

9 Financial Program

9.1 Objective and Plan Content

The objective of the financial program is to identify the total cost of providing domestic water service, provide adequate funding to meet the utility improvement schedule, and assist in establishing sufficient fees for service. Statutory authority for financial program is derived from Chapters 43.20, 70.116 and 70.119A RCW. Regulatory authorities include Chapters 246-293 and 246-294 WAC.

The financial program is crucial to the successful implementation of the prescribed capital plan within the Water System Plan as well as ongoing operations. A comprehensive financial program provides a detailed account of the way to fund the capital plan and show the utility is funded in a financially sustainable manner over the course of the planning period. The state of Washington requires a financial program contain details which demonstrate that the financial program is viable. WAC 246-290-100 states a water system plan must contain within their comprehensive plan a description of the Utilities financial program. The code specifically calls for:

“(j) Demonstration of financial viability by providing:

(i) A summary of past income and expenses

(ii) A one-year balanced operational budget for systems serving 1,000 or more connections or a six year balanced operational budget for systems serving less than on thousand connections

(iii) A plan for collecting the revenue necessary to maintain cash flow stability and to fund the capital improvement program and emergency improvements; and

(iv) An evaluation that has considered:

(A) The affordability of water rates; and

(B) The feasibility of adopting and implementing a rate structure that encourages water demand efficiency.”

In this chapter, the Washington Administrative Code (WAC) required components, listed above are provided plus some additional information integral to the management of the City's water system.

The financial program for this Water System Plan update includes the following information:

- Past and present financial status
- Sources and uses of funds
- Capital funding plan and project financial results
- An assessment of rates

The methods used in this study followed general industry guidelines for developing utility rates – rates must generate enough revenue to be self-supporting and financially viable, without undue discrimination toward or against any customer.



9.2 Past and Present Financial Status

The City operates their domestic water utility as a self-supporting entity and provides affordable domestic water to its customers. The City conducts regular rate studies, providing independent assessment of the financial health of City utilities. Management strives to keep the price of water as low as possible, providing high quality water to its customers while still maintained an adequate reserve balance. Table 9-1 provides the City's historical revenue and expenditures over the last 8 years.

Table 9-1. Summary of Historic Revenue and Expenditures 2008 - 2015

	2008	2009	2010	2011	2012	2013	2014	2015
Beginning Fund Balance	\$1,889,503	\$1,860,721	\$2,110,819	\$1,919,415	\$2,015,479	\$2,910,120	\$3,236,665	\$3,550,267
Revenue								
Charge of Goods & Services	\$6,650,755	\$7,413,232	\$7,320,186	\$7,518,241	\$8,891,339	\$8,208,994	\$8,641,103	\$8,609,802
Miscellaneous Revenue	\$151,628	\$134,322	\$136,905	\$174,619	\$208,098	\$710,986	\$694,097	\$594,270
Total Revenue	\$6,802,383	\$7,547,554	\$7,457,091	\$7,692,860	\$9,099,437	\$8,919,980	\$9,335,200	\$9,204,072
Expenditures								
Water Distribution	\$2,216,948	\$2,235,430	\$2,250,129	\$2,241,823	\$2,257,299	\$2,343,607	\$2,288,213	\$2,423,354
Potable Water Supply	\$1,299,263	\$1,461,861	\$1,417,172	\$1,454,464	\$1,523,670	\$1,722,577	\$1,707,749	\$1,673,214
Capital Administration	\$49,429	\$54,150	\$54,255	\$55,877	\$55,296	\$54,709	\$92,961	\$105,836
Potable Water Administration	\$2,594,420	\$2,857,204	\$3,176,498	\$3,111,604	\$3,734,493	\$3,917,996	\$3,977,245	\$3,987,322
Debt Service	\$671,105	\$688,811	\$750,422	\$733,024	\$634,050	\$554,545	\$955,430	\$1,193,644
Total Expenditures	\$6,831,165	\$7,297,456	\$7,648,476	\$7,596,793	\$8,204,808	\$8,593,435	\$9,021,598	\$9,383,369
Ending Fund Balance	\$1,860,722	\$2,110,820	\$1,919,415	\$2,015,478	\$2,910,120	\$3,236,665	\$3,550,267	\$3,370,970

Note: Fluctuations in expenditures within expense categories is due to changes in the way individual expenditure were accounted for from year to year.



9.2.1 Past Studies

Since 1996, it has been the City’s practice to conduct a rate study every five years to determine rate adjustments for the next five years. The purpose of the multi-year rate studies was intended to stabilize rates over time, keeping rates to small inflationary increases as often as possible annually rather than waiting until the utility’s expenditures are much greater than revenue requiring a substantially increase in rates.

The 2013 Study findings concluded that annual revenue adjustments were necessary in each year of the planning period. Proposed rate adjustments were five years of 4.0 percent increases (2014-2018). The study also proposed a shift in the City’s rates, weighting more heavily on the fixed charge and less on the consumption rate. The overall change to the rate was from 22 to 27 percent weighted on the fixed charge.

9.2.2 Financial Policies

The City maintains several financial policies in the areas of reserve levels and debt management. Financial policies are important for a few reasons. Financial policies help guide the utilities management into the future in a prudent and sustainable manner. Bond rating agencies consider strong financial policies as favorable when assessing the utilities bond rating. The following financial policies were incorporated into the analyses:

- *Self-Sufficient Enterprise Fund* – The Governmental Accounting Standards board (GASB) defines an “enterprise fund” as a fund that operates a business like activity and is primarily funded by user fees such as water rates. Because the water utility is designated as an enterprise fund, it must be self-sustaining and recover its operating and capital costs. Enterprise funds cannot be subsidize or subsidize another fund including the City’s general fund.
- *Reserve Levels* – Reserve balances are necessary to cover current costs as well as future capital expenditures. Adequate cash reserves help the utility run smoothly and maintain stable rates in the future.
 - Operating Reserves provide day to day funding of operations and the balance must be sufficient to cover the utility’s bills, payroll and unexpected costs particularly taking into account the seasonal nature of water utility revenue. The most recent rate study recommends between 45 and 60 days of O&M expense or between 12 and 16.5 percent annual O&M expense.
 - Capital Reserve hold funds intended to fund the City’s capital plan. The most recent rate study suggests a minimum balance of 1 to 2 percent of fixed assets. Historically the City has maintained a minimum balance of \$750,000 which is within the recommended 1 to 2 percent minimum balance. The Capital Reserve may also hold some restricted revenue in the form of impact fees also known as system development fees.
 - Restricted Debt Reserves are reserve funds held with a required balance equal to the City’s principal and interest payments. These funds are held to safeguard bond holders in the event the City’s current revenue is not sufficient to make bond payments. Generally, these funds are held until the bonds mature and are then used to pay the final bond payment. The City has historically issued bonds to help fund capital improvement projects and this practice is assumed to continue into the future.
- *System Reinvestment Funding* – The purpose of system replacement funding is to provide for the replacement of aging system facilities to ensure sustainability of the system for ongoing operations. The prior rate study incorporates direct rate funding for



capital projects in the amount of \$600,000 to \$650,000 per year. This level of funding approximates annual depreciation expense less debt principal payment; no additional funding was deemed necessary for system replacement at that time. It should be noted that this method will not fully recover costs equal to asset replacement over time. Simple straight line depreciation will only recover the cost of the asset at the time it was installed or constructed. Water system assets are routinely depreciated over 20 years or more, and assuming construction cost increases of 2.5 percent, the cost to replace a system asset will be 64 percent higher after it is fully depreciated.

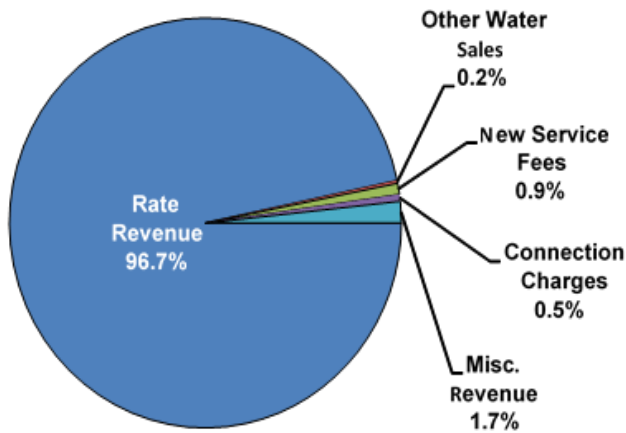
- *Debt Service Coverage Ratio (DSCR)* - The City's current minimum coverage requirement on outstanding revenue bonds is 1.25 times annual revenue bond debt service, using the net revenues of the Utility. The City's has an internal policy to set rates so that the utility will meet coverage of at least 2.0 times annual revenue bond debt service.
- *Debt Management* – The City's general policy is to maintain debt service below 25 percent of the total utility budget. Debt service is currently 9 percent of the budget, increasing to 15 percent of the budget by the end of the study period.

9.3 Sources and Uses of Funds

9.3.1 Sources of Funds

Revenue for the water system operations are derived from rate revenue for metered water sales, miscellaneous revenues such as connection charges and penalties, other water sales, new service fees, connection charges, and miscellaneous revenue. The chart below shows that the vast majority of the operating fund's revenue is received through rate revenue collections.

Figure 9-1. Revenue Sources



The capital plan has been funded by a combination of available sources, low interest loans, grants, cash transfers from the Domestic Water Utility Operating Fund, and interest income.

A Public Works Trust Fund (PWTF) loan was obtained in September of 2003 in the amount of \$2,694,500. These loan funds were used for the WTP improvement project which included rapid mix (pumped flash mix) improvements, on-site chlorine for disinfection, new chemical feed and storage equipment, and pipe gallery modifications. A DWSRF loan of \$957,200



was obtained in 2004; these funds were used for filter improvement at the WTP. A PWTF loans for \$2,257,200 was obtain in 2008 for the Gardner Park Well.

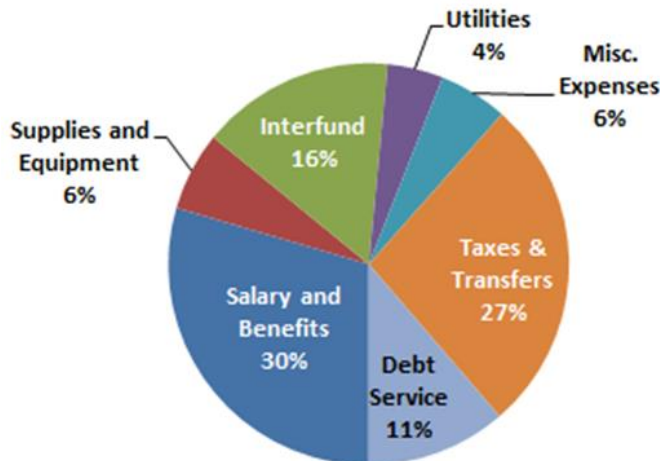
The PWTF and State Revolving Fund (SRF) loan programs have been on the decline in the last few years due to state budget constraints. The analysis assumed utilization of revenue bonds and increased funding through rates fund capital projects. City staff will continue to seek low interest alternatives and grants as they are available.

Interest income is generated from the investment of available annual balances in the water utility capital fund. An average annual interest rate of 4.0 percent was assumed in the 2007 Rate Study. Currently most interest rates are less than 1 percent.

9.3.2 Application of Funds

A water utility incurs a variety of expenditures including O&M, capital funding, debt service and taxes.

Figure 9-2. Revenue Requirement



Operations and Maintenance

O&M expenses are comprised of a variety of costs associated with the day to day operations of the utility. Salaries, benefits, supplies, interfund payments, and utilities are a few of the largest O&M expenses. Growth rates for these objects vary widely. Total salaries, the largest component of O&M, generally can only be reduced by reducing staff as individual salaries generally rise with an index such as the consumer price index or something similar often negotiated with union contract terms. Benefits comprise a wide range of items such as health insurance and pension. Historically health benefits have been growing at a rate significantly higher than inflation.

Taxes

The utility pays two types of taxes, a state tax of 5.029 percent which is charged to all water sales and a Payment in Lieu of Tax (PILOT) which is a payment to the City's general fund. The PILOT is calculated as 20 percent of total revenue less debt service. Since the state tax



and City PILOT are calculated as a percent of revenue, when rates are increased, additional State taxes and City PILOT are incurred equal to a quarter of the overall rate increase.

Capital Funding

Utilities fund capital in many ways, through rate revenues, impact fees, reserves or long-term debt in the form of loans or bonds. Often utilities employ several means of funding capital projects and for a variety of reasons. At times capital funding mechanisms are restricted to certain uses such as funding capacity related projects or possibly loans secured for particular projects. Bonds can also be restricted to what the utility stated they were going to fund with the bonds at the time the bond was issued.

Capital Funded Through Rate Revenue - Some utilities choose to fund their capital plan entirely through current revenue and reserve funds, however is rare because utilities are often discouraged from holding excess cash balances. Most utilities use a mix of capital funding mechanisms such as debt. As it happens the amount of capital a utility funds through rates is indicative of the financial health of the utility.

Debt Service - is the payment of principal and interest on debt issued by the utility. Often when a utility issues debt the issuer imposes covenants on the utility to assure the utility is sufficiently financially sound to be able to repay the debt. One common covenant imposed is a DSCR which is commonly stipulated at 1.25 for revenue bonds. This means after expenditures and taxes are paid, the Utility has revenue equal to 125 percent of the debt service remaining (see equation). The city currently has one outstanding bond issue set to be paid off in 2021 that accounts for approximately 4 percent of the City's total debit. The City's largest portion of debt service is from PWTF and SRF loans which usually have 1.0 DSCR requirement. This financial statistic assures the utility is not spending all of its revenue on operations.

$$\frac{\text{Revenue} - \text{Expenditures} - \text{Taxes}}{\text{Debt Service}} => 1.25$$

The level of debt the city carries is critical for a utility as the proportion of debt to revenue, called debt service coverage ratio is one financial statistic that determines the City's capacity to borrow additional funds as well as the overall bond rating. The City's target for DSCR is 2.0 which is a well above the typical minimum required by bond covenants and twice the PWTF and SRF loan requirements.

9.4 Capital Funding Plan and Projected Financial Results

As mentioned earlier, a major component of a capital plan is how it will be funded. To adequately determine how a capital plan will be funded a financial plan must be undertaken. A financial plan, while not necessarily as comprehensive as a full rate study, has similar objectives and methods. While there are a few generally accepted methods for conducting a financial plan the City has historically used the cash basis for determining the revenue requirement. This analysis has also used the cash basis to be consistent with past analyses.

The cash basis revenue requirement analysis is the comparison of projected revenue and revenue requirement to determine if the revenue is sufficed to responsibly manage the utility. The components of a cash basis revenue requirement are available funds or revenue, compared to the application of funds (see equation). Table 9-2 summarizes the components that make up the application of funds.

$$\text{Balance (Deficiency) of Funds} = (\text{Available Funds}) - (\text{Application of Funds})$$



Table 9-2. Overview of a Cash Basis Application of Funds

Application of Funds
Operations & Maintenance
Capital Funded Through Rates
Taxes and Transfers
Debt Service

Capital funded through rates and debt service is the two areas where the capital funding plan affects the revenue requirement. In the capital funding plan the assumed bond issues will increase the debt service in addition to an increased level of capital funding through rates.

The central purpose of this analysis is to develop a funding strategy for the capital plan developed for this Water System Plan. To that end, the capital plan used for this analysis is a real dollar representation of the capital plan developed in the earlier section of this document. Table 9-3 is the capital plan with project escalated to real dollars. Table 9-4 is the funding plan for the capital plan.



Table 9-3. Capital Plan

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Rechanneling River Intake	\$769	-	-	-	-	-	-	-	-	-
Additional Source Wells (ASR)	-	\$473	\$969	\$3,477	-	-	\$535	\$1,097	\$3,934	-
Stone Church Pump Station Improvements	-	\$80	-	-	-	-	-	-	-	-
North 41st Avenue and North 42nd Avenue Waterline Fire Flow Improvements	-	-	\$798	-	-	-	-	-	-	-
Peach Street Waterline Fire Flow Improvements	-	\$54	-	-	-	-	-	-	-	-
North 3rd Street Hydrant Improvement	-	\$34	-	-	-	-	-	-	-	-
Chesterly Lane Hydrant Improvement	-	\$32	-	-	-	-	-	-	-	-
North 3rd Avenue Waterline Fire Flow Improvements	-	\$91	-	-	-	-	-	-	-	-
North 31st Avenue Hydrant Improvement	-	\$17	-	-	-	-	-	-	-	-
East Mead Avenue Water Main Fire Flow Improvements	-	-	-	-	\$286	-	-	-	-	-
Open Gear Valve Replacement Program	\$26	\$26	\$27	\$28	\$28	\$29	\$30	\$30	\$31	\$32
East Viola Avenue Waterline Improvements	-	-	\$871	-	-	-	-	-	-	-
Viola Avenue Freeway Crossing Improvements	\$429	-	-	-	-	-	-	-	-	-
North 1st Street Waterline Improvements - Phase 1	-	\$473	-	-	-	-	-	-	-	-
North 1st Street Waterline Improvements - Phase 2	-	\$520	-	-	-	-	-	-	-	-
North 1st Street Waterline Improvements - Phase 3	-	\$617	-	-	-	-	-	-	-	-
North Front Street Waterline Improvements	-	-	-	-	\$878	-	-	-	-	-
West I Street Waterline Improvements	-	-	-	-	\$594	-	-	-	-	-
Yakima Avenue and Other Future, Not Yet Identified Replacements	\$923	\$946	\$969	\$993	\$1,018	\$1,044	\$1,070	\$1,097	\$1,124	\$1,152



Table 9-3. Capital Plan (Cont'd.)

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Englewood Avenue AC Waterline Replacement	-	-	-	-	-	\$646	-	-	-	-
Hathaway Street Waterline Improvements	-	\$563	-	-	-	-	-	-	-	-
Distribution Main Leak Detection	\$51	\$53	\$54	-	-	-	-	-	-	-
Waterline Replacement Program	\$179	\$184	\$188	\$193	\$198	\$203	\$208	\$213	\$219	\$224
New Waterline Installation in Unserved Areas Program	\$154	\$158	\$162	\$166	\$170	\$174	\$178	\$183	\$187	\$192
Total Capital Improvement Plan	\$2,531	\$4,320	\$4,038	\$4,857	\$3,172	\$2,096	\$2,021	\$2,620	\$5,495	\$1,600

Note: Table Values in Real Dollars Expressed in \$1,000s

Table 9-4. Capital Funding Plan

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Total Capital Improvement Plan	\$2,531	\$4,320	\$4,038	\$4,857	\$3,172	\$2,096	\$2,021	\$2,620	\$5,495	\$1,600
Transfer to Capital Reserve Fund	\$701	\$980	-	\$1,943	-	\$604	-	\$3,780	-	\$100
Total Capital Needs	\$3,232	\$5,300	\$4,038	\$6,800	\$3,172	\$2,700	\$2,021	\$6,400	\$5,495	\$1,700
Less Other Funding										
Capital Funded Through Rates	\$750	\$800	\$1,050	\$1,100	\$1,250	\$1,350	\$1,450	\$1,500	\$1,650	\$1,700
Use of Capital Reserve Funds	\$2,482	-	\$2,988	-	\$1,922	-	\$571	-	\$3,845	-
New Bond Issue	-	\$4,500	-	\$5,700	-	\$1,350	-	\$4,900	-	-
Total Capital Funding Sources	\$3,232	\$5,300	\$4,038	\$6,800	\$3,172	\$2,700	\$2,021	\$6,400	\$5,495	\$1,700

Note: Table Values in \$1,000s



For this analysis the city’s 2017 budget was used as a starting point for projecting both revenue and the revenue requirement. Beyond 2017 escalation factors were used for the projections. Escalation factors were ranged from 6 to 0 percent depending on the particular expense or revenue. Table 9-5 provides the escalation factors used in the financial plan.

Table 9-5. Escalation Factors

Sources of Revenue and Expenditures	2018-2026
Revenue	
Rate Revenue Growth	0.2%
Connection Charges	0.0%
Miscellaneous Revenue	2.0%
Expenditures	
Salary	3.5%
Benefits	6.0%
Supplies and Equipment	2.2%
Chemicals	3.0%
Electricity	2.0%
Other Utilities	3.0%
Professional Services	3.0%
Miscellaneous	2.2%
Fuel	3.0%

Table 9-6 on the following page shows the revenue requirement analysis which is a balanced operations budget for the 10 years Capital Improvement Program as well as a plan for collecting the revenue necessary to maintain cash flow stability and to fund the Capital Improvement Program and emergency improvements if necessary. The revenue requirement analysis is designed around several assumptions including the City’s existing financial policies as well as consideration for minimizing rates as much as possible for the City’s customers. The results of the analysis showed the need for 8.5 percent rate increases in both 2017 and 2018, then 5 percent annual increases in 2019 through 2023, and then settling on 3 percent per year thereafter. The impact to the City’s average single family customers peaks at \$2.40 per two month billing period to in 2018 but otherwise averages \$1.68 per bill among all the analysis period



Table 9-6. Revenue Requirement Analysis

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Available Funds										
Rate Revenue	\$8,782	\$8,800	\$8,817	\$8,835	\$8,852	\$8,870	\$8,888	\$8,906	\$8,923	\$8,941
Miscellaneous Revenue	\$303	\$317	\$330	\$333	\$336	\$341	\$347	\$354	\$360	\$367
Total Available Funds	\$9,085	\$9,117	\$9,147	\$9,168	\$9,189	\$9,211	\$9,235	\$9,260	\$9,284	\$9,308
Application of Funds										
Operations & Maintenance	\$5,942	\$6,049	\$6,243	\$6,445	\$6,654	\$6,870	\$7,095	\$7,329	\$7,571	\$7,823
Capital Funded Through Rates	\$750	\$800	\$1,050	\$1,100	\$1,250	\$1,350	\$1,450	\$1,500	\$1,650	\$1,700
Taxes and Transfers	\$1,866	\$2,033	\$2,239	\$2,019	\$2,131	\$2,246	\$2,445	\$2,306	\$2,272	\$2,387
Debt Service	\$1,093	\$1,416	\$1,190	\$1,623	\$1,618	\$1,683	\$1,678	\$1,914	\$1,909	\$1,857
Total Application of Funds	\$9,651	\$10,298	\$10,723	\$11,187	\$11,653	\$12,149	\$12,668	\$13,049	\$13,402	\$13,767
Cumulative Balance (Deficit) of Funds	(\$566)	(\$1,181)	(\$1,576)	(\$2,019)	(\$2,464)	(\$2,938)	(\$3,433)	(\$3,789)	(\$4,118)	(\$4,458)
Cumulative Balance(Deficit) as a % of Rates	8.5%	17.7%	23.6%	29.8%	36.3%	43.1%	50.2%	54.8%	59.4%	64.2%
Proposed Rate Adjustment	8.5%	8.5%	5.0%	5.0%	5.0%	5.0%	5.0%	3.0%	3.0%	3.0%
Additional Revenue from Rate Adj.	\$746	\$1,560	\$2,082	\$2,632	\$3,212	\$3,822	\$4,466	\$4,876	\$5,300	\$5,738
Less Additional Taxes From Rate Increase	\$180	\$378	\$505	\$613	\$748	\$884	\$1,033	\$1,087	\$1,182	\$1,280
Net Adjustment After Rate Increase	\$566	\$1,181	\$1,576	\$2,019	\$2,464	\$2,938	\$3,433	\$3,789	\$4,118	\$4,458
Avg. Single Family Residential Bill (12 CCF)	\$28.51	\$30.91	\$32.48	\$34.10	\$35.78	\$37.58	\$39.44	\$40.65	\$41.88	\$43.14
Annual \$ Change	\$2.21	\$2.40	\$1.57	\$1.62	\$1.68	\$1.80	\$1.86	\$1.21	\$1.23	\$1.26
Cumulative \$ Change	\$2.21	\$4.61	\$6.18	\$7.80	\$9.48	\$11.28	\$13.14	\$14.35	\$15.58	\$16.84

Note: Table Values in \$1,000s



Table 9-7. Financial Policy Metrics

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Debt Service Coverage Ratio Before Adj.	0.94	0.66	0.64	0.41	0.29	0.17	0.05	(0.03)	(0.15)	(0.27)
Debt Service Coverage Ratio After Adj.	1.45	1.49	1.97	1.65	1.82	1.92	2.10	1.95	2.01	2.13
Debt Service as a % of Rev Requirement	11%	14%	11%	15%	14%	14%	13%	15%	14%	13%
Operating Fund										
Beginning Fund Balance	\$2,463	\$2,006	\$1,696	\$1,583	\$1,326	\$1,171	\$1,134	\$1,284	\$1,359	\$1,389
Additions	-	-	-	-	-	-	\$150	\$75	\$29	\$132
Uses	(\$457)	(\$310)	(\$113)	(\$257)	(\$155)	(\$37)	-	-	-	-
Ending Fund Balance	\$2,006	\$1,696	\$1,583	\$1,326	\$1,171	\$1,134	\$1,284	\$1,359	\$1,389	\$1,521
Days of O&M (Target = 60)	123	102	93	75	64	60	66	68	67	71
Capital Reserve Fund										
Beginning Fund Balance	\$4,555	\$2,774	\$3,755	\$766	\$2,709	\$787	\$1,391	\$821	\$4,601	\$756
Additions	\$701	\$980	-	\$1,943	-	\$604	-	\$3,780	-	\$100
Uses	(\$2,482)	-	(\$2,988)	-	(\$1,922)	-	(\$571)	-	(\$3,845)	-
Ending Fund Balance	\$2,774	\$3,755	\$766	\$2,709	\$787	\$1,391	\$821	\$4,601	\$756	\$856
Target Balance	\$750	\$750	\$750	\$750	\$750	\$750	\$750	\$750	\$750	\$750

Note: Table Values in \$1,000s



Several of the City’s financial policy metrics are contained in Table 9-7. The table shows that DSCR fluctuates from year to year depending on the level of outstanding debt and the revenue including assumed rate adjustment in any year. The City’s policy is that DSCR should target 2.0, meaning the funds remaining after subtracting O&M, taxes and transfers should be twice the annual debt service payment. Rating agencies consider a 2.0 as a very strong DSCR. The results show that the City is within range of their target in most years and averages 1.9 over the analysis period. The City’s maximum debt service as a percentage of revenue requirement is well below the policy of 25 percent throughout the analysis period. The Operating Fund balance target is 60 days of O&M. The analysis indicates that the City is estimated be at a minimum of 68 days and as high as 123 days of O&M expense. The Capital Reserve Fund balance fluctuates year to year depending on the timing of bond issues. On average, during the analysis period the ending fund balance greatly exceeds the \$750,000 target and on an annual basis the ending fund balance in not expected to drop below the City’s ending fund balance target.

9.5 Assessment of Rates

Given the rate adjustment proposed in this section, the City should be able to adequately fund the capital program and run its operations in a sustainable manner.

The City bills its customer on a bimonthly basis. The existing water rate structure consists of a ready to serve charge based on meter size and a volumetric rate per hundred cubic feet (CCF) of consumption. Table 9-8 provides a historical perspective of the City’s rates from 2009 to 2015. Previous to 2009, the City’s rates were declining rate which is not considered conservation oriented rates. Declining rates is based on the premise of a volume discount which has been found to be contrary to conservation efforts.

Table 9-8. Historical Water Rates

	2009	2010	2011	2012-2013	2014 -2015
Inside City Rates (Bi-Monthly) Ready to Serve Charge					
3/4 inch and smaller	\$9.79	\$10.42	\$11.04	\$15.91	\$17.54
1 inch	\$13.57	\$14.47	\$15.33	\$20.09	\$22.14
1-1/2 inch	\$22.94	\$24.52	\$25.95	\$31.24	\$34.43
2 inch	\$34.24	\$36.62	\$38.74	\$44.67	\$49.23
3 inch	\$60.60	\$64.89	\$68.62	\$76.03	\$83.80
4 inch	\$98.25	\$105.26	\$111.30	\$120.82	\$133.17
6 inch	\$192.31	\$206.09	\$217.90	\$232.70	\$256.48
8 inch	\$380.52	\$407.89	\$431.22	\$453.59	\$499.94
10 inch	\$568.68	\$609.62	\$644.47	\$680.41	\$749.93
12 inch	\$832.15	\$892.09	\$943.08	\$993.82	\$1,095.37
Charge for Water Consumed (per CCF)	\$1.29	\$1.36	\$1.44	\$1.51	\$1.46

- Notes:
1. The minimum use charge is computed as the cost for six units of consumption divided by sixty days.
 2. The minimum charge is the daily ready-to-serve charge plus the daily minimum use charge.
 3. All charges for water supplied outside the city are computed by multiplying the applicable rates described above by one and one-half.



As has been the City's practice, the next rate study will be conducted in 2017. Rate studies often include some analysis of alternative rate structures the City can implement which address issues such as revenue stability and conservation goals. The City has been slowly shifting their rates to a structure that encourages conservation. Table 9-9 and Table 9-10 provide projected future rates given its current rate structure and the proposed rate increases. It should be noted that this is a somewhat simplified projection given the available data at the time of this study, and the rate study that is scheduled to take place in 2017 may have results that vary from this table due to updated data.

All charges for water supplied outside the city, including fire service shall be computed by multiplying the applicable rates set forth in Table 9-9 and Table 9-10 of this section by one and one-half (1.50).



Table 9-9. Projected Inside City Water Rates

	Current Rates	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Proposed Rate Increase		8.5%	8.5%	5.0%	5.0%	5.0%	5.0%	5.0%	3.0%	3.0%	3.0%
Inside City Rates (Bi-Monthly) Ready to Serve Charge											
3/4 inch and smaller	\$17.54	\$19.03	\$20.65	\$21.68	\$22.76	\$23.90	\$25.10	\$26.36	\$27.15	\$27.96	\$28.80
1 inch	\$22.14	\$24.02	\$26.06	\$27.36	\$28.73	\$30.17	\$31.68	\$33.26	\$34.26	\$35.29	\$36.35
1-1/2 inch	\$34.43	\$37.36	\$40.54	\$42.57	\$44.70	\$46.94	\$49.29	\$51.75	\$53.30	\$54.90	\$56.55
2 inch	\$49.23	\$53.41	\$57.95	\$60.85	\$63.89	\$67.08	\$70.43	\$73.95	\$76.17	\$78.46	\$80.81
3 inch	\$83.80	\$90.92	\$98.65	\$103.58	\$108.76	\$114.20	\$119.91	\$125.91	\$129.69	\$133.58	\$137.59
4 inch	\$133.17	\$144.49	\$156.77	\$164.61	\$172.84	\$181.48	\$190.55	\$200.08	\$206.08	\$212.26	\$218.63
6 inch	\$256.48	\$278.28	\$301.93	\$317.03	\$332.88	\$349.52	\$367.00	\$385.35	\$396.91	\$408.82	\$421.08
8 inch	\$499.94	\$542.43	\$588.54	\$617.97	\$648.87	\$681.31	\$715.38	\$751.15	\$773.68	\$796.89	\$820.80
0 inch	\$749.93	\$813.67	\$882.83	\$926.97	\$973.32	\$1,021.99	\$1,073.09	\$1,126.74	\$1,160.54	\$1,195.36	\$1,231.22
12 inch	\$1,095.37	\$1,188.48	\$1,289.50	\$1,353.98	\$1,421.68	\$1,492.76	\$1,567.40	\$1,645.77	\$1,695.14	\$1,745.99	\$1,798.37
Charge for Water Consumed per CCF	\$1.46	\$1.58	\$1.71	\$1.80	\$1.89	\$1.98	\$2.08	\$2.18	\$2.25	\$2.32	\$2.39

Note: The City will apply the per CCF charge for all consumption beginning in 2017.



Table 9-10. Proposed Inside City Fire Service Rates

	Current Rates	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Proposed Rate Increase		8.5%	8.5%	5.0%	5.0%	5.0%	5.0%	5.0%	3.0%	3.0%	3.0%
Bulk (Hydrant) - Meter Assembly Use/Rent Daily Charge	\$4.00	\$4.00	\$4.00	\$4.20	\$4.41	\$4.63	\$4.86	\$5.10	\$5.25	\$5.41	\$5.57
Charge for Water Consumed per CCF	\$1.46	\$1.58	\$1.71	\$1.80	\$1.89	\$1.98	\$2.08	\$2.18	\$2.25	\$2.32	\$2.39
Fire Service Charges											
2 inch	\$6.00	\$6.51	\$7.06	\$7.41	\$7.78	\$8.17	\$8.58	\$9.01	\$9.28	\$9.56	\$9.85
3 inch	\$8.76	\$9.50	\$10.31	\$10.83	\$11.37	\$11.94	\$12.54	\$13.17	\$13.57	\$13.98	\$14.40
4 inch	\$17.54	\$19.03	\$20.65	\$21.68	\$22.76	\$23.90	\$25.10	\$26.36	\$27.15	\$27.96	\$28.80
6 inch, including hydrant only	\$51.56	\$55.94	\$60.69	\$63.72	\$66.91	\$70.26	\$73.77	\$77.46	\$79.78	\$82.17	\$84.64
8 inch	\$109.82	\$119.15	\$129.28	\$135.74	\$142.53	\$149.66	\$157.14	\$165.00	\$169.95	\$175.05	\$180.30
10 inch	\$197.46	\$214.24	\$232.45	\$244.07	\$256.27	\$269.08	\$282.53	\$296.66	\$305.56	\$314.73	\$324.17
12 inch	\$319.12	\$346.25	\$375.68	\$394.46	\$414.18	\$434.89	\$456.63	\$479.46	\$493.84	\$508.66	\$523.92



9.5.1 Affordability

Water utility rates across the country are growing at a rate greater than inflation. This is due to significant capital improvement projects utilities must fund to properly maintain the water system and be in compliance with state and federal regulations.

A threshold of affordability has not been widely accepted within the water utility industry. Though it has not been deemed an industry standard, the EPA stated in a 1997 paper titled *EPA published Guidance for Financial Capability Assessment and Schedule Development*, that an unaffordable rate would be an annual bill in excess of 2 percent of Median Household Income.

The Census Bureau's American Community Survey estimates the City of Yakima's Median Household Income to be \$40,726 per year in 2015. An average single family household's annual water bill is estimated to be \$158 per year. Dividing the average annual bill by the Median Household Income produces values from 0.3 to 0.4 percent in 2009 and through 2015 as shown in Table 9-11.

Table 9-11. Median Household Income Compared to Average Single Family Rates

	2009	2010	2011	2012	2013	2014	2015
Median Household Income	\$37,351	\$39,706	\$41,071	\$40,569	\$39,462	\$40,189	\$40,726
Estimated Annual Single Family Water Bill	\$105	\$111	\$118	\$150	\$158	\$158	\$158
Water Costs as % of MHI	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%

If one were to consider 2 percent of Median Household Income a threshold of affordability it would be very clear that the City's rates are very affordable. For the City's rates to rise to the level to be unaffordability using this measure, the rates would have to increase by five times its current level assuming no growth in Median Household Income. The cumulative effect of the rate increases for this analysis is 64 percent, which means that the City's rates will likely remain affordable during the analysis period of this plan.