shares in %* of developer's system improvement requirement.
- **Opportunity Project Fund** – SPU *pays to add to a developer's project* to meet an SPU need.
- **Revolving Fund** – SPU pays for an opportunity project as part of a developer's system requirement and along with the developer is repaid thru latecomers' charges allocating project costs to all designated "benefitting parcels" if and when they later develop. SPU reinvests repayment back to development.
- **Growth Fund** – SPU addresses substandard infrastructure, bottlenecks *ahead of development* in designated growth areas.

Benefits of the proposed action

- Provides compensation to SPU for new growth's connection and use of existing infrastructure systems.
- Aligns SPU charges with what most other jurisdictions in the region charge.
- Allows SPU to address development customer concerns (re: equity of requirements, infrastructure constraints) with developer-generated revenue rather than ratepayer-generated revenue.
- Fosters growth and redevelopment where the City desires it.
- By fostering growth, increases SPU rate revenue and developer asset contributions.

Implementation plan and timeline

	2014	2015	2016
Explore with Developer Advisory Panel	May		
Discuss with Mayor's Office and Council whether and when to proceed.	Fall		
Introduce legislation and begin implementation		✓	✓

Plan for evaluating success or progress

- Track the number and $ value of new infrastructure contributed by developments.
- Track the number and $ value of infrastructure projects completed or supported with SDC revenue.
- Track the number of "benefitting" properties and/or developments.
- Track any "return on investment" or new development initiated due to infrastructure support.
- Survey developer customer satisfaction in terms of equity and related requirements concerns.

Focus Area: Improve how we work to deliver consistent, high quality services

Action Plan: Billing Meters

Strategic Objective: Fiscal Strength & Integrity
Owner: Dave Hilmoe, Utility Systems Management Branch; Shari Akramoff, Customer Services Branch; Tony Blackwell, Field Operations and Maintenance Branch

Summary of proposed action

This initiative proposes centralizing the various meter activities within SPU, and funds three additional staff for the following purposes:

- Create, coordinate, and administer a meter testing and replacement plan and program (1 FTE)
- Perform additional meter testing, exchange, and repair (2 FTE)

The increased focus on accurate metering is expected to generate at least $500,000 per year in additional revenues from customers with currently under-registering meters.

Description of the problem this action solves

SPU's billing meters are the basis for collecting water and wastewater revenues. At present, there is no single person in SPU accountable for the meter program, which consists of reading, testing, maintenance, reinvestment in meters, and billing. As a result, there is little consistency in priorities or goals within the program, leading to uneven and inadequate response to meter accuracy and malfunction issues, meter replacement and purchasing decisions, and customer response. In addition, metering technology is undergoing a period of rapid change requiring a focused program to best leverage and transition to new technologies.

More detailed description of the proposed action

There are currently 5 FTE assigned to meter testing; however, two of these positions are vacant. This action plan adds one team (two employees) for testing, exchange, and repair of SPU's billing meters. In addition, a position would be added to create and coordinate a meter testing and replacement plan, and to administer the program.

With vacancies and changing priorities as well as changes in regulations, only approximately 200 retail meters have been tested over the past year (this is in addition to the meter testing and repair for wholesale meters).
If this action plan is approved, it is anticipated that the new program manager position would update and create a testing plan which when implemented would meet industry standards for testing and replacement of all meters based on size.

Current staffing allowed us to test and replace about 200 retail meters last year. Filling existing vacancies, plus adding the new two-person crew, will allow us to test 600 retail meters each year. This means that we will be able to test all 1855 of our meters that are 3" and larger every three years. Smaller meters will be on a run-to-failure plan. This general approach will be truth-tested as we develop our billing meter asset management plan this year, but is expected to be cost effective and to meet AWWA standards for meter testing frequency.

In addition, this action plan adds $68,000 per year in CIP expenditures for buying and replacing additional meters anticipated due to increased testing.

Benefits of the proposed action

SPU expects that the costs related to this initiative would be consistently recovered year after year by improved meter accuracy over the baseline. This translates into lower rates for all customers, and a more equitable distribution of costs among customers.

Implementation plan and timeline

	2015	2016	2017	2018	2019	2020
Add meter testing, exchange, repair crew	x	x	x	x	x	x
Add position to create and coordinate the program	x	x	x	x	x	x

Budget and FTE Changes (in $000s)

Fund: Drainage & Wastewater AND Water

	2015	2016	2017	2018	2019	2020	Total
O&M Labor	281	288	295	302	310	318	**$1,794**
O&M Non-Labor	-	-	-	-	-	-	**$0**
O&M Subtotal	**281**	**288**	**295**	**302**	**310**	**318**	**$1,794**
CIP	68	68	68	68	68	68	**$408**
Total O&M and CIP	**$349**	**$356**	**$363**	**$370**	**$378**	**$386**	**$2,202**
FTE	3.00	3.00	3.00	3.00	3.00	3.00	

Plan for evaluating success or progress

A successful outcome of this action plan would be one that:

- Creates a meter testing and replacement plan within the first year
- Implement the plan by testing every meter over a three year cycle to set a baseline
- Increase revenues for water consumption for both wholesale and retail customers by 1% each year over the first three years and by .5% thereafter.

Focus Area: Improving how we work to deliver consistent, high quality services

Action Plan: Revenue Recovery

Strategic Objective: Fiscal Strength & Integrity
Owner: Sherri Crawford, Finance Division

Summary of proposed action

SPU's current method of assessing and collecting non-rate revenue is decentralized and inconsistent. This initiative proposes a more structured and comprehensive approach to ensure SPU maximizes revenue recovery while enhancing internal controls and providing transparency and predictability for the customers and employees. Implementing this plan will reduce the risk of fraud and waste, and will likely increase non-rate revenues, thereby lessening the burden on ratepayers.

Description of the problem this action solves

SPU's revenue is primarily generated via utility bills (rate revenue) and secondarily via non-rate revenue, such as standard charges that are assessed on specific services. In 2012, SPU's rate revenue for all lines of business was $655 million; non-rate revenue was $37 million. Currently, SPU's method of assessing and collecting non-rate revenue is decentralized and inconsistent. Several work units outside the Finance Division calculate and apply standard charges and ad-hoc fees to services they provide to customers, with little to no coordination with Finance. As a result, in some cases revenue may not cover the cost of service, charges are unpredictable and not transparent to customers, the administrative costs to manage some charges is high, and SPU's ability to forecast the non-rate revenue stream is constrained. In addition, although SPU has policies in place for credit and collection of rate revenue, we are not uniformly imposing these policies.

More detailed description of the proposed action

This Action Plan proposes to take a structured and comprehensive approach to ensuring SPU maximizes revenue recovery. Some key elements to this include:

- Develop appropriate policies, procedures, and internal financial controls on non-rate revenue
- Place ultimate accountability for setting rates, fees, and other charges within the Finance Division, understanding that the customer transactions associated with these rates, fees, and charges may occur in other divisions. Finance will collaborate with business operations experts to determine the following:
  - Which services SPU sells/offers
  - The method by which we charge for these services (e.g., embedded in rates, standard charge, or time and materials)
  - The amount of the charges (e.g., full cost recovery or subside)
  - Who collects the revenue (e.g., SPU or FAS Treasury)
  - The cycle for reviewing and updating rates, fees and charges
  - The method of tracking inventory, anticipated and actual revenue, expenditures and transactions
  - The technical and other systems needed to support this program
  - The process of recovering delinquencies and writing off bad debt

No additional resources are being requested in this Action Plan; any costs associated with implementing these activities will be absorbed in the baseline.

Benefits of the proposed action

This action is expected to generate more revenue and in a more efficient, effective, and equitable manner; however there is not yet an estimation of how much more revenue will be generated. This action will also lead to greater financial strength, improved ability to forecast revenues, and improved financial internal controls. In addition, this action will improve transparency by clearly showing customers and employees what makes up separate fees and charges. And it should reduce some administrative costs by embedding some costs in rates rather than charging separate fees.

Implementation plan and timeline

	2015	2016	2017	2018	2019	2020
Identify and prioritize the list of services SPU provides which generates non-rate revenue; determine which ones should be embedded in rates	x					
Develop policies, procedures and internal controls based on the prioritized list	x	x	x			
Develop new fee structures based on the prioritized list and cost of service	x	x	x			
Implement the new policies, procedures, fees and business practices and track the program's progress	x	x	x	x	x	x

Budget and FTE Changes (in $000s)

Fund: No additional resources requested.

	2015	2016	2017	2018	2019	2020	Total
O&M Labor	-	-	-	-	-	-	$0
O&M Non-Labor	-	-	-	-	-	-	$0
O&M Subtotal	0	0	0	0	0	0	$0
CIP	-	-	-	-	-	-	$0
Total O&M and CIP	$0	$0	$0	$0	$0	$0	$0
FTE	0.00	0.00	0.00	0.00	0.00	0.00	

Plan for evaluating success or progress

- SPU has a consistent and transparent approach for determining when and how to set fees versus when to embed in rates; employees and customers understand our fee structures
- SPU knows how much each service costs and the fees and standard charges cover the cost of service
- SPU is able to forecast and effective track and monitor non-rate revenues

Focus Area: Improving how we work to deliver consistent, high quality services

Action Plan: Technology Services

Strategic Objective: Efficiency & Effectiveness

Owner: Tom Nolan, Information Technology Division; Vicki Evans, Technology Program Office

Summary of proposed action

Optimize SPU's technology systems to support core utility services, in alignment with Strategic Business Plan (SBP) objectives. This Action Plan focuses on an approach to address known priority business and technology needs, as well as anticipated future needs. The specific requests in this Action Plan will help SPU achieve necessary business and technology improvements including: better management of information assets; quality assurance testing; enhanced business analysis; improved systems integration; expanded security and mobile workforce solutions; and sufficient funding to accommodate rising software licensing and maintenance costs.

Description of the problem this action solves

The effective use of information technology (IT) is critical to meeting SPU's strategic objectives and is an essential element of SPU's business and operations. IT tools increase efficiency and effectiveness in delivering Utility services and meeting regulatory requirements.

More detailed description of the proposed action

SPU provides a broad spectrum of IT-related services to the department and the City including: project and portfolio management; business system development; Utility and citywide GIS application development; data maintenance; strategic planning and governance; business analysis; end-user support services for employees located in 30 sites; technology procurement and contracting; system integration; application upgrades and maintenance; database administration; cyber and physical security monitoring; and active participation on Citywide projects and initiatives such as the Next Generation Data Center and the PeopleSoft Financial System Reimplementation. IT entails much more than desktop computers and office software.

SPU's reliance on information technology to deliver utility services has been and continues to increase. As business needs change and grow, so too do IT services and products. In 2014, SPU will begin work on a Technology Plan to strengthen the alignment between our technology investments and operations, and the SBP. Not only will this six-year tactical plan make recommendations in support of our meeting the SBP's objectives, but it will also address known IT service delivery and product issues. The Technology Plan and its recommendations will be completed in 2015 with no funding required. Any additional resource recommendations that arise in the strategic planning process beyond what is requested in this Action Plan will be met through careful planning and possibly reallocations within the existing baseline.

There is currently an urgent need to fund several new positions and to add to the IT O&M budget in advance of completing the Technology Plan. The section below describes 11.0 needed positions although this Action Plan is requesting 4.0 new positions. SPU will prioritize its position needs over the next few months.

Known Problems, Gaps and Opportunities to be addressed by the Technology Plan:

1. SPU's Information assets (e.g. data, documents, engineering plans) are not well organized, often of inconsistent or questionable quality, and difficult to find and share. To address these issues, we require

new skills and additional capacity to design and create document management, records management, and data stewardship systems. Position needs include:

- 1.0 FTE - Data Architect (baseline = 0.0 FTEs)
- 1.0 FTE - SharePoint Administrator (baseline = 0.5 FTE to support 200+ SharePoint sites)

2. New systems and business applications are sometimes deployed without sufficient business analysis or quality assurance (QA) testing. This has resulted in extended project schedules and higher consultant costs to test and fix bugs and develop needed enhancements. Additional business and quality assurance analyst skills would vastly improve software quality, usability and reliability and reduce life-cycle costs. Position needs include:
   - 2.0 FTE - QA Analyst / Testers (baseline = 0.0 FTE)
   - 1.0 FTE - Business Analyst (baseline = 1.0 FTE)
   - 1.0 FTE – Specialized software developer for CADD (baseline = 0.0 FTEs)

3. SPU's business systems, hardware, software, products, and platforms are rapidly growing in numbers and complexity and do not always "talk" to each other. This can significantly limit their usability and hinder the productivity of users. The value of business systems and data is diminished if they are not carefully designed to be flexible and integrated. Lack of integration causes users to spend inordinate amounts of time moving between different systems and databases to find, retrieve, analyze and deliver information. System integration requires advanced software development practices and best practices in back-end server configurations, data administration and vendor product management. Position needs to accomplish this work include:
   - 2.0 FTE - Software Developer (baseline = 12.0 FTEs)
   - 1.0 FTE - Systems Integration Technician (baseline = 5.0 FTEs)

4. Cyber security measures, prevention of data loss and strong internal controls are critical for protecting Utility operations. SPU must ensure that the necessary system controls are in place to protect both customers and employees from malicious intent including fraud, theft and breach of privacy or confidentiality. This is especially true as SPU expands its use of internet (i.e. 'Cloud') based software and infrastructure services. Additional staffing capacity with strong technical skills related to Cloud, network and system security will be needed in the future:
   - 1.0 FTE – Security Technician (baseline = 1.0 FTEs)

5. SPU's changing workforce expects to use modern technologies that allow employees to easily collaborate real-time with co-workers and do their jobs from any location. Key to meeting SPU's stated objective of "transforming the workforce" will be a commitment to modernize IT provisioning practices so that employees are more mobile and have easier access to information from remote locations. Position needs include:
   - 1.0 FTE – Mobile Solutions Technician (baseline = 0.0 FTE)

6. Annual costs for software maintenance and licensing are rising steeply and well above the rate of inflation. The cost drivers include:
   - Increased use of commercial software requiring licensing and vendor maintenance contracts. Vendor support costs for existing software, hardware and tools are also rising.
   - The growing volume of maintenance contracts, including ones required by the City (e.g. security). In 2006, SPU renewed 26 contracts at a cost of cost of $505K; in 2014, 62 contracts will be renewed at a cost of $1.4M.

- Increasing number of new and premium-level licensing due to larger user pool and need for additional vendor services.
- Built-in annual price increases that exceed the rate of inflation in some contracts (e.g. the City's IBM Cognos contract allows for 10% increases).

As a result of this trend, this Action Plan requests an escalator of $50K per year be added to the baseline IT non-labor budget of $1.4M. This would provide sufficient funding for the rapidly rising costs to license and maintain all software, hardware, tools, and IT infrastructure assets.

Benefits of the proposed action

In general, technology investments and IT operational spending provide employees with the services, tools and information they need to deliver SPU services more effectively and efficiently and help meet regulatory requirements. A few specific examples of the benefits of this Action Plan include:

- Improvements to SPU's asset management practices, including data-driven decision-making through availability of higher-performing business and information systems that deliver high quality asset, customer and financial data. This supports reliable and effective performance monitoring, problem solving, preventative maintenance, reporting, and planning.
- A well-designed, integrated, fully tested and supported business systems environment encourages improved, more efficient utility operations as well as fewer stand-alone business applications being developed and having to be maintained. It may also allow for the retirement of several obsolete legacy systems that increase complexity, pose risks, and add to costs.
- A modernized, usable and well-integrated business systems environment that is tightly aligned with the operations, business needs and practices of the Utility will increase productivity and help to meet several key efficiency objectives.
- A quality assurance program staffed by skilled in-house testers will improve software and system quality, usability, and flexibility, while also reducing schedule and budget impacts on all technology projects.
- Significant productivity improvements among employees and external business who regularly create, share and consume information in the form of documents and graphics (i.e. content). Leading document and records management practices are foundational for leveraging and protecting corporate information assets, ensuring information security and preventing fraud, misrepresentation, and error.

Implementation plan and timeline

- Development of the Technology Plan will begin in Q2 2014 with a targeted completion date of Q3 2015 (no funding request is associated with the Technology Plan).
- Prioritize staff needs, as described above. Begin hiring new positions in January, 2015.

Budget and FTE Changes (in $000s)

The table below provides approximate costs to fund forecasted software maintenance costs and six (6) of the staffing needs described above.

Fund: All three funds.

	2015	2016	2017	2018	2019	2020	Total
O&M Labor*	$277	$410	$625	$640	$656	$673	$3,281
O&M Non-Labor	$51	$105	$162	$221	$283	$348	$1,170
O&M Subtotal	$328	$515	$787	$861	$939	$1,021	$4,451
CIP	$0	$0	$0	$0	$0	$0	$0
Total O&M and CIP	$328	$515	$787	$861	$939	$1,021	$4,451
FTE	4.00	4.00	6.00	6.00	6.00	6.00	6.00

*Note: Most, but not all, of the costs associated with the 6.00 new positions impact the O&M. 2015 assumes a 3-month hiring lag.

Plan for evaluating success or progress

- Regularly evaluating SPU's technology asset, service and performance metrics
- Ongoing review and governance of technology asset management practices (e.g. prioritization, portfolio review) in alignment with SPU's Strategic Business Plan objectives and goals
- Ongoing review and management of development and software development and maintenance costs

Focus Area: Improving how we work to deliver consistent, high quality services

Action Plan: SPU Facilities Management

Strategic Objective: Effectiveness & Efficiency
Owner: Judith Cross, Facilities & Real Property Services Division

Summary of proposed action

Take a more strategic, cohesive and holistic approach to managing, providing, and retiring SPU's operational facilities:

- Address shortages of adequate space and safety requirements for operational work groups
- Implement a centralized facilities management program
- Implement a decommissioning program

Description of the problem this action solves

SPU owns and operates about 400 buildings, sites, and other facilities. These facilities are valuable assets if used effectively and a potential liability if not managed well, and can either help or hinder employee productivity and employee safety. We currently lack a strategic approach for planning, managing, constructing, and retiring these assets, particularly our operational facilities. The lack of a deliberate approach results in employee and customer safety issues, liability risks, higher capital and operating costs, and inadequate working space for our employees, equipment, tools, and materials.

More detailed description of the proposed action

There are three distinct parts to this Action Plan:

1. **Facilities Construction (CIP)** – Add $23.2M over the six-year period to the 2015-2020 baseline budget of $64M to address shortages of adequate space for existing and future operational functions for SPU staff, equipment, tools, and materials. SPU operational functions have expanded over the last decade and the facilities housing the field forces have deteriorated, no longer meet space allocation standards, and negatively impact employee safety and wellness. SPU currently approaches facilities solutions in a fragmented, isolated manner, missing opportunities to solve critical space deficiencies and operational efficiencies in a more integrated, comprehensive way. This Action Plan would fund the following, with the main objective focused on resolving the chronic shortage of facilities space for Drainage and Wastewater operations in the City's south end:
    - Interim site tenant improvements for south Drainage and Wastewater operations;
    - Facilities Master Plans for three SPU operational complexes (South Operations, North Operations, and Cedar Falls Phase 2);
    - Design of the North Operations complex; and
    - Design and construction of the South Operations complex.

2. **Facilities Management (O&M)** – Add 1.0 position ($85K) to develop and implement a centralized facilities management program for SPU's in-City and regional operational complexes. SPU currently takes a decentralized approach to managing its buildings, sites and other facilities, with no single point of accountability. This Action Plan would create a new position to lead a more cohesive approach to facilities management, establish uniform building maintenance practices, measure and monitor utilities consumption, and create energy resource reduction plans, including development of Strategic Maintenance Plans. The baseline budget is $0 for centralized facilities management and the amount currently expended across the department is unknown.

3. **Decommissioning (O&M)** – Add $150K per year to decommission (take out of service) above-ground structures that no longer in use for their intended purpose. There is currently no discrete budget for building decommissioning and this type of work is done on a reactive basis. Taking a "do nothing" approach to facilities that are no longer in use results in employee safety, vandalism, public nuisance, and risk liability issues. This Action Plan would fund completing a Condition Assessment of non-functioning buildings and structures, developing decommissioning strategies, deconstructing, demolishing, recycling, or mothballing buildings and above-ground structures. The current list of facilities are: former Water Quality Laboratory, Tolt Lime Soda Ash building, Lake Youngs Corrosion Building, Landsburg Analyzer Building, Cedar Falls Chlorine Building, Small Myrtle Tank, Woodland Park Standpipe and Barton Standpipe.

Benefits of the proposed action

All three parts of this Action plan reduce facilities' life cycle costs, reduces liabilities, enhances employee and customer safety and security, and improves employee productivity. In addition, implementing a proactive decommissioning program enables SPU to meet industry standards for safety requirements and permissible hazardous materials levels.

Implementation plan and timeline

Activity	2015	2016	2017	2018	2019	2020
1a. South Drainage & Wastewater Operations – Interim site tenant improvements [$2M]	X	X				
1b. South Operations Complex master plan [$500K]	X					
1c. South Operations Complex property purchase, design and construction [$18.85M] (assumes $6M property purchase in 2016)		X	X	X	X	X
1d. North Operations Complex master plan [$400K]			X	X		
1e. North Operations Complex design [$1M]					X	X
1f. Cedar Falls Phase 2 programming and pre-design [$450K]					X	X
2. Develop and implement facilities management program [$85K/yr.]	X	X	X	X	X	X
3. Develop and implement facilities decommissioning program [$150k/yr.]	X	X	X	X	X	X

Budget and FTE Changes (in $000s)

Fund: All three funds.

	2015	2016	2017	2018	2019	2020	Total
O&M Labor	87	89	92	94	96	99	$557
O&M Non-Labor	154	158	162	166	170	174	$984
O&M Subtotal	241	247	254	260	266	273	$1,541
CIP	1,000	9,500	3,150	3,250	3,700	2,600	$23,200
Total O&M and CIP	$1,241	$9,747	$3,404	$3,510	$3,966	$2,873	$24,741
FTE	1.00	1.00	1.00	1.00	1.00	1.00	

Plan for evaluating success or progress

For Facilities Construction, utilize the asset management approval process and financial reporting to evaluate the projects' progress. For Facilities Management and Decommissioning, utilize service agreements to establish annual targets and financial reporting to evaluate the programs' progress.

Focus Area: Improving how we work to deliver consistent, high quality services

Action Plan: Managing Data & Information

Strategic Objective: Effectiveness & Efficiency

Owner: Vicki Evans, Technology Program Office; Tom Nolan, Information Technology Division

Summary of proposed action

Create an enterprise information management (EIM) program and a quality assurance (QA) program to address the rising costs of SPU's vast, disorganized store of information so SPU's staff can easily access the enterprise knowledge base, and the organization can move from being data rich to being knowledge rich.

Description of the problem this action solves

SPU's fragmented and disorganized information environment limits employees' access to the enterprise knowledge base and the rich store of information it contains. Examples of data requiring quick, easy access by SPU employees includes: operating manuals, engineering plans and drawings, maps, asset condition reports, photos, spreadsheets, and regulatory reports.

An EIM Program will manage information as an asset, based on the application of asset management principles including transparency, governance, risk management, collaboration, and deliberate decision-making. With a goal of optimizing the long-term value of our information assets, the EIM Program will be rooted in a shared vision, supported by a coherent strategy, and guided by a set of roadmaps detailing the activities necessary to mature SPU's information practices and environment. The key success factors for an EIM Program are culture and change management, not technology.

More detailed description of the proposed action

A successful EIM Program will be a grass roots, iterative process carried out over several years, and will deliver improvements and benefits incrementally, beginning as early as 2015. The Program will:

- Create an Information Governance Board to establish and oversee information management practices
- Develop enterprise information architecture to provide a framework for decisions and operations
- Develop policies and standards for documents, records, and data to support all employees
- Develop suitable platforms and technologies to organize update, preserve, search for, share, and dispose of information in order to optimize and extend the value of our information assets.

An EIM Program will address both structured data (information generally stored in electronic databases) and unstructured content (information continued in documents, images, maps, plans, blogs, etc.). The Program will develop and sustain an enterprise strategy, information architecture and an operational framework to effectively and securely move different kinds of information assets through their respective life cycles.

This Action Plan requests funding for a new position (Information Architect) that is key to the success of the EIM Program. The newly established role will create and maintain a structured, repeatable set of organizing guidelines, business rules, and security and permissions protocols needed to ensure that information is consistently defined, tagged, and stored so employees can quickly and easily search for, navigate to, and retrieve the information they need. With these goals in mind, several projects funded within the Technology CIP baseline are anticipated in the following areas (no additional CIP funding is being requested):

- Workflow applications to support the flow of documents for review and approval through the organization e.g. Development Services Office intake and sales

- Intranet Redesign that will utilize portal technologies to make corporate information easier to find on SPU's internal work group web sites e.g. SharePoint 2013, Enterprise Search Tools
- Digital Asset Management Systems that allow employees to easily store, find, retrieve and share digital graphics such as maps, engineering plans, operating manuals and training videos.
- Online Collaboration Tools to streamline communication and information sharing between employees and work groups throughout the City e.g. deployment of *Microsoft Lync* and *SharePoint My Sites*
- Records Management Systems including the update of existing records retention policies and guidelines. e.g. Regulatory Compliance Tracking Repository

Maintaining the quality, reliability, and availability of the information will be a primary goal of all projects.

Benefits of the proposed action

- Controlled processes to acquire, organize, store, disseminate and dispose of information in accordance with the rules and guidelines established by governance to provide the underpinning for a significant reduction of risk and cost through greater workforce productivity and reliability of the information we use to deliver services.
- Information stewardship practices to ensure solid foundation for adequate quality standards that are also flexible as needs and priorities change.
- Easy-to-use tools, including searchable document and records repositories, dashboards, and online information portals designed to quickly and efficiently put the right information into the hands of SPU employees and customers.
- Improved information governance and management practices, e.g., records management, will reduce costs associated with creating, retention, and dissemination of vast amounts of data and documents needed to support and comply with cross-jurisdictional regulatory and reporting requirements.

Implementation plan and timeline

	2015	2016	2017	2018	2019	2020
Establish Information Governance Board	x					
Hire Information Architect		x	x	x	x	x
Deliver/maintain enterprise information architecture		x	x	x	x	x
Sequence and deliver suite of related capital projects	x	x	x	x	x	x

Budget and FTE Changes (in $000s)

Fund: All Three Funds

	2015	2016	2017	2018	2019	2020	Total
O&M Labor		163	167	171	175	180	$856
O&M Non-Labor			-	-	-	-	$0
O&M Subtotal	*0*	*163*	*167*	*171*	*175*	*180*	*$856*
CIP	-	-	-	-	-	-	$0
Total O&M and CIP	*$0*	*$163*	*$167*	*$171*	*$175*	*$180*	*$856*
FTE		1.00	1.00	1.00	1.00	1.00	

Plan for evaluating success or progress

The Information Governance Board will be the primary oversight body for the Program. The charter of the group will include developing program performance indicators such as:

1. Monitor and measure adherence to information-related business rules and procedures (e.g. document management guidelines, records retention)
2. Monitor and measure user adoption of new technologies, including SPU Intranet and other technology-driven information portals (e.g. SharePoint)
3. Monitor and measure data quality within several specific domains (e.g. assets, customer data, regulatory) using industry –standard metrics and methodologies.

Focus Area: **Improving how we work to deliver consistent, high quality services**

Action Plan: Materials Management

Strategic Objective: Fiscal Strength & Integrity
Owner: Walter Vining, Finance & Administration Branch

Summary of proposed action

This action plan supports continued consolidation of SPU's Materials Management function to additional divisions and satellite locations. The central warehouse is responsible for implementing a centralized materials management approach for procuring, receiving, storing, issuing, transferring, and counting of all inventory materials. The current inventory valuation in Maximo is $6M; this figure does not include the inventory value of work groups that still procure and manage materials on their own.

Description of the problem this action solves

Centralizing the inventory management function reduces inconsistent practices, improves internal controls, ensures compliance with City purchasing rules, reduces procurement costs, increases the staff's ability to use the software (Maximo) to track materials and parts used to repair and maintain SPU's utility assets, and maximizes the use of technology solutions to streamline business practices.

More detailed description of the proposed action

In August 2011, changes were made to SPU's existing Materials Management practices, policies and procedures as part of the utility's implementation of its work order and materials software, Maximo. Since then, SPU's central warehouse has been able to centralize parts of the organization, specifically the Drainage & Wastewater Operations and Maintenance groups, with no net resource additions to SPU. The central warehouse also plans to assume responsibility for other satellite warehouse locations, scrap, surplus, salvage, truck stock, and tool room management. Additional staff resources are needed to take on these activities and implement best management practices across the department.

These efforts are scalable and SPU can choose to centralize responsibility for materials management and tool room management more slowly, or only centralize specific parts of the department, contingent on available resources. Baseline resources for this function are as follows:

Description of Baseline	Baseline Resources	Areas/Functions Supported by Current Resources
Current resources support procurement, receiving, storing, issuing, transferring, and return of $6M in inventory, as well as support activities, such as financial and inventory adjustments, audit coordination, blanket vendor contracts, monthly financial reporting to accounting, etc.	1.0 Chief Warehouser 1.0 Sr. Material Controller 9.0 Sr. Warehousers 0.5 Manager 11.5 Total FTEs	• Water Distribution • 40% of Maintenance • Drainage & Wastewater Ops • SDOT's Sunny Jim Facility • One central warehouse (OCC) • Three satellite warehouses • 32 mobile warehouses (Water Distribution trucks and ¾"-2" meters only)

SPU currently employs an additional 2.0 TES (temporary) positions, whose terms will soon end, to support materials management. This Action Plan would restore these positions and make them permanent.

Benefits of the proposed action

The most direct benefits of this action plan are improved internal controls and improving SPU's ability to manage and analyze inventory data.

1. **Safeguard SPU's Materials and Tools through Internal Controls, Financial Accountability, and Security**
   - Procure, store, and issue materials and tools in a standardized manner
   - Track all materials, parts and supplies throughout their life cycle
   - Produce timely and reliable financial and management reports
   - Ensure accuracy of accounting data
   - Ensure adherence to all policies, procedures and plans
   - Ensure segregation of duties, limiting physical access to inventories, and other internal controls
2. **Improve Data Management and Analysis**
   - Using Maximo software, document the issuance of all parts, materials and supplies to specific work orders. This ensures we know what was used to repair and maintain a particular asset, as well as the actual cost of particular repairs. It also allows us to more accurately plan our work.

Implementation plan and timeline

The following is a list of materials and tool room management activities that will need to be prioritized and phased in over the 2015-2020 timeframe:

- Expand centralization to other work groups (e.g. watersheds, Lake Youngs, transfer stations).
- Convert 60 vehicles to mobile warehouses/store rooms.
- Implement best management practices for procurement and inventory counting.
- Design, implement and manage a centralized scrap, surplus, and salvage program.
- Design, implement and manage a centralized tool room program.
- Implement new technology solutions to further streamline and automate material and tool room management.

Budget and FTE Changes (in $000s)

Fund: All Funds

	2015	2016	2017	2018	2019	2020	Total
O&M Labor	-	-	-	177	181	186	$544
O&M Non-Labor							$0
O&M Subtotal	**0**	**0**	**0**	**177**	**181**	**186**	**$544**
CIP							$0
Total O&M and CIP	**$0**	**$0**	**$0**	**$177**	**$181**	**$186**	**$544**
FTE	0.00	0.00	0.00	2.00	2.00	2.00	

Plan for evaluating success or progress

- Account for all materials and supplies purchased for internal warehouse customers.
- Reduce individual credit card purchases and optimize use of blanket contracts and prices.
- Reduce inventory loss.
- Report accurate work order cost use information.
- Reach out to customers for program feedback – full circle report.

Focus Area: Enhancing our services by continually updating employee skills

Action Plan: Human Resources Data and Performance Measurement

Strategic Objective: People (attract, develop, retain)
Owner: Laura Southard and Mary Cornelius, Human Resources

Summary of proposed action

Develop and deploy effective systems and tools to support workforce planning and employee performance measurement, including:

- Comprehensive skill assessment and competency inventory
- Succession and workforce planning
- Talent management HR technology that enables effective and efficient performance management, training, succession and workforce planning, and improved people analytics

Description of the problem this action solves

SPU people decisions are heavily influenced by past practice, rules, or the present situation, and not informed by a timely systemic review of business needs based on valid and reliable data. While SPU widely employs evidence based decision-making in business line decisions, data based decision-making in people decisions is rare. To effectively manage employees, SPU's most strategic asset, access to relevant and reliable people related information is essential. This action plan establishes the foundational elements for transforming SPU's workforce.

More detailed description of the proposed action

Investment in this plan is foundational for all workforce transformation action plans related to: Performance Management, Leadership Development, and Talent Management. Actions and systems needed to establish this foundation:

- **Collect critical and reliable people-related information**
  - Create a master data infrastructure, to provide for a standard description and format for data elements that are critical to human resource management and data integrity; e.g. job description elements, skills, certifications or competencies;
  - Complete a skills inventory of current skills capabilities within SPU;
  - Complete a compensation review including internal equity and external market competitiveness for key positions (underway on a citywide basis in 2014).
- **Create common competency-based frameworks for assessment and analysis**
  - Develop competency models that describe the level of knowledge and skill mastery required of employees to successfully perform job duties and what behaviors must be consistently demonstrated. This effort would result in a competency inventory of SPU's talent requirements.
  - Use a competency framework to plan how to organize and develop SPU's workforce; determine which job classification best fit business needs; recruit and select employees; and develop staff to fill future vacancies.
  - Establish a standard method of documenting work descriptions, practices and training, beginning with the most critical competencies and skills, and implement ongoing process to develop and maintain core competencies within the workforce on an ongoing basis.
  - Information gained through this process would then become foundational elements for SPU's re-alignment of human resource infrastructure and processes including performance management,

employee development, classification, leadership development, training, selection, succession and workforce planning.

- **Procure and implement Talent Management technology to effectively maintain, store and report large amounts of employee and HR data,** to replace the current labor intensive manual systems used to collect and maintain basic human resource information. Leverage technology for critical workforce processes including performance management and succession planning.

Benefits of the proposed action

Beyond providing the foundational elements necessary for data-based employee practices and decision-making, the plan allows SPU to establish a baseline of employee and job related data allowing for better people planning and decision-making.

Implementation plan and timeline *(some overlap with other Human Resources action plans)*

	2015	2016	2017	2018	2019	2020
Build skill, position and competencies inventory	X	X				
Compensation review for key positions (begin in 2014)	X					
Procure Talent Management software and complete implementation (begin in 2014)	X	X				
Develop and implement performance management redesign (begin in 2014)	X	X				
Configure and implement Talent Management software	X	X				
Develop succession and workforce plans		X	X			
Assess redesigned performance management process			X	X	X	X
Implement succession and workforce plans			X	X	X	X
Establish success measures and refine as needed (ongoing)	X	X	X	X	X	X

Budget and FTE Changes (in $000s)

Fund: All Three Funds - DW, DWW, SW

	2015	2016	2017	2018	2019	2020	Total
O&M Labor	102	105	108	331	339	348	**$1,333**
O&M Non-Labor	308	315	323	331	339	348	**$1,964**
O&M Subtotal	**410**	**420**	**431**	**662**	**678**	**696**	**$3,297**
CIP							**$0**
Total O&M and CIP	**$410**	**$420**	**$431**	**$662**	**$678**	**$696**	**$3,297**
FTE	1.00	1.00	1.00	3.00	3.00	3.00	

- 1 FTE – project manager and technical leader for technology implementation
- 1 FTE – business process analysis, design and implementation
- 1 FTE – ongoing analytics and HR technology administration

Plan for evaluating success or progress

This plan will be successful with the implementation of Talent Management software, completion of compensation review, and completed development of the skills and competency inventory.

Focus Area: Enhancing our services by continually updating employee skills

Action Plan: Employee Performance Management Program

Strategic Objective: People (attract, develop, retain)
Owner: Laura Southard, Human Resources

Summary of proposed action

Develop and deploy a programmatic and systemic approach to ongoing employee performance management and improvement.

Description of the problem this action solves

Gap areas addressed:

- Inadequate and inconsistent performance management and improvement process
- Supervisors not adequately skilled in effective performance management and ongoing coaching
- Lack of effective resources, tools and processes to set goals and manage employee performance
- No direct alignment between SPU goals/objectives and employee performance and rewards
- Lack of clearly defined competencies

More detailed description of the proposed action

A clear and integrated employee performance management system will improve SPU's effectiveness in achieving business objectives by supporting and improving the performance of employees and developing the capabilities of teams and individual contributors to meet and exceed job performance expectations. This approach will align the E-team, SPU leadership and employees behind a shared vision of SPU's performance management culture and create the clear processes and tools that support that culture.

An effective performance management program would include standards, tools and resources to clearly set performance goals and expectations, establish a standard timeline for feedback, provide a systemic approach for ongoing monitoring of progress, establish standard behavioral competencies for all employees, support multi-rater feedback on those competencies, set clear framework for performance improvement, and support career development. This performance management program would be enabled by a technological solution that would be configured to support the components of the program. SPU is currently participating in the citywide Talent Management software selection process and will implement the chosen solution.

Benefits of the proposed action

An employee performance management program will allow employees to see how their performance helps SPU achieve strategic objectives. Managers and employees will be able to better plan work, set expectations and goals consistent with that work, and measure progress towards achieving the goals in a system which promotes feedback and communication between managers and employees. When performance gaps are identified, interventions aimed at improving performance will be created. An employee performance management program reflects a partnership in which managers share responsibility for developing their employees in such a way that encourages employees to make their best contributions to the organization. A clearly defined process for managing people will increase employee morale and productivity leading to greater success for both the individual and the organization.

Implementation plan and timeline

	2015	2016	2017	2018	2019	2020
Procure Talent Management software and complete implementation (begin in 2014)	X	X				
Design performance management program including behavioral competencies, methods, standards and tools (begin in 2014)	X	X				
Train employees and implement new performance management program	X	X	X			
Establish success measures and refine as needed (ongoing)	X	X	X	X	X	X

Budget and FTE Changes (in $000s)

Fund: All Three Funds - DW, DWW, SW

	2015	2016	2017	2018	2019	2020	Total
O&M Labor	-	-	-	110	113	116	**$339**
O&M Non-Labor	51	53	-	-	-	-	**$104**
O&M Subtotal	**51**	**53**	**0**	**110**	**113**	**116**	**$443**
CIP							**$0**
Total O&M and CIP	**$51**	**$53**	**$0**	**$110**	**$113**	**$116**	**$443**
FTE	0.00	0.00	0.00	1.00	1.00	1.00	

- 1 FTE – performance management program advisor and lead for entire program including associated technology.

Plan for evaluating success or progress

Ongoing progress will be evaluated through achievement of each milestone. The ultimate success of this action plan will be the full implementation of a new performance management and appraisal process. Employee survey feedback and performance improvement measures will also be tracked.

Focus Area: Enhancing our services by continually updating employee skills

Action Plan: Leadership Development

Strategic Objective: Culture
Owner: Laura Southard, Human Services

Summary of proposed action

Design and deliver leadership development programs for each level of management (crew chief/supervisor, manager, director) that include four components:

- Defined leadership competencies for each level of management
- Ongoing training and skill building
- Mentoring and coaching
- Continuous feedback

Description of the problem this action solves

- Lack of defined competencies and defined expectations
- Inadequate training opportunities to develop employee skills in critical areas
- Lack of ongoing training program for new skill development and development of successors
- Supervisors not adequately skilled in effective performance management and ongoing coaching
- Employee availability for work negatively impacted; absenteeism, leave of absence rates, low engagement

More detailed description of the proposed

SPU has begun building the foundation for the deployment of basic supervisor skill training. The basic curriculum exists and can be built upon to design a more advanced leadership development program aligned to succession plans. Our intention is to build the capability to develop and deploy these programs in-house and reduce the use of external consultants. This action plan adds programmatic funds to be used by SPU leadership development staff hired in 2014.

Benefits of the proposed action

Effective leadership is critical to our ability to deliver on the Strategic Business Plan. Our employees have shown us that morale is closely linked to their supervisor's effectiveness. Supervisors aren't adequately prepared to handle the current and future demands centered on performance management and the need for more accountability for everyone.

Leaders touch every aspect of our business: our employees, our customers, decision makers, elected officials, etc., and this plan will improve leadership performance, particularly in terms of communication and understanding the impact of decisions on the front line employees and customers. Skilled leaders are more efficient, innovative, and better prepared to support a culture of teamwork, collaboration and accountability.

These programs will provide a common language, common set of tools, clear expectations for supervisory personnel at every level, and ongoing support.

Implementation plan and timeline

	2015	2016	2017	2018	2019	2020
Develop and implement initial basic supervisor skills training (begin in 2014)	X					
Complete leadership development gap analysis	X					
Develop and deploy leadership development programs	X	X				
Program assessment and continuous improvement		X	X	X	X	X
Ongoing offering of basic supervisor skills and leadership development programs to new hires and promoted staff			X	X	X	X

Budget and FTE Changes (in $000s)

Fund: All Three Funds - DW, DWW, SW

	2015	2016	2017	2018	2019	2020	Total
O&M Labor	-	-	-	-	-	-	**$0**
O&M Non-Labor	179	184	188	193	198	203	**$1,145**
O&M Subtotal	**179**	**184**	**188**	**193**	**198**	**203**	**$1,145**
CIP							**$0**
Total O&M and CIP	**$179**	**$184**	**$188**	**$193**	**$198**	**$203**	**$1,145**
FTE							

Plan for evaluating success or progress

The progress of this action plan will be evaluated by the achievement of action plan milestones, employee survey results and a reduction in external consultant expenditures for leadership development.

Focus Area: Enhancing our services by continually updating employee skills

Action Plan: Talent Management

Strategic Objective: People (attract, develop, retain)
Owner: Laura Southard and Mary Cornelius, Human Resources

Summary of proposed action

Establish and implement a comprehensive talent management strategy to address SPU's short- and long-term workforce needs. This strategy will look at all levels of the organization, assess employee skills, and align those factors with SPU's Promise and Strategic Business Plan.

Description of the problem this action solves

SPU lacks comprehensive programs, systems and processes that enable:

- Recruitment, development and retention efforts
- Skill assessment and competency inventory
- Succession planning
- Workforce planning

More detailed description of the proposed action

To establish a comprehensive talent management strategy, we will:

- Align through business process redesign employment practices to better meet business needs. Current employment processes are inefficient, transactional, and reliant on information submitted via manual forms. A comprehensive redesign of recruitment and selection processes would provide the opportunity to recalibrate the human resource infrastructure to more effectively support SPU business objectives.
- Establish standardized data-based staffing plans. Staffing plans would identify business unit staffing requirements based on factors such as position allocation, required competencies, and employee demographics. Having a common approach to assessing necessary staffing requirements to achieve business outcomes will better inform hiring and staffing decisions and produce high quality hires.
- Develop a comprehensive workforce plan that supports business objectives by maximizing external and internal talent pools. The workforce plan would include strategies to address human capital needs, inform organizational design, support organizational culture change, and reduce risk. The plan includes processes for identifying mission critical roles and developing current employees or acquiring external talent to assume these roles as they become available.

Benefits of the proposed action

This action plan will establish a comprehensive approach to talent management to ensure that SPU has a skilled and competent workforce. Refined recruitment and selection process and tools are essential to improving SPU's current staffing practices which are reactionary and heavily influenced by immediate need rather than the long-term business interests of the organization. Additionally, a systemic approach to recruitment and staffing strengthens the alignment of investments in hiring, retention and employee development with SPU's business objectives and better prepares SPU to manage upcoming retirements.

Implementation plan and timeline

	2015	2016	2017	2018	2019	2020
Procure Talent Management software and complete implementation (begin in 2014)	X	X				
Align employment operations to business requirements	X	X				
Establish standardized data-based staffing plans	X	X				
Develop and implement succession and workforce plans		X	X	X	X	X
Modify/populate HR technology solution	X	X	X			
Reassess and refine as needed	X	X	X	X	X	X

Budget and FTE Changes (in $000s)

Fund: All Three Funds - DW, DWW, SW

	2015	2016	2017	2018	2019	2020	Total
O&M Labor	102	105	108	221	226	232	**$994**
O&M Non-Labor	102	105	108	110	113	116	**$654**
O&M Subtotal	**204**	**210**	**216**	**331**	**339**	**348**	**$1,648**
CIP							**$0**
Total O&M and CIP	**$204**	**$210**	**$216**	**$331**	**$339**	**$348**	**$1,648**
FTE	1.00	1.00	1.00	2.00	2.00	2.00	

- 1 FTE – talent management advisor with recruitment, selection, succession and workforce planning expertise.
- 1 FTE – business process redesign and analytics; development of succession, workforce and recruitment analytics for ongoing management by HR Operations team

Plan for evaluating success or progress

- Progress will be evaluated based on the achievement of the milestones; hiring talent management staff, redesign of recruitment and selection process and completed development of succession and workforce plans.
- Recruitment and staffing related metrics to be developed.

Focus Area: Enhancing our services by continually updating employee skills

Action Plan: Absence & Disability Management Program

Strategic Objective: Place/Safety

Owner: Tim Ramsaur, Field Operations and Maintenance Branch; Laura Southard and Mary Cornelius, Human Resources

Summary of proposed action

SPU needs to develop and maintain a programmatic approach to absence and disability management, to help employees stay at work and return to work.

Description of the problem this action solves

SPU's current safety culture and processes are primarily reactive. This has led to:

Injuries, Accidents and Illness

- High rates of occurrence
- No comprehensive plan to reduce

Wellness

- No comprehensive wellness program
- No dedicated wellness resources

Absences

- Increasing leaves of absence
- High sick leave utilization
- No integrated case management for managing leaves, workers comp, return-to-work and ADA (disability)

Workers Compensation (WC)

- Claims, time loss and total costs high
- No comprehensive plan to reduce claims and re-injury
- High multiple claims
- Focus on processing of claims versus prevention of claims

More detailed description of the proposed action

SPU needs to develop and maintain an integrated absence and disability management program, to help employees stay at work and return to work. Components of a successful program include:

- Commitment from the top and across the utility to create and maintain of a culture of safety, accountability, and continuous improvement;
- Internal expertise in Safety, Health and Wellness, and a robust, pro-active, case management approach for SPU's Return-to-Work program, focused on getting staff back to work in a timely, mutually successful way and coordinating 'light' and modified duty;
- An integrated, real-time data system for all safety and absence related data, to use for tracking, monitoring, reporting accidents, injuries, close calls, and Return to Work, so incidents can be tracked from hazard to correction, and communicated across the utility;
- Shift of focus from lagging indicators (what has already occurred) to predictive indicators (proactive and preventative), and use a case management approach for staff who have multiple claims/accidents/health issues;
- A focus on proactive wellness and health program with the potential to reduce health care usage and non-occupational injuries and illnesses and encourage a healthier workforce, benchmarking with other similar companies;
- Develop and deploy training, processes and systems designed to encourage and reward desired safety, health, employee availability, and work behaviors.

Benefits of the proposed action

An effective absence and disability management program would:

- Ensure continued compliance with all Federal, State, and local worker safety regulations;
- Monitor, track and reduce absences, injury frequency and severity, health costs;
- Reduce costs associated with absences, occupational and non-occupational injuries, accidents and incidents;
- Increase the number of days employees are at work, productive, and engaged;
- Promote change in SPU's culture by encouraging employees to take responsibility for themselves and their co-workers health, wellness, and safety on the job.

Implementation plan and timeline

	2015	2016	2017	2018	2019	2020
Establish program management (matrix HR/Field Ops)	X					
Complete wellness assessment and transition ongoing Intelex safety software administration to HR Ops	X					
Develop program including improving SPU basic safety program and training, developing case management process and a basic wellness program. Establish continuous improvement processes and associated health and safety analytics.	X	X				
Implement identified programmatic changes	X	X				
Continuous improvement actions	X	X	X	X	X	X
Ongoing measurement – metrics & advanced analytics	X	X	X	X	X	X

Budget and FTE Changes (in $000s)

Fund: All Three Funds - DW, DWW, SW

	2015	2016	2017	2018	2019	2020	Total
O&M Labor	205	210	215	221	226	232	$1,309
O&M Non-Labor	154	158	162	166	170	174	$984
O&M Subtotal	*359*	*368*	*377*	*387*	*396*	*406*	*$2,293*
CIP							$0
Total O&M and CIP	*$359*	*$368*	*$377*	*$387*	*$396*	*$406*	*$2,293*
FTE	2.00	2.00	2.00	2.00	2.00	2.00	

- 1 FTE: Intelex (safety technology) system administrator and analyst for safety program data (HR Ops)
- 1 FTE: Wellness & Safety Specialist (Field Ops)
- $150K/yr: to fund safety programmatic activities including Wellness assessments, proposal development and related activities, communications, online safety training licensing, lunch-learns, etc.

Plan for evaluating success or progress

This action plan will be evaluated through review of existing metrics including absences, leave utilization (sick leave, FML, etc.), safety incidents and accidents, Workers Compensation (WC) claims, re-injury rates and medical costs. It is expected to realize a reduction in incident rates, leave utilization rates and WC claims and medical costs.

Focus Area: Making it easier for you to get help and find answers

Action Plan: Service Equity

Strategic Objective: Equitable service accessibility
Owner: Michael Davis, Service Equity Director; Blair Troutman, Asset Management Director

Summary of proposed action

The goal of this Action Plan is to eliminate current service inequities (defined as disparate access, participation, and impacts to distinct customer segments and communities), and to proactively design and provide equitable services. This initiative expands on current efforts, and hastens the development of:

- Baseline demographic profiles of who we serve in order to measure change in access and participation
- Support to SPU Branches and divisions to embed service equity within their strategic work plans
- Corrective or proactive efforts to meet service equity goals through the use of equity planning tools and techniques, and
- Neighborhood-based engagement and efficiency plans.

Description of the problem this action solves

Inequity manifests unintentionally through our policies, comprehensive plans, programs, projects and services, in all Lines of Business and across all SPU Branches. Some examples include under reporting of sanitary sewer overflows in low income multi-lingual communities, lack of diverse participation in volunteer programs or response to web based customer feedback surveys, and historic under-utilization or lack of access to consulting opportunities.

More detailed description of the proposed action

SPU staff can better understand and address these issues through an **ongoing commitment to learning**, and they must also:

- Use standardized tools and processes to collect, enter, and analyze demographic data to create customer baselines
- Develop distinct Branch and Division-specific service equity planning goals, objectives, and accountability
- Embed service equity planning tools and practices into longstanding and new work-flow processes
- Allocate funds and time to conduct service equity planning and analysis, WMBE outreach, and culturally relevant community engagement methods to engage more diverse audiences; and
- Use service equity planning tools with other agencies and Departments.

Benefits of the proposed action

As a result of the proposed actions SPU will have a clear understanding of how our regulations and current or planned activities may result in disparate impacts or outcomes, and:

- Customer baselines, including demographic profiles and routine analysis of whom we serve in projects, programs and services, from which we can measure change in access and participation
- Taken corrective or proactive early efforts to build service equity goals and measurements in our policy, planning, prioritization, design, and implementation efforts
- Strengthened SPU's planning processes (e.g. tools that help capture learning and document next steps)
- Proactively identified all who may be interested and impacted in our planning processes, and mitigation of customer backlash due to a lack of proper engagement

- Bolstered reasoning or arguments for or against a particular policy, service, or project through the use of customer data regarding disparate experiences or impacts
- Surfaced 'upstream' policy-related issues (e.g. standards on open access to non-critical SPU property)
- Realized cost savings and streamlined outreach efforts through coordinated communications and public engagement plans
- Sustained community or neighborhood-based relationships which can be leveraged to more quickly initiate services
- Improved our knowledge of community issues and dynamics; and
- Improved SPU's ability to routinely garner richer, more accurate, and more meaningful customer feedback.

Implementation plan and timeline

Primary Tasks	2015	2016	2017	2018	2019	2020	Primary Outcomes
Within baseline resources, expand Equity Planning support	X	X	X	X	X	X	Expansion of Equity Planning support and ongoing coverage for all Branches.
Staff training on Community Engagement Techniques and Service Equity Planning, and related items.	X	X	X	X	X	X	Builds skills and provides resources for staff to use equity planning tools and practice new community engagement techniques.
Support the tiered expansion of demographic database utilization, across key LOB programs (as appropriate).			X	X	X	X	LOB demographic baselines in key programs, which then re-directs planning goals to new target audiences and outcomes.
Create participant baselines, with initial analysis/ability to report on findings.					X	X	More accurate reporting capacity on 'who does or does not currently access and participate' to Mayor, Council, staff, and key stakeholders.
Include service equity planning goals and objectives in all SPU Branch and Division Strategic (Work) Plans.		X	X	X	X	X	Branch and Division management accountability to identify and address service equity, and a 'push' downward into projects and programs.
Apply service equity planning tools to master plans, prioritization processes, or programs that do not go through the Stage Gate approval process.				X	X	X	Application of equity planning tools to overall LOB/CIP prioritization processes, O & M funded programs, and key small CIP results in different priorities.
Apply service equity planning tools to multi-agency Capital Improvement Projects and create unified outreach/public engagement plans.				X	X	X	Mitigation of unintended service disparities, coordination of timelines, and creation of unified communications and engagement plans.
Require neighborhood-based staff/project check-ins (across and within LOBs) to coordinate timelines and outreach/public engagement efforts.		X	X	X	X	X	Neighborhood (or basin) based plans, improvement of inter-departmental communication, and cost savings on outreach or engagement efforts.

Budget and FTE Changes (in $000s)

Fund: All Three Funds - DW, DWW, SW

	2015	2016	2017	2018	2019	2020	Total
O&M Labor							$0
O&M Non-Labor							$0
O&M Subtotal	*0*	*0*	*0*	*0*	*0*	*0*	*$0*
CIP							$0
Total O&M and CIP	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*
FTE							

Plan for evaluating success or progress

An abridged list of outcomes:

- Participant demographic baselines for key SPU programs - Customer Programs; USM LOBs; Communications
- Service equity planning goals and objectives in all SPU Branch and Division Strategic (Work) Plans - All SPU Branches
- Equity planning tools applied to LOB/CIP prioritization processes, O & M funded programs, and key small CIP - USM LOBs; CAM, EJSE
- Apply service equity planning tools to multi-agency Capital Improvement Projects and create unified outreach/public engagement plans - USM LOBs; CAM; Communications, EJSE
- Utility-wide neighborhood (or basin) plans - USM LOBs; CAM, EJSE

All outcomes should be incorporated into SPU's annual Key Performance Indicators worksheet (in accordance with the proposed timeline), SPU's annual Race and Social Justice Work Plan, and annual Executive and Manager Accountability Agreements.

Focus Area: Making it easier for you to get help and find answers

Action Plan: Web Presence

Strategic Objective: Minimum customer effort
Owner: Corinne Brown, Web Team Manager, Finance and Administration

Summary of proposed action

SPU has external and internal websites, and we want them to be effortless to use when asking a question, paying a bill, or researching an issue. In the baseline, there are four permanent web staff, plus two college interns dedicated to the web. This initiative funds an additional 2 FTE plus temporary staffing to do the following:

- Improve web text and multimedia content
- Offer a more seamless user experience between all online services
- Engage in usability research and web analytics
- Proactively build easy-to-use, efficient, desirable and useful web content and tools

Description of the problem this action solves

Current gap areas include:

- It is difficult for customers and employees (users) to transact their business online. Transactions aren't performed in real time but our users expect that they are. Users expect they can request information sent to them via the method of their choice (online only, email, text, phone). They expect a seamless experience when accessing any of our third party/vendor applications and our own internally built applications. They expect an engaging and efficient experience regardless of which device they use. We fail to meet these online transaction expectations.
- Functionally, our websites have slow download speeds, sub-optimal search engines and aren't designed to work well on mobile devices.
- Our external website is missing opportunities to support the Contact Center, which in turn could help our customers get their questions answered.
- Content management on the website is suboptimal. We are missing valuable and desired content, and the content that is there is difficult to find.
- The internal website does not adequately meet employees' and business needs.

More detailed description of the proposed action

The Web Team currently has four dedicated FTE, plus two college interns. With the addition of the 2 FTE and some consultant dollars, the Web Team will:

- Work with the business to create additional site content to support business objectives
- Evaluate user goals and create additional site content to support user expectations
- Assess and clean up the existing websites
- Design and develop new and improved websites
- Implement new and improved websites
- Engage in usability research and web analytics

Benefits of the proposed action

Benefits of this Action Plan are:

- Improved text and multi-media content on our website, allowing customers and employees to find and understand core information quickly

- A more seamless user-experience between all online services, regardless of development platform or user device
- Through usability research and web analytics, acquire a clearer understanding of how our online customers currently use the web, and how they expect the websites to perform
- Proactively build easy-to-use, efficient, desirable and useful web content and tools to enhance the customer's and employee's experience with our services

Implementation plan and timeline

In 2015-2016, with consultant support, SPU will clean up the existing websites and assess, design, and develop an implementation plan for the new websites. The new websites would then be implemented in 2017, with ongoing research and assessment from 2017 onward.

	2015	2016	2017	2018	2019	2020
Assessment and cleanup	x	x				
Design and new development		x				
Implement new sites			x	x	x	x
Engage in user research and analytics	x	x	x	x	x	x

Budget and FTE Changes (in $000s)

Fund: All Three Funds - DW, DWW, SW

	2015	2016	2017	2018	2019	2020	Total
O&M Labor	-	105	215	221	226	232	**$999**
O&M Non-Labor	205	210	215	-	-	-	**$630**
O&M Subtotal	**205**	**315**	**430**	**221**	**226**	**232**	**$1,629**
CIP	-	-	-	-	-	-	**$0**
Total O&M and CIP	**$205**	**$315**	**$430**	**$221**	**$226**	**$232**	**$1,629**
FTE	0.00	1.00	2.00	2.00	2.00	2.00	

Plan for evaluating success or progress

- Work with the business to identify target tasks and content and to establish estimated value as KPIs for both websites
- Use web analytics to evaluate site traffic improvements to the destination site content KPIs
- Perform usability-testing to evaluate before-after performance and customer satisfaction with both websites

Focus Area: Making it easier for you to get help and find answers

Action Plan: Development Services

Strategic Objective: Effectiveness & Efficiency
Owner: Henry Chen, Project Delivery Branch

Summary of proposed action

Centralize and streamline the utility permit, service and sales functions for Development customers. This brings together relevant staff and services within a physical and web-based Development Services Office. Includes funding technology improvements ($2M capital outlay) and operational costs for staff and training.

Description of the problem this action solves

The current process is confusing, time consuming and costly for our Development customers, with more than 200 SPU staff (~66 FTEs) directly or indirectly involved.

The current SPU development review, installation and oversight functions involve several staff in different locations. The existing system requires developers to talk to multiple different staff members, and potentially to interact with both SPU's Plan Review and Customer Service groups to get their project needs met. The intake processes for water taps and water mainline extensions are separately tracked and maintained. There are no charter agreements in place detailing how Plan Review will work with other SPU and City of Seattle departments to better meet the needs of the customer. The current financial management and control systems are not as rigorous and consolidated as they should be. The current plan review process and code/policy decisions need to be more transparent, equitable, and clear.

More detailed description of the proposed action

SPU is redesigning its Development Services function to create a new Development Services Office that is more efficient, better integrated, and easier for developers to navigate. This redesign is already well under way, with the following tasks accomplished or in progress:

- New DSO Manager has been hired.
- Internal SPU Design Team has completed work and is transitioning to an Implementation Team.
- We are currently making progress on:
  - Plans for the 27th floor (SMT) layout (future one-stop shop for developers)
  - Centralizing the intake and tracking process
  - Combining water main and taps into one process
  - Reconstituting the menu of "standard charges" for field work (i.e. main line extensions)
  - Addressing high-risk internal controls findings

This proposal supports and extends the 2014 baseline investment to redesign the Development Services function. It funds the following fundamental SPU functions for Development customers and implements integrated business applications (including mobile and online systems) to address and improve:

- Intake, sales and workflow
- Plan review and asset acceptance
- Work orders and inspection services
- Online services (general information, FAQs, forms, appointment scheduling, payments, permit and service tracking)Document and records management

This proposal also co-locates appropriate staff, integrates with multiple agencies (e.g., Dept. of Planning Development, Seattle Dept of Transportation), and provides essential staff training and tools.

Benefits of the proposed action

Centralizing this function is expected to streamline the current processes (saving both time and staff investments for other priorities), reduce costs substantially, and significantly improve the development customers' experiences.

Implementation plan and timeline

	2015	2016	2017	2018	2019	2020
Operational improvements (training, co-location moves)	x	x	x	x	x	x
Technology improvements	x	x				

Budget and FTE Changes (in $000s)

The Development Services Office will be staffed within the resources available in the 2014 budget. However, we are including a placeholder estimate of $175k per year for consultant support in the O&M budget, and $2 million in the CIP as a placeholder for needed CIP improvements and other needed capital expenditures.

Fund: All Three Funds - DW, DWW, SW

	2015	2016	2017	2018	2019	2020	Total
O&M Labor							**$0**
O&M Non-Labor	179	184	188	193	198	203	**$1,145**
O&M Subtotal	**179**	**184**	**188**	**193**	**198**	**203**	**$1,145**
CIP	1,000	1,000					**$2,000**
Total O&M and CIP	**$1,179**	**$1,184**	**$188**	**$193**	**$198**	**$203**	**$3,145**
FTE							

Plan for evaluating success or progress

- Percent of customers rating overall customer effort as 3 or less (1-7 scale, with 7 being high effort)
- Other possible targets and measures:
  - Reduce staff levels and the number of "touches"
  - Reduce process and service delivery times (including taps)
  - Reduce number of developer appeals
  - Increase asset contributions where appropriate
  - Implement annual reporting - financial transparency
  - Make progress towards revenue-cost neutrality – balance revenues with expenditures
  - Align expenditures strategically to support SPU system development, preservation, and city development goals
  - Ensure charges are regionally cost competitive
  - Have automated/online options for development customers to request and receive services from SPU

Clerk's Office note:

Attachment 5, Benchmarking and Workplace Efficiency Study is a published booklet.

Please see Deputy City Clerks to review the paper copy, or see the online pdf (http://clerk.seattle.gov/~public/meetingrecords/2014/res_31534.pdf) beginning at page 253.

Diane Caviezel Clausen
SPU Strategic Business Plan Exhibit 6
June 23, 2014
Version #1

Exhibit 6

Revised June 11, 2014

Efficiency and Programmatic Reductions Strategy

A. Introduction

SPU engaged HDR Consulting to perform an independent review of its business practices and to compare its productivity performance with other similar sized utilities. This review resulted in finding that SPU was a "high performing" utility, and recommended 45 actions to further improve its efficiency and overall performance. SPU believes that most of HDR's 45 specific recommendations are worthwhile and many should be implemented.

The Customer Review Panel has asked SPU to describe more specifically which efficiencies the utility will pursue, how it will go about implementing these efficiencies, and what cost savings can be expected. This paper is intended to answer these questions, given what we know today.

In addition, this paper describes the programmatic reductions that SPU staff identified to further reduce necessary rate increases without significantly lowering services to our customers.

B. SPU Recommendations on Efficiencies to Pursue and Not Pursue through 2020

General Approach. There are three important overall factors guiding us:

- We will prioritize and sequence a manageable number over the six-year period. This means that, by 2020, some recommendations will be completed, others just begun, and others will be potential future initiatives.
- We will use our own best judgment and collective expertise in order to select the specific actions to pursue and how to implement them within SPU.
- We will learn from each action that is taken and adapt to new information and changing circumstances.

Below is a list of efficiencies, by Strategic Business Plan Focus Area, that SPU believes are critical to implement. We recognize that more planning has to occur before making a final selection of initial actions; however, this is our best thinking to-date.

Several of the efficiencies listed below directly affect our employees. As SPU implements these efficiencies, we will work closely with the City HR/Personnel Department to evaluate those steps and to align our actions to be consistent with any Citywide plan for City employees overall. And, we will continue our practice of assessing and possible position impacts with the equity lens and to balance position impacts between represented and non-represented positions, and between management and field positions.

Transform the Workforce. To address our gap areas of (a) inadequate and inconsistent performance management, (b) inadequate training and development for supervisors and aspiring leaders to fill the pipeline, (c) higher than desired injury and re-injury rates, (d) a lack of effective recruitment, retention and succession planning, and (e) inadequate HR data to fill these gaps, SPU will pursue the following efficiency initiatives:

- Develop and deploy a programmatic and systemic approach to ongoing employee performance management and improvement, resulting in better alignment to the strategic business plan and increased accountability
- Acquire and implement Talent Management technology in collaboration with other City departments
- Develop improved procedures and practices for reducing injury and re-injury rates, and for optimizing return to work performance
- Perform a staff skills and competency study
- Develop succession plans for key positions

Operational Excellence. While the remainder of the efficiency recommendations may touch more than one focus area, they are predominately associated with Operational Excellence. These are listed below.

1. Realignment. To improve decision-making, overall accountability, and span of control, SPU will improve the alignment of the SPU organization around three lines of business (LOB), which will include holding LOB Managers and middle managers accountable for understanding and meeting financial targets.

2. Increasing Field Productivity. HDR estimates that SPU's field crews could improve their productivity by 15-20% through performing multiple tasks, which has several benefits. For the employee it is an opportunity to learn new skills. For SPU it enables us to create more crews and increase our services, such as cleaning out more catch basins and sewer liens per the Consent Decree. These changes can be accomplished without eliminating any field positions and will require negotiations with labor unions.

   SPU has been keeping labor and City HR/Labor Relations informed of the Strategic Business Plan process and discussions throughout, and will continue to do so as the Plan is developed. Labor representatives have indicated they understand the nature of the changes being contemplated and most are willing to enter into those discussions. One promising idea is to establish a working group such as an Employee Involvement Committee to pilot one of the efficiency recommendations to get an early win for employees, labor, and SPU.

3. Develop Cross-Department Service Level Agreements (SLAs). HDR identified a number of cost-saving opportunities related to services that SPU receives from other City departments, particularly Finance and Administrative Services (FAS) and the Department of Information Technology (DoIT). HDR is recommending that SPU either take on these services internally or contract them out. SPU agrees that numerous services can be improved, and at potentially lower costs. Our approach, however, would be to partner with other departments and negotiate SLAs with defined performance metrics and defined consequences for failure to meet service targets with lower costs.

   SPU will first pursue SLAs with Finance and Administrative Services (FAS), where an agreement on fleet services was signed in May 2014. Then, SPU will work with the Department of Information Technology (DoIT), the next largest cost center for SPU payments to other City departments.

   Through the 2015-2020 period, we expect to also use this approach with other City departments providing services to SPU. Our approach will be to work in collaboration with the service providing departments, as we have done with FAS Fleets.

Diane Caviezel Clausen
SPU Strategic Business Plan Exhibit 7
June 23, 2014
Version #1

Exhibit 7

Strategic Business Plan Outreach Results and Recommendations

April 7, 2014

Seattle Public Utilities

SPU Strategic Business Plan Exhibit 7 to Attachment A

Outreach Goals

1) Learn more about customer preferences by community and customer type and begin an ongoing dialog with customers
2) Expand outreach so that all communities are heard
3) Help customers understand the complexity and value of the services SPU delivers
4) Determine what potential focus areas and actions customers believe SPU should focus on between now and 2020
5) Evaluate which billing level customers can support
6) Benchmark customers current depth of support for SPU

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Outreach Process

- Conducted 3 pilot outreach sessions in November 2013.
- Conducted 14 neighborhood and community group outreach sessions January-March 2014.
  - Supported by trained SPU teams of note takers and facilitators.
- Conducted online surveys between January and March, 2014.
- Extensive input from elected officials and the Customer Panel.
- Extensive marketing including public relations, advertising and social media.

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Participation

Outreach was made possible by the efforts of many SPU groups as facilitators, note takers and experts:

- E-team
- Customer Panel
- Dedicated staff from multiple Branches
- SPU Community Advisory Committees
- Mayor and Council representatives

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Summary

- Customers and employees favored the 4.9% increase with large majorities, but this is not the whole story.
- Several customer themes re-occurred throughout the Outreach including **investing in the future, efficiency, equity, partnership, environment** and **health.**

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Who we heard from

Total: N=1,541

In-person: (N=205)

- Neighborhoods (N=54)
- Businesses and developers (N=45)
- Environmentalists (N=14)
- Youths (N=11)
- Underserved communities (N=81)

Online: (N=1,336)

- Residential (N=624)
- Business (N=14)
- Employees (N=698)
  - Corporate Strategies and Communications (N=33)
  - Customer Service (N=56)
  - Field Operations and Maintenance (N=253)
  - Finance and Administration (N=87)
  - Human Resources and Service Equity (N=16)
  - Project Delivery (N=80)
  - Utility Systems Management (N=88)
  - N/A/skipped (N=85)

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Online Demographics

Seattle Public Utilities Outreach	
Ethnic Background	
White	71.5%
Latino	3.7%
Black or African American	3.1%
American Indian or Alaska Native	2.0%
Chinese	1.5%
Filipino	1.1%
Vietnamese	9.0%
Other Asian/Pacific Islander	3.7%
Don't know	.4%
Decline to answer	19.3%
Other	2.8%
Household Size	
1	15.5%
2	44.4%
3	15.5%
4	14.2%
5 or over	5.0%
Decline to answer	5.4%
Household Income	
Under $30,000	3.9%
$30,000 - $39,999	3.5%
$40,000 - $49,999	4.4%
$50,000 - $59,999	5.6%
$60,000 - $74,999	10.0%
$75,000 - $100,000	16.3%
$100,00 and over	30.9%
Decline to answer	25.4%

City of Seattle 2010 Census	
Ethnic Background	
White	69.5%
Latino	6.6%
Black or African American	7.9%
American Indian or Alaska Native	.8%
Chinese	4.1%
Filipino	2.6%
Vietnamese	1.1%
Other Asian/Pacific Islander	3.6%
Other	2.4%
Household Size	
1	41.3%
2	33.3%
3	12.2%
4	8.5%
5 or over	4.7%

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Themes

Several themes emerged from the customer feedback:

1. **Investing for the future.** Invest to ensure continued high quality services in the face of population growth, climate change, and aging infrastructure.
2. **Efficiency.** Demonstrate how the Utility is continually becoming more efficient to keep bills affordable.
3. **Equity.** Ensure that all communities are respected and have full access to all SPU services and are effectively engaged.
4. **Partnership.** Demonstrate the Utility's constraints and value with transparency; explain how SPU is improving services and the benefits of partnering with SPU. Develop continuing education and customer involvement that promote saving money/improving health and environment.
5. **Environment and health.** Explain how the Utility is protecting health and improving the environment.

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Depth of Customer Support (Brand Equity)

Billing Level	Customers		Employees	
	2014	2012	2014	2013
Overall opinion of Seattle Public Utilities	5.25 In-person 5.02 Online	5.31 Focus groups	5.59	5.66
Overall experience of Seattle Public Utilities	5.36 In-person 5.10 Online	5.43 Focus groups	5.47	5.53
Agree with overall business direction	4.98 In-person 4.06 Online	4.50 Focus groups	5.03	5.14
Delivers what it promises	5.05 In-person 4.84 Online	5.13 Focus groups	5.04	5.12
Provider of high quality utility services	5.49 In-person 5.15 Online	5.43 Focus groups	5.80	5.90
Provides excellent customer service	5.20 In-person 4.61 Online	5.12 Focus groups	5.33	5.26
Organization to which I feel very loyal	4.87 In-person 3.89 Online	4.69 Focus groups	5.65	5.59
Customer support averages	5.18 In-person 4.68 Online	5.09 Focus groups	5.42	5.46

Note: Customers answered on a scale where "1" means unfavorable or strongly disagree, "4" is neutral or neither agree or disagree, and "7" means very favorable or strongly agree.

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Sample customer questions

- What can we do to control our costs?
- How much does each improvement cost?
- Are people getting equitable service?
- What if we don't get enough snow in the future?
- How can SPU better educate the community?
- How can SPU support low income residents, senior citizens, underserved communities?
- Are we spending our money efficiently?
- Does investing mean I/my community receive these benefits?
- How does FOG and other things we don't do impact SPU financially?
- Will the low income discount program make other rates go up?
- Delivering high quality service is good, but at what cost?
- Would monthly billing/every other week garbage increase costs to customers?
- How much would changing the meters cost and will meter readers be unemployed?
- How did SPU get into the graffiti business?
- Did you discuss size of cans?
- Could we contract out work to save money?
- Can SPU separate garbage at the utility?
- Is mountain water clean?
- Where do diapers go?

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Billing Levels

Billing Level	Customers	Employees	Observations
4.9% All Improvements; all cost savings	76% In-person 65% Online	76%	• In-person groups voted for the 4.9% increase at a much higher rate. • Customers in most groups voiced the sentiment: "My salary isn't going up, why are our rates?"
4.3% No Improvements; all cost savings	24% In-person 35% Online	24%	• High levels of negative comments around both increases among these customers.
Favorable comments	325/4.9%		• Support focuses on need for preventative maintenance and population growth.
Either increase is too high	188/4.3% 10/4.9%		• Opposition based on history of high increases, affordability and questions around efficiency and need.

Note: Respondents were asked to vote for 4.9% or 4.3% and then asked to comment on their answers. A very small number >10, said "neither."

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4.9% Comments

Category	Customers Online	Employees	Customer Comments
Protect environment and quality of life in growing city	65	44	• It's important to invest in health and the environment. • Improvements necessary for growing world-class city. • Happy to pay for changes that mean healthier communities and preparation for climate change.
Save money in the long run	57	51	•Hope you use improvements to invest in technology to keep prices lower. •Better to make improvements over time. •A little investment now saves money in the future.
Small difference	57	65	•The difference between 4.3 and 4.9 is negligible. •They are not that different, why not get some improvements? •More bang for the buck.
Aging system needs maintenance	48	52	•Infrastructure is rotting away. •Maintaining infrastructure requires constant investment. •We have to keep making upgrades.
Improvement important	44	60	•Funding improvements is always important. •Responsible improvements are worth paying for.

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4.3% Comments

Category	Customers Online	Employees	Customer Comments
Figure out how to control reduce costs	45	32	• Work smarter. • Max your efficiencies. • Quit wasting money. • Talk about improvements to save time and money but costs keep going up. • Control labor costs. • I do not trust SPU to use the additional money with an eye towards efficiency.
Bill is too high	45	22	•Bill is high enough already. •Bill is too high. •Bill needs to be less than this. •Need to reduce bills.
Can't afford the increase	31	8	•My family can't afford a rate hike. •I am on a fixed income. •Incomes aren't increasing at this rate. •Far exceeds COLA increases.
Just deliver the basic services	11	9	•Consider what services are mandatory and eliminate the others. •Just deliver the basic service.
Don't increase rates	11	6	•Don't increase rates. •I don't want to pay any more.

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Conclusions: Billing Levels

- Most customers and employees selected the 4.9% increase.
  - Customers strongly indicated that if you are going to raise rates, there must be improvements.
  - Many felt that population growth, protecting the environment and maintenance were justifiable reasons to raise rates.
- There was very little customer or employee support for the 4.3% increase even by people who voted for it—this group felt that both increase levels were too high.
- Most underserved groups and all other in-person groups voted for the 4.9% increase at a much higher level than online customers.
  - African Americans were evenly split and a large majority of Somali customers preferred no increase. These groups had low levels of trust that improvements would benefit their communities.

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Focus Area Percentages

FOCUS AREA	Customers	Employees	Customer Panel	E-team	Customer Comments
Improving how we work to deliver consistent, high quality services	35%	32%	34%	41%	• There are so many ways to improve efficiency. SPU has a reputation of being slow, process heavy. You can streamline the organization. • Need a good system where SPU knows where and when problems happen and they can fix them right away. • Prevention is better than the cure.
Better protecting your health and our environment	36%	30%	15%	26%	• I invested here because making our environment better is beneficial for the entire community and it's in our best interest. • We must protect the environment for future generations. • The environment is an important factor for this area and what Seattle is all about overall.
Enhancing our services by improving employee skills	15%	22%	42%	16%	• As employees age, need to pass on institutional knowledge. • Workforce lacks diversity, need better hiring and upward mobility practices. • It's a worthy investment to have employees trained and educated so that when they do respond, they respond in a timely manner and are fully aware of what they are expected to do.
Making it easier to get help and answers	14%	16%	9%	16%	• Community education, liaisons, and more outreach to communities. • Need more bilingual customer service representatives and translated bills and materials. • Many times there is no one point of contact and no one can give you an answer or make a commitment.

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Focus Areas: Conclusions

Focus area results were very similar among most customer groups and employees. Here are some standouts:

- All underserved groups placed a high value on *protecting your health and our environment* and community building.
- Latino, Vietnamese, Employees and the Customer Panel placed a higher emphasis on *enhancing our services* by *improving employee skills.*
- African-Americans, Chinese, Latino and low income also rated *making it easier to get help and answers* higher than other groups.
- Businesses place a very high emphasis on *improving how we work.*
- Environmentalists and youth placed a very high emphasis on *better protecting your health and our environment.*

Note: Certain groups interpreted *improving how we work* as including customer service and other improvements related to *making it easier to get help and answers.*

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Action Plan Valuation

ACTION PLAN	Customer votes	Employee votes
Eliminate sewage being released into waterways	14% In-person 17% Online	13%
Replace and clean sewer pipes	12% In-person 15% Online	14%
Prepare for climate change	11% In-person 11% Online	9%
Improve data and how projects are managed	9% In-person 10% Online	9%
Develop employees' skills	9% In-person 3% Online	10%
Upgrade to smart meters	9% In-person 13% Online	9%
Reduce flooding in hardest hit areas	9% In-person 9% Online	10%
Improve worker safety and reduce absences	8% In-person 4% Online	6%
Monthly billing and online payment options	5% In-person 6% Online	5%
Improve website and mobile	5% In-person 3% Online	5%
Reduce garbage pick-up	4% In-person 6% Online	4%
Streamline permitting; improve bill accuracy	4% In-person 3% Online	4%

Note: Customers were given 10 green dots (in-person) or 10, $10 bills online and asked to use them on the action plans they felt were most valuable.

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In-person Workshop Audience	High Quality Services				Protect Health & Environment			Employee Skills			Get Help & Answers	
	Replace and clean sewer pipes	Improve data and how projects are managed	Reduce garbage pick up	Upgrade to smart meters	Eliminate sewage being released into waterways	Reduce flooding in hardest hit areas	Prepare for climate change	Develop employees' skills	Improve worker safety and reduce absences	Monthly billing and payment options	Streamline permitting; improve bill accuracy	Improve website an mobile
North Seattle					20%							
Van Asselt					28%				28%			
gnuson Park	19%						14%					
High Point						17%						
Garfield					19%			15%				
African American				14%	16%			17%		12%		
Cambodian	28%	16%									12%	
Chinese	21%						17%					13%
Latino						13%			17%			
Low Income						14%			13%			
Somali				14%								
Vietnamese			30%				27%					14%
Businesses		16%		14%				11%				
Developers	28%	16%									12%	
Enviros					24%		17%					
Youths					20%		19%		12%			

Action Plans: Conclusions

Customers and employees had very consistent responses to action plans.

Highest level of support for:

- CSO
- Sewer pipe cleaning
- Data and project management
- Preparing for climate change
- Smart meters
- Service equity
- Comprehensive communications and education
- Reducing flooding
  - Flooding was a major concern for people who had experienced it but was also mentioned by many others who felt it shouldn't be happening in the City.

Seattle Public Utilities

Recommendations

- Effective methods for engaging customers and the services they require vary widely and require segmentation strategies .
- Fund improvements, but tie improvements to value—particularly around services and benefits to specific communities.
- Explain improvement and baseline costs.
- Keep 'finding efficiencies' and 'saving money' front and center.
- Customers need clearer communications around why certain action plans—such as improving the website and employee safety should be important to them.
- Develop comprehensive education around SPU, its promise and approach.
  - Continually update customers on how the SBP actions are improving their lives.
  - The value and benefits of customer participation.
- Determine economic value of customer participation in recycling, storm drain clearing, rain gardens, etc.
- Simplify bills and better explain SPU value on bills.

Seattle Public Utilities

Underserved Community: General Recommendations

- Build trust through partnership and by demonstrating results for each specific community.
- Customers are eager to learn about SPU services, be stewards for the environment and be a resource for their communities.
  - Communities-suggested ideas: Peer-to-peer or workplace education efforts.
- Create and deliver targeted comprehensive communications and education programs to reach low income, seniors, communities of color and limited English proficiency communities.
  - Deliver proactive, ongoing programs that emphasize long-term relationships and community building around both CIP and non-CIP efforts.
  - Involve youth in apprenticeships, and summer employment. Recruit/outreach to low income and communities of color.
  - Deliver programs directly to communities or wherever communities already gather.
- Create customer service initiatives that respond to community needs.
  - Improve phone-based customer service including multi-lingual access.
  - Work with landlords for maintenance and property upgrades for conservation and bill management.
  - Address barriers to utility assistance enrollment and needs for seniors, low income and renters.

Seattle Public Utilities

Proposed E-team Responses

Rates

- Focus on bills and value for money paid. Consider monthly billing.

Action Plans

Address customer concerns in existing action plans with specific accountabilities:

- Ensure the Plan helps SPU equitably address all the communities the Utility serves.
- Make finding efficiencies an ongoing process.
- Consider customer segmentation for future communications, education and customer service.
- Continue with current accelerated plan to address flooding and revisit other priority flooding locations in the next 2-year update.
- Communicate how action plans help meet service delivery and service-level goals.
- Conduct a robust cost/benefit analysis on smart meters and monitor ROI levels of other utilities' implementations.
- Develop a more comprehensive and coordinated customer communications and education program across SPU to improve customer transparency, support customer and environmental health, and to help customers understand how to work effectively with the Utility.

Seattle Public Utilities

Schedule

Outreach Findings Reporting:

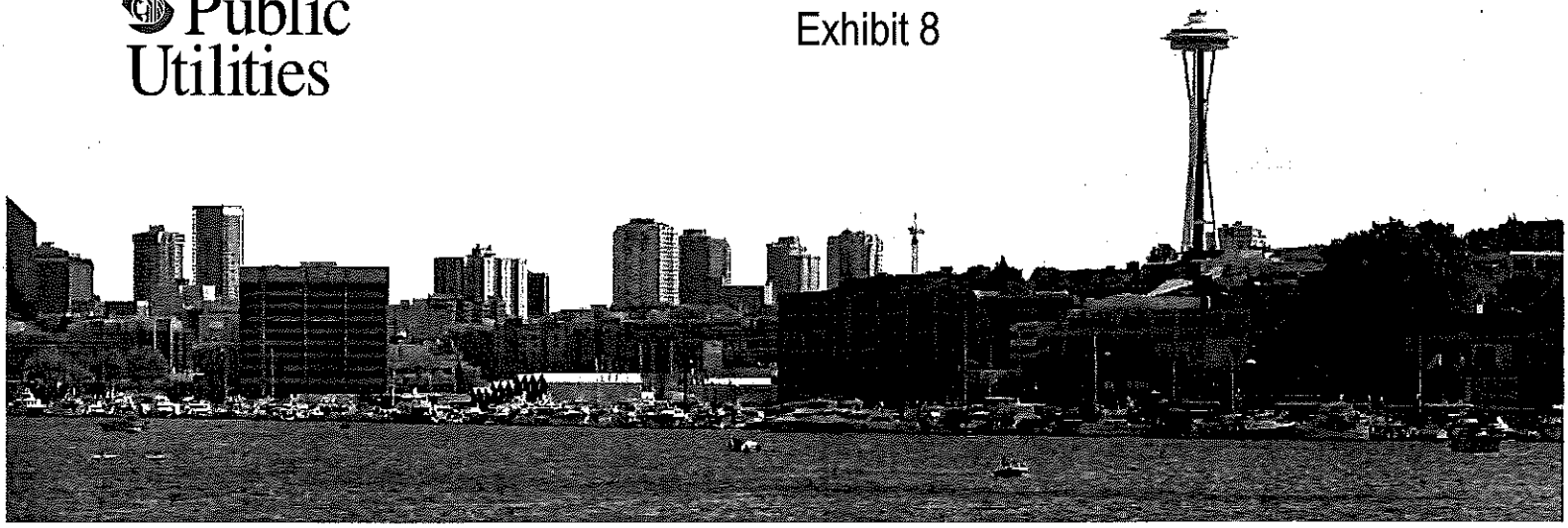
- Community Advisory Committees
- Followed by Council, Mayor
- Customer Report Back/Second Outreach: June/July

Seattle Public Utilities

Diane C[illegible]el Clausen
SPU Strategic Business Plan Exhibit 8
June 23, 2014
Version #1

Seattle Public Utilities

Exhibit 8



OUR PROMISE

Our promise focuses on what's important to our residential and business customers.

STRATEGIC ROLE

SPU's primary strategic approach

Solving problems at the source.

VISION

The big goal by 2020

Our customers will see how their utility dollars sustain and improve their quality of life.

MISSION

What SPU delivers

Providing efficient and forward-looking utility services that keep Seattle the best place to live.

Being efficient: Keeping efficiency top-of-mind and measuring results.

Being forward-looking. Planning ahead to meet challenges and take advantage of opportunities.

Keeping Seattle the best place to live. Ensuring our customers continue to enjoy the benefits of public health and environmental protections.

OUR VALUES

Employees use the following values to guide their work.

Customer-focus

We are accountable to our customers.

Safety

We provide a safe environment for our employees and customers.

Innovation

We encourage employees to explore new ideas and challenge traditional viewpoints.

Inclusion

We listen and collaborate to ensure our actions are equitable and improve quality of life.

Value for money

We make effective decisions based on financial, social and environmental costs and benefits to achieve the best value for our customers.

Seattle Public Utilities
700 Fifth Avenue, Suite 4900
P.O. Box 34018
Seattle, WA 98124-4018

Form revised: February 26, 2014

FISCAL NOTE FOR NON-CAPITAL PROJECTS

Department:	Contact Person/Phone:	CBO Analyst/Phone:
Seattle Public Utilities	Diane Clausen/684-8151	Aaron Blumenthal/233-2656

Legislation Title: A RESOLUTION relating to Seattle Public Utilities; adopting a 2015-2020 Strategic Business Plan for Seattle Public Utilities and endorsing a six-year rate path required to support the Strategic Business Plan.

Summary of the Legislation: This legislation would adopt a six-year Strategic Business Plan for Seattle Public Utilities (SPU), endorse an average annual rate increase across all lines of business from 2015-2020 of 4.6% required to support the Strategic Business Plan, and request the Executive prepare the 2015-2016 Proposed Operations Budget, 2015-2020 Proposed Capital Budget, and upcoming rate proposals in support of, and consistent with, the Plan. Actual rate changes for each of Seattle Public Utilities' lines of business would be subject to Council approval via passage of rate ordinances. In addition, a Strategic Business Plan review and update would be required every three years. Finally, reporting requirements are established that demonstrate how the utility is reaching its stated Plan goals.

Background:
In 2012, the Council passed a Statement of Legislative Intent directing Seattle Public Utilities to develop a six-year Strategic Business Plan. A subsequent resolution (Resolution 31429) clarified the primary goal of the Plan, which is to set a transparent and integrated direction for all of SPU's business lines that reflects customer values, provides rate predictability for utility customers, and results in best value for customer dollars. This resolution also established a nine-member Customer Review Panel to provide input to the Plan during its development, and provide to the Mayor and City Council comments on the Plan concurrent with delivery of the final proposed Plan to Council.

The resultant 2015-2020 Strategic Business Plan contains a six-year rate path for water, drainage, wastewater and solid waste rates that was developed by identifying, evaluating, and recommending priority reductions, efficiencies, and additions to current utility expenditures. The six-year rate path is also based on a series of assumptions about baseline expenditures, such as demand projections and City Central Costs.

____ **This legislation does not have any financial implications.**

_x_ **This legislation has financial implications.**

2014 CITY CLERK

Appropriations Notes: There are no appropriations as a direct result of this legislation. Appropriations related to it will be submitted with the 2015-2016 budget legislation.

Revenue/Reimbursement Notes: There are no revenues/reimbursements as a direct result of this legislation. Revenues related to it will be submitted with the 2015-2016 budget legislation.

Total Regular Positions Created, Modified, or Abrogated through this Legislation, Including FTE Impact:

Position Notes: This legislation does not create, modify, or abrogate any positions. FTE impacts will be submitted along with the 2015-2016 budget legislation.

Do positions sunset in the future? N/A

Spending/Cash Flow: N/A

Spending/Cash Flow Notes: This legislation does not directly impact spending or cash flow. Spending and cash flow impacts will be submitted along with the 2015-2016 budget legislation.

Other Implications:

a) **Does the legislation have indirect financial implications, or long-term implications?** Yes, adoption of the Strategic Business Plan implies a trajectory of rate increases averaging 4.6% per year across all lines of business over the 2015-2020 period, and requests the Executive to prepare the 2015-2016 Proposed Operations Budget, 2015-2020 Capital Budget, and upcoming rate studies in support of, and consistent with, the rate path in the Strategic Business Plan.

b) **What is the financial cost of not implementing the legislation?** N/A

c) **Does this legislation affect any departments besides the originating department?** This legislation does not directly affect any other department. Certain projects contained in the Plan, such as street sweeping and customer service, are done jointly with other departments including SDOT and SCL, but coordination is established and ongoing. Additionally, the efficiency measure included in the Plan of establishing service level agreements for services purchased from other City departments will affect how services provided by the City to Seattle Public Utilities are carried out; SPU will work collaboratively with these departments and CBO staff is aware of these efforts.

d) **What are the possible alternatives to the legislation that could achieve the same or similar objectives?** N/A.

e) **Is a public hearing required for this legislation?** No.

f) **Is publication of notice with *The Daily Journal of Commerce* and/or *The Seattle Times* required for this legislation?** No.

CITY CLERK

g) **Does this legislation affect a piece of property?** No.

h) **Other Issues**: No.

List attachments to the fiscal note below: None.

DNS CITY CLERK

City of Seattle
Edward B. Murray
Mayor

July 1, 2014

Honorable Tim Burgess
President
Seattle City Council
City Hall, 2nd Floor

Dear Council President Burgess:

I am pleased to transmit the attached proposed Resolution that would adopt a 2015-2020 Strategic Business Plan for Seattle Public Utilities and endorse a six-year rate path in support of the Strategic Business Plan. With the adoption of this legislation, SPU will have a transparent, integrated rate and service path for all its lines of business that reflects customer values, provides rate predictability for utility customers, and results in best value for customer dollars.

This proposal is supported by the Plan's Customer Review Panel, whose members were appointed by the Mayor and Council, and confirmed by the Council. It is also consistent with the feedback received from extensive customer outreach occurring earlier this year. The recommended average annual system rate increase of 4.6% over the period 2015-2020 includes efficiency and programmatic reductions as well as priority additions to current utility expenditures. It represents a balance of rate affordability and targeted service improvements for current and future SPU customers.

Thank you for your consideration of this legislation. Should you have questions, please contact Diane Clausen at 684-8151.

Sincerely,

Edward B. Murray
Mayor of Seattle

cc: Honorable Members of the Seattle City Council

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Hearing Impaired use the Washington Relay Service (7-1-1)
www.seattle.gov/mayor

CITY CLERK