

City of Salem
Water, Wastewater, and Stormwater Utility
2016 Financial Analysis and FY 2017-2018 Rate Proposal

September 2016

In 1993, Salem City Council approved a Cost of Service Analysis (COSA) as the strategy for establishing water, wastewater, and stormwater utility rates. These three systems are collectively referred to as the Utility. Long-term financial planning is integral to the financial success of the Utility and the cost of service model. In practice, financial planning goals have involved balancing anticipated operational and capital needs with the desire to minimize rate increases for customers and maintain the financial health of the Utility.

An updated COSA was adopted by Salem City Council in August 2012. The policy goals of that update included the implementation of a stormwater utility inside Salem city limits. This required separation of stormwater rates from wastewater rates over a period of four years. Utility rates proposed for 2017 and 2018 now reflect the three separate utility services for water, wastewater and stormwater. The policy framework for the 2012 update also included a change to enhance financial stability, by increasing the percentage of water revenue recovered through fixed charges, and addressed a specific equity concern related to the fixed wastewater charges for smaller multi-family customers.

A comprehensive update to COSA is conducted every 5 to 10 years; however, interim adjustments are often recommended to address specific equity issues and changes in policy goals. The proposed water rates reflect another incremental shift in water revenue received through fixed charges to further the policy goal of stabilizing revenue. The rates as structured seek to recover 20 percent of water system costs from fixed charges by 2018.

1. Proposed Revenue Slope

Many economic variables are reviewed to develop assumptions for the Utility's financial plan. Water consumption and conservation are examined as well as their impact on wastewater flows. The debt service and reserve requirements are reviewed to ensure bond covenants will be met and adequate resources are available for emergencies. Operational and capital expenditures are evaluated to manage cost increases and anticipate future program needs. When these variables are updated and used to develop projections, a final review is conducted to weigh the operating and capital needs of the Utility against the impact on the ratepayers.

Over the past two decades, the overarching financial goal of the Utility has been to recommend small, smooth annual rate increases that address the operational and capital needs, and avoid large rate spikes in any given year. When adopted rate increases are less than the required amount, or even zero, greater rate increases are required in future years to maintain the Utility's financial stability over time. The proposed revenue slopes for each utility service are shown below. These proposed revenue slope increases accommodate current and future requirements in a climate

where fixed costs represent a high proportion of the total cost to provide services, the need for capital investment is increasing, and water consumption continues to decline. The proposed revenue slopes for each system are shown below.

Revenue Slope	1/1/17	1/1/18
Water	2.0%	3.0%
Wastewater	2.5%	3.0%
Stormwater	3.0%	3.0%

The financial plan assumes that these increases will be followed by 3 percent increases in future years. It is important to emphasize that the impact of some policy recommendations, such as shifting revenue recovery from variable to fixed charges, may result in some customer bills increasing more or less than the recommended revenue slope.

2. Financial Policies and Planning

Management targets are established to guide the financial planning and modeling for the City and the Utility. These targets are designed to achieve the long-term goals of maintaining efficient operations, controlling costs, reducing debt, and increasing capital funding. Best management practices are also used to establish reserves for operations, rate stabilization, and debt.

In 2014, Salem City Council adopted a financial policy for the Water and Sewer Fund to guide forecasting and rate proposal development. The policy established operating and debt reserve levels, debt coverage ratios, a capital funding strategy, and basic parameters for rate proposal development. These financial planning goals are used to evaluate various rate scenarios and determine which best meet the needs of the Utility. The financial planning goals are:

- Minimize revenue requirements in the first two years to allow for smaller rate increases and model small annual rate increases in years three through six.¹
- Maintain debt coverage and operating reserves as required by resolution and policy.
- Maintain a fiscal year ending fund balance, recognizing expenditures may exceed current revenue in the short-term to provide cash-based capital funding.
- Annually increase rate-funded capital investment as debt service payments decline.
- Maintain projected coverage ratios in excess of 1.25 for parity debt and 1.0 for subordinate debt.

¹ The Utility Rate Model forecasts revenue, expenses, and debt service over many years. The first two years of the modeling results are the basis for the rate proposal. The additional years of the model results provide a basis for planning for future financial decisions, including the need for rate increases.

3. Economic and Modeling Assumptions

Development of the financial plan requires specific assumptions regarding the customer base, growth, consumption, economic trends, operating needs, and capital requirements. All assumptions have been reviewed and are based upon historical data through FY 2015-16 and in the context of industry standards. Each assumption can have a restrictive or expansive effect on projected cash flow. The goal has been to use modeling assumptions that are realistically conservative, without overly restricting the financial capacity of the Utility for funding operations and capital improvements. Specific assumptions are summarized in detail.

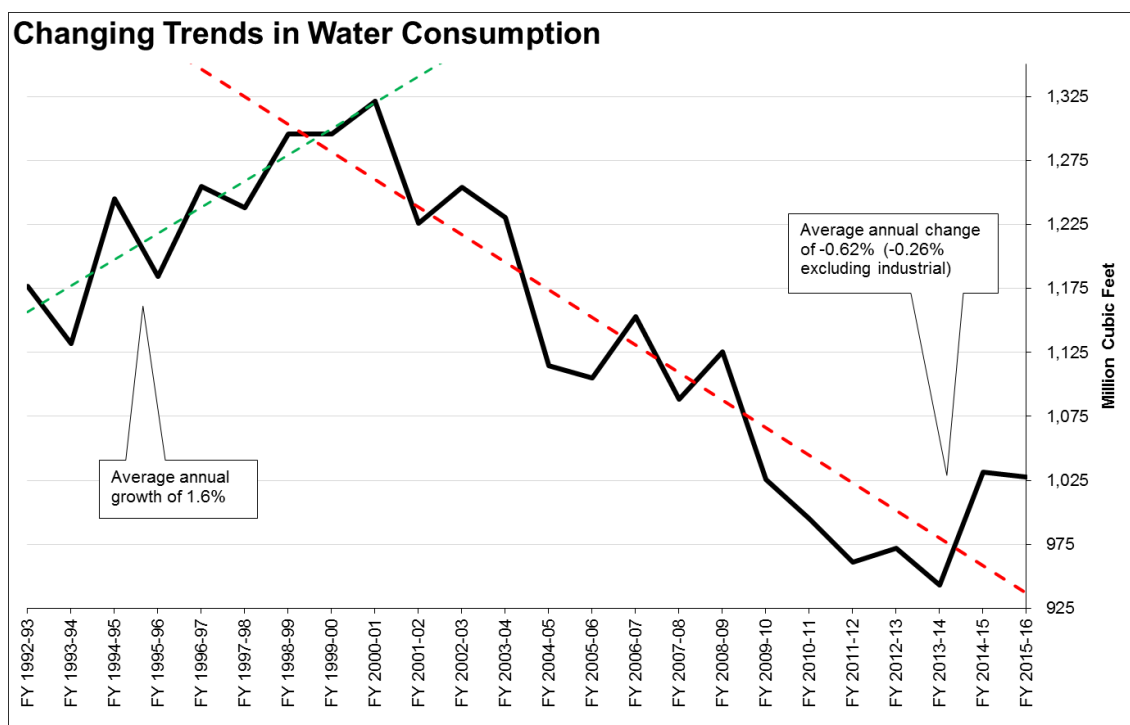
a. Growth in Customer Accounts

Growth rates for customer accounts are established by each system (water, wastewater, and stormwater). Growth for all systems is projected to be relatively flat. A growth rate of between zero percent (industrial and public) and 0.25 percent (residential and commercial) is assigned to each customer class and area.

b. Water Consumption

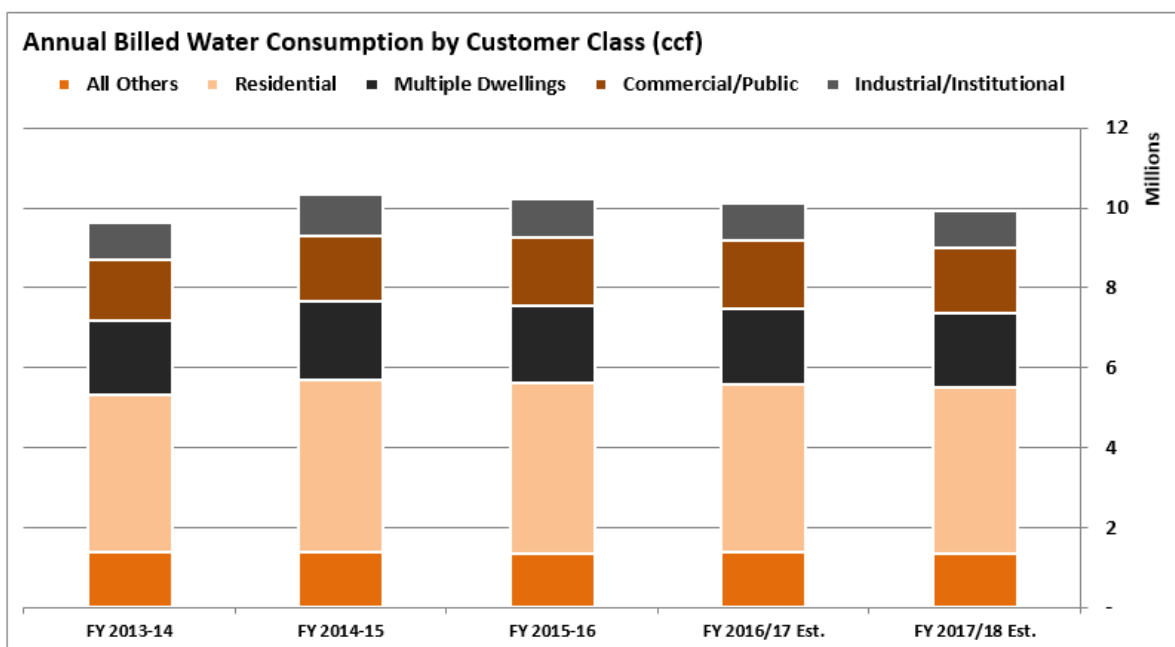
Projections of water consumption reflect both the account growth assumptions, described above, and a factor for conservation. As shown in the figure below, water sales in the last two years have been significantly higher than prior years, reflecting hot and dry weather. Annual billed consumption per account is assumed to decline between 2.0 and 2.5 percent in the next two years, reflecting a return to more typical weather patterns and continued water conservation trends.

Consumption per account in subsequent years of the plan is projected to decline about 1.5 percent per year (reflecting longer term national trends). Additions or loss of specific customers, such as water/wastewater-intensive industries, may also impact this assumption over time.



During the 1990s, water consumption was increasing on average 1.6 percent per year as a result of system growth and continued high consumption. In FY 2000-01, trends began to change. Overall water consumption has declined since 2000 at an average rate of .62 percent. When adjusted for the loss of major industrial customers, consumption from non-industrial customers has declined at an average rate of .26 percent. The significant reduction in water use has allowed the City to delay costly capital investments related to peak water demand capacity.

The chart below shows relative water consumption volumes for different customer classes over a five-year period. Increases in billed consumption in the last 2 years (compared to FY 2013-14) are seen in all areas – inside the City of Salem and for all other customers outside of Salem which include the City of Turner, Jan Ree, Orchard Heights, Eola/Chatnicka, and East Salem. Single family residential customers continue to represent approximately 38 percent of system water consumption. Industrial and institutional customers represent about 10 percent of system water use.



c. Wastewater Volumes

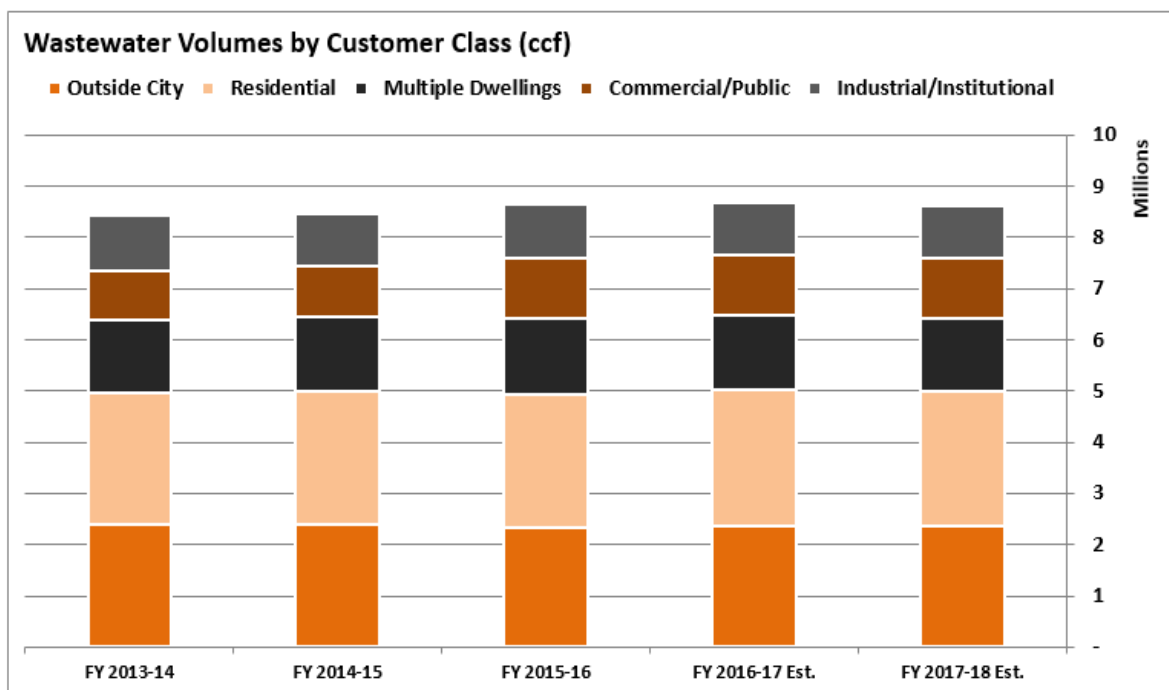
A separate assumption is made regarding the impact of continued decline in water consumption on wastewater volumes. The model assumes an initial decline of 1.0 percent in wastewater volumes per account followed by a decline of 0.5 percent annually. Wastewater bases are set according to winter water use, so a decrease in summer watering does not impact wastewater volumes. This is a conservative but reasonable estimate given continued indoor water conservation and installation of low-flow plumbing fixtures.

During the rate setting process in 2010, an average monthly single family wastewater base was approximately 6.5 hundred cubic feet of water per month. This value declined for several years to approximately 6.0 in 2012, and 5.69 in 2014. The value in 2016 has increased slightly to 5.74 hundred cubic feet.

Industrial volumes appear to have stabilized and are not anticipated to decline significantly during the planning period, unless there is a loss of an industrial customer.

The practice of averaging four water meter readings after November 1 of each year to calculate a sewer base (volume) was implemented in 2009. Salem continues to calculate winter average water use to establish wastewater base volumes for residential, commercial, and public customers who do not have measured wastewater flows. New wastewater bases will be set starting in March 2017 using water consumption billed in November 2016 through February 2017. The Water/Wastewater Task Force received information regarding the financial impact of a change to using three or four meter readings after December 1. A corresponding rate increase of 1.1 percent would be needed to offset the resulting loss of revenue. Staff did not recommend a change in the wastewater base setting practice.

Wastewater volumes increased moderately at 0.3 percent and 2.1 percent from FY 2013-14 to FY 2015-16. In the past three years, however, there has been an overall average decline of 0.9 percent. Modeling assumes a small increase again at 0.3 percent in FY 2016-17 (due to higher sewer basis calculated in 2016) and a decline of 0.6 percent in FY 2017-18, reflecting assumed conservation factors and modest customer growth.



Industrial wastewater volumes represent nearly 12 percent of total billed wastewater volumes. Salem's residential customers represent approximately 30 percent of billed wastewater volumes.

d. Revenue Trends

Rate revenue has generally exceeded projections in the last couple of years, reflecting higher than forecast consumption driven by warmer weather, and slightly stronger growth in accounts related to continued economic recovery. The financial plan assumes the effective date of rate increases to be January 1, 2017, and January 1, 2018. Bills based on the new rates are not issued until after a full month of consumption has occurred. Customers with billing cycles beginning January 1 will see the new rates reflected in bills issued on or after February 1.

The recommended 2.0 percent water revenue slope generates approximately \$221,000 in the first year and \$500,000 in each subsequent year. A 2.5 percent wastewater revenue slope generates approximately \$500,000 in the first year and \$1.0 million in each subsequent year. A 3.0 percent revenue slope for stormwater is estimated to generate \$171,000 the first year and \$345,000 each year thereafter.

Some specific policy recommendations by the Water Wastewater Task Force will also contribute to an increase in other non-rate revenue as noted below. Permit fees, fire services, and other miscellaneous revenues are projected based on recent history and knowledge about each revenue stream. Assumptions have been modified to reflect the modest recovery experienced the past two years.

In 2012, the a backflow prevention fee was adopted to defray the administrative costs for tracking and reporting the inspections for businesses and households who are required to maintain a backflow device to protect the drinking water system. The backflow prevention fee is proposed to increase to \$1.50 per month from \$1.25 to achieve full cost recovery for that program. It is estimated this adjustment will yield an additional \$14,000 in 2017 and \$34,000 annually thereafter.

In 2007, the City recognized pricing for septic waste disposal had increased beyond what the market could bear. Customers had migrated to other cities and annual revenue declined to less than \$15,000 annually. After pricing was adjusted, customers returned, and the rate was held at 11¢ per gallon for eight years. In 2016, the rate was increased to 12¢ per gallon resulting in revenue of over \$525,000. No rate increase is proposed for 2017 or 2018.

The recent investments at Willow Lake Water Pollution Control facility have created additional capacity to accept hauled waste, with certain characteristics, at a very low incremental cost to treat. Since February 2012, City Council has approved multiple agreements with other municipalities and agencies to haul waste directly to the plant. This has yielded an additional \$230,000 of revenue in FY 2014-16. Staff continues to discuss opportunities with other potential customers and evaluate each waste stream for additional financial opportunities. The rate proposal contains a recommended increase in the rate for domestic sludge hauled directly to the plant from \$.05 per gallon in 2016 to \$.055 in 2017 and \$.06 in 2018.

The Utility's reserves are invested in the City's pooled investment accounts. Interest earnings on fund balances are assumed to be 0.55 percent during the modeling period. The combined earning rate in August 2014 for the Local Government Investment Pool was 0.88 percent.

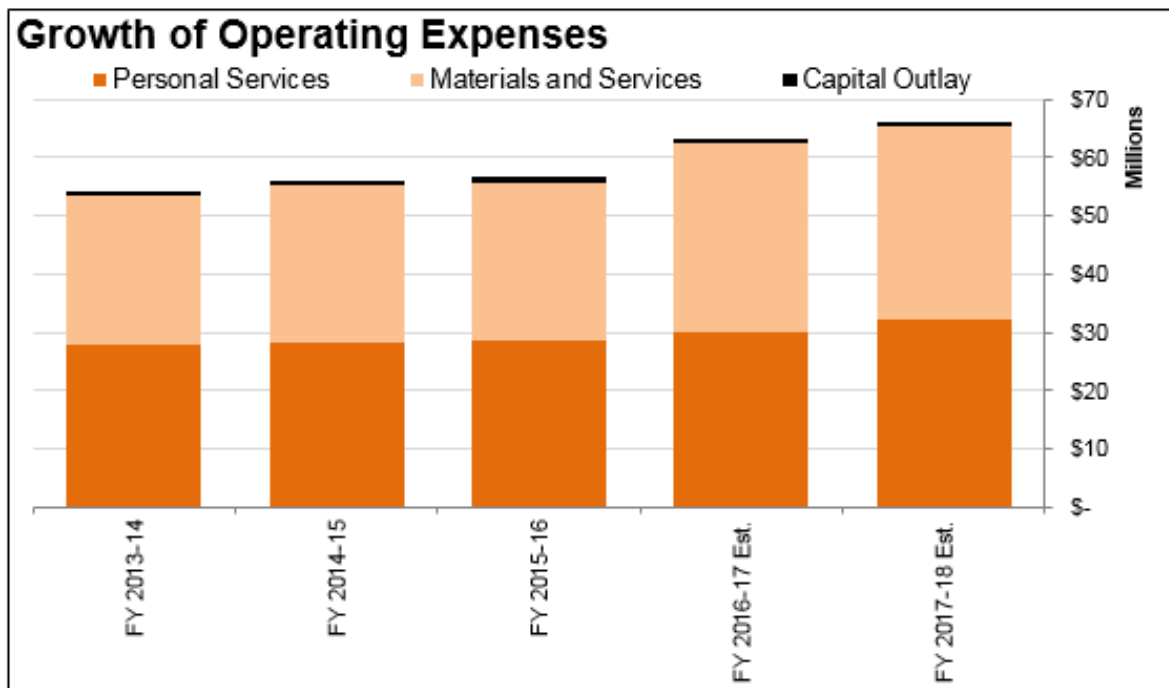
e. Operating Expenditures

Review of budgets for cost saving opportunities continues to be a focus of the department. Operating expenditures have been maintained at a 2 percent average increase over the past four years, adjusting for a reorganization within the department.

Cost Escalation Rates					
	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Personal Services	4.50%	7.61%	3.58%	6.74%	3.24%
Materials and Services	2.00%	2.00%	2.00%	2.00%	2.00%
Capital Outlay	2.00%	2.00%	2.00%	2.00%	2.00%

It is important to be realistic in the inflationary assumptions for personnel, materials, and capital because they compound over time. The financial plan assumes an average annual increase over the next five years of 5.13 percent for personal services, 2.0 percent for materials and services, and 2.0 percent for capital outlay. FY 2017-18 and FY 2019-20 reflect current information regarding anticipated Public Employees' Retirement System (PERS) rates. Modeling does not currently include assumptions about PERS rates for FY 2021-22 or beyond.

Actual personal services expenditures increased 1.2 and 2.4 percent the past two years while all operating expenditures increased 3.4 and 1.6 percent the past two years. Expenditures were anticipated to be greater in previous forecasts based on the anticipated impact of PERS rates, but actual experience with an aging workforce and associated retirements has resulted in lower expenditures for labor than anticipated.



The estimate for FY 2016-17 assumes expenditures at 92 percent of budget. Recent experience is closer to 87 percent; however, in FY 2016-17 the city is not budgeting for the PERS reserve in each operating fund, so the same level of savings is not anticipated.

f. Capital Investment

Salem's adopted *Capital Improvement Program* (CIP) contains details for funded capital projects planned for the next five-year period. *Engineering News Record* (ENR) published inflationary adjustments are used to estimate changing capital costs over time. ENR increased by 5.63 percent in 2015, but in 2016 the changes were so variable that the city elected for one year not to adjust Systems Development Charges (SDCs) or other fees that are typically adjusted by ENR.

Planned capital investment is impacted by escalating costs of materials, and the actual cost of projects may vary from estimates at the time they are constructed. Planned improvements in the 2017-2021 CIP total \$92.7 million and assume \$82.3 million of funding from Utility rate revenue. Non-rate revenue sources include \$2.4 million in SDC revenue and \$8.1 million of other revenue such as grants.

Category	Planned Investment
Water	\$34.1 million
Wastewater	\$47.9 million
Stormwater	\$10.7 million
Total Utility	\$92.7 million

4. Forecast Results

The financial plan produces operating results regarding trends in revenue and expenditures and their impact on debt coverage ratios and fund balance. Long-term results enable the organization to plan for reinvestment in capital infrastructure.

a. Debt Service and Coverage Ratios

The financial plan does not anticipate any additional debt within the five-year planning period. The FY 2016-17 budget includes funding to pay off the Business Oregon (formerly Oregon Economic Development Department) loan in the amount of \$5.1 million. This represents a \$2.1 million net present value savings and eliminates future payments of \$400,000 annually through 2033. Additional opportunities to either refund the 2009 Full Faith and Credit debt or prepay the 2012 Utility Revenue Bonds will be evaluated in the next biennium. Total outstanding debt is anticipated to be reduced to \$56 million by 2022.

	Biennium		Projected			
	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
	(in millions)					
<u>Debt Service by Loan Type</u>						
Revenue Bonds	\$ 12.78	\$ 11.32	\$ 9.94	\$ 9.01	\$ 5.80	\$ 5.78
Business Oregon Loan	5.11	-	-	-	-	-
Full Faith and Credit	7.80	7.80	7.80	7.80	7.80	7.80
Total Debt Service	<u>\$ 25.70</u>	<u>\$ 19.13</u>	<u>\$ 17.74</u>	<u>\$ 16.81</u>	<u>\$ 13.60</u>	<u>\$ 13.58</u>
Total Debt Outstanding	\$ 123.47	\$ 104.13	\$ 90.39	\$ 77.19	\$ 66.77	\$ 56.01
<u>Revenue</u>						
Rate Revenue	\$ 81.49	\$ 83.08	\$ 85.39	\$ 87.58	\$ 89.83	\$ 92.14
Other Revenue	12.12	12.30	12.64	12.98	13.34	16.80
Total Revenue	<u>\$ 93.61</u>	<u>\$ 95.39</u>	<u>\$ 98.03</u>	<u>\$ 100.56</u>	<u>\$ 103.17</u>	<u>\$ 108.95</u>
<u>Debt Service Percentage</u>						
Debt to Revenue Ratio	31.5%	23.0%	20.8%	19.2%	15.1%	14.7%

Although annual debt service requirements represent a large portion of annual utility rate revenue, the debt coverage ratios continue to improve. Debt coverage is the calculation comparing net revenue (total revenue less operating expenditures) to total annual debt service for parity bonds.

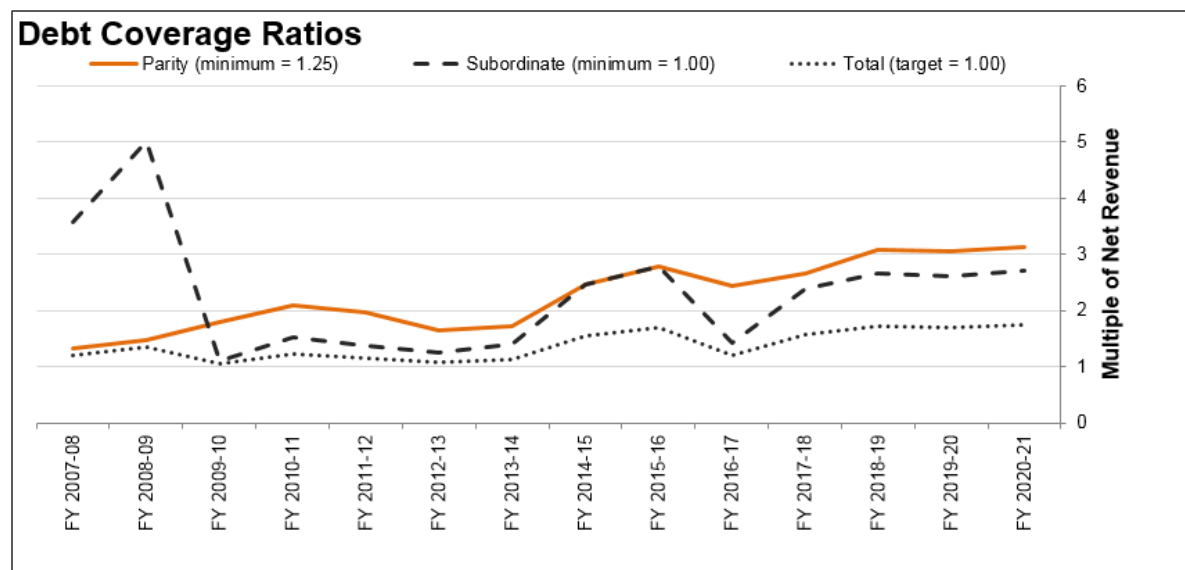
The Master Resolution adopted by City Council with the refunding of loans and revenue bonds requires a parity debt coverage equal to 1.25 times annual debt service.

The coverage requirement for subordinate debt (Business Oregon and full faith and credit) is that net revenue after parity debt be equal to 1.0 times the annual debt service.

Projected coverage ratios are above requirements and improve into the future as more debt is retired.

Debt Coverage Calculations				
	Master Resolution	Modeling Calculation	FY 2016-17 Estimated	FY 2017-18 Projected
Parity	1.25	1.30	2.44	2.66
Subordinate	1.0	1.05	1.42	2.39

Coverage ratios have dramatically improved over the last few years as no new debt has been issued, existing debt has been refunded at lower interest rates, operating expenses have been held flat, and revenue slope increases have resulted in additional resources. The modeling thresholds are more conservative than the reporting requirements to allow time for correction if results begin to show any trouble with coverage ratios. Ratios are anticipated to continue to improve over time as debt service payments decline and revenue increases. The dip in FY 2016-17 is a result of paying off the Business Oregon loan. Although there are no plans to issue debt in the near future, improved ratios will be helpful in future rating evaluations.



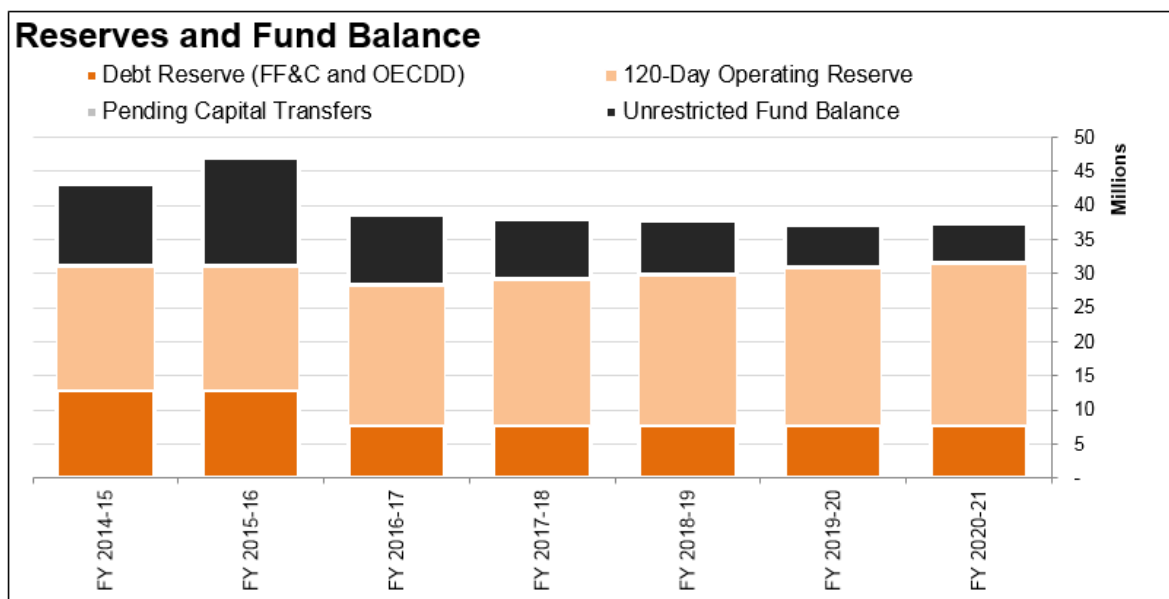
b. Reserves and Fund Balance

Reserves are currently maintained for debt service, operations, and capital. Reserves account for \$28.3 million of the estimated \$38.6 million in fund balance for FY 2016-17.

Debt Reserves (Business Oregon and FF&C)	8.2 million
120-day Operating Reserve (including rate stabilization)	<u>20.5 million</u>
Total Reserves	<u>\$ 28.7 million</u>

Operating reserves equal to 120 days of operating expenses are established as a best management practice and are anticipated to increase from \$20.5 million to \$24.5 million in FY 2021-22. Rate stabilization reserves of \$6.9 million are included in operating reserves and are available if needed to help with coverage ratios. All reserve requirements and recommendations were adopted by City Council in 2014 as part of Policy C-14: Water and Sewer Fund Financial Policy.

The bar chart below shows anticipated changes in fund balance and reserves over the next six years. The unrestricted cash balance is anticipated to decrease in FY 2016-17 by approximately \$8.3 million due to increased capital investment and the retirement of the Business Oregon loan.



The financial plan, based on the assumptions described above, indicates all policy goals may be achieved with a revenue slope of 3 percent in 2018 and beyond. In the future, the Utility must return to a more aggressive capital rehabilitation and replacement program to address the backlog of system needs. Smaller annual increases will allow the Utility to maintain a stable financial position and moderately increase capital funding as debt is retired.

5. Impacts of Revenue Slope Changes

The recommended 2.0 percent (water), 2.5 percent (wastewater) and 3 percent (stormwater) revenue slopes will not necessarily translate into a 3 percent increase for each customer's bill. Customer bills are determined based on individual use characteristics such as water consumption, wastewater volume and strength, and the amount of impervious area. The recommended annual revenue slope adjustments by system are shown in the table below along with the estimated monthly financial impacts for a typical single family residential customer assuming water consumption of 800 cubic feet, 600 cubic feet of wastewater, and Tier 2 (one equivalent dwelling unit) for stormwater.

Revenue Slope Impact by Utility Service	1/1/2017	1/1/2018
<i>Water Revenue Slope</i>	<i>2.0%</i>	<i>3.0%</i>
Water Increase	\$0.55	\$0.85
<i>Wastewater Revenue Slope</i>	<i>2.5%</i>	<i>3.0%</i>
Wastewater Increase	\$0.83	\$1.02
<i>Stormwater Revenue Slope</i>	<i>3.0%</i>	<i>3.0%</i>
Stormwater Increase	\$0.45	\$0.46
Total Monthly Bill Increase	\$1.83	\$2.33

In addition to the proposed revenue slope, two policy recommendations impact typical residential customer bills:

- a. **Revenue from Fixed Charges**—Increase the percentage of water system costs recovered through fixed charges to 20 percent by 2018.
- b. **Backflow Increase**—Increase to \$1.50 in 2017 from \$1.25 to achieve full cost recovery. (This fee only applies to accounts with backflow prevention assemblies.)

Following are the estimated monthly financial impacts for a typical single family residential customer assuming water consumption of 800 cubic feet, 600 cubic feet of wastewater, Tier 2 (one equivalent dwelling unit) for stormwater, and a backflow device:

Total Bill Changes	1/1/2017	1/1/2018
Revenue Slope Increase	\$1.83	\$2.33
Revenue from Fixed Charges	\$0.48	\$0.55
Franchise Fee (5%)	\$0.12	\$0.14
Backflow Increase	\$0.25	\$0.00
Total Monthly Bill Increase	\$2.68	\$3.02