Draft

COST OF SERVICE AND RATE STUDY

January 2018

City of Upland

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Chapter 1

INTRODUCTION

1.1 Background

The City of Upland (City) is located approximately 35 miles east of Los Angeles in San Bernardino County at the base of the San Gabriel Mountains. The population in the City is approximately 76,000 with the projected population anticipated to reach over 82,000 by 2035. The City is approximately 95 percent built out. Water demands for FYE 2017 were approximately 7.2 million CCF, down nearly 30 percent in the last decade.

The City's Public Water Utility (Utility) prides itself on delivering high quality water, providing good water asset management, and being able to maintain low and cost-effective service to its customer. Currently, the Utility services nearly 19,000 water customer accounts. The approximate customer distribution is as follows: 80% single family residential homes; 11% apartments and condominiums; 6% commercial and industrial; 2% landscape meters; 1% government; and 0.1% schools.

1.2 Study Purpose and Key Drivers

The City of Upland retained Carollo Engineers, Inc. (Carollo) to conduct a Cost of Service and Rate Study (Study) of its Water Utility for Fiscal Years (FYE) 2018 through 2023. To achieve this goal, Carollo's analysis was guided by industry best practices for cost of service analyses, as outlined by the American Water Works Association (AWWA), the unique legal requirements for California, relevant California case law, and the City's specific water system and usage characteristics. These factors framed the cost of service analysis, which necessitate a review of existing rates and charges.

Building from the tools developed as part of the 2013 Rate Study, an in-depth study of the Utility's more recent revenue needs, customer usage characteristics, capital improvement program (CIP), and additional future drivers of service costs and revenue was conducted. This report documents the methodology and assumptions used to develop the financial plan, the policy decisions reached, the proposed water rates, and the customer bill impacts.

The major objective of this study is to develop a rate structure that:

- Fully funds operations and maintenance costs
- Optimizes funding of the Utility's planned capital program
- Mitigates revenue volatility and improves cost recovery
- Simplifies the existing rate structure
- Promotes water use efficiency
- Minimizes customer impacts
- Abides by cost of service standards

The Study presents recommendations based on a five year time horizon. While 5 years of rates are proposed, the financial analysis forecasted ten years to gain a comprehensive understanding of possible capital needs that can occur outside of the five-year rate period.

To achieve the multi-faceted goals of rate-setting—achieving rates that are simultaneously equitable, reasonable, incentivize conservation, and reflect cost of service principles—Carollo's cost of service

approach tests the adequacy of existing revenues, recommends additional revenues where needed, and develops rates built on comprehensive cost allocation and customer data analyses. In addition, Carollo's rate-setting approach places a high priority on resiliency. The Study conducted sensitivity analyses to see if rates will be sufficient as modeled under alternative scenarios, particularly under a low-demand scenario, such as during a drought, water shortage emergency, or state mandated reduction in water use. As the Utility's rates will not recover 100 percent of fixed costs on the fixed charge, decreased demand could undermine the reliability of rate revenue, leaving the agency to find cost savings, absorb the decreased cash flow, or further increase rates.

1.2.1 Declining Water Demands

Water sales are the Utility's primary source of revenues; thus, it is critical to examine and validate potential shifts in short and long-term water demands. Nearly all water agencies in California saw significant declines in consumption due to the prolonged drought. This was brought on by a state of emergency declared by the governor in 2015, prompting consumers to reduce water consumption by more than 25 percent. This decrease resulted in the Utility's revenues falling well below their forecasted amount. In response, the Utility deferred many of their planned capital improvement projects which still need to take place. The unexpected decrease in revenue also forced the Utility to dip into their reserves in order to fund necessary projects.

In addition to these one-time decreases in demand, it is not expected that water sales will completely recover. In May 2016, Governor Brown signed an Executive Order, which set in motion new programs to "Make Water Conservation A Way of Life" in California. The executive order keeps in place monthly reporting of water use by urban water agencies, and prohibitions against wasteful practices. The City will continue to have in place its various High Level Water Storage Stage restrictions.

1.2.2 Increasing Costs and Funding Needs

In addition to declining water usage over the past several years, the Utility's operating costs have increased substantially in the last year, particularly related to water production. San Antonio Water Company (SAWCO), one of the wholesalers that Upland acquires water supplies from, recently increased its rates by more than 25 percent. The Utility sources nearly half of its annual water supply from SAWCO. In addition, water costs from the Utility's other supplies, including Metropolitan Water District of Southern California (MWD), have continued to climb.

1.3 Current Rates and Fees

The Utility currently maintains two different rate structures; tiered rates for single-family residential (SFR) and uniform rates for all other customer classes, including apartments/condos, commercial/industrial, landscape, government, and schools. All customers pay a fixed bi-monthly charge based on their meter size. In addition, variable revenues are recovered through a 3-tiered rate structure based on the amount of water consumed. Tiered rate structures such as this are typically designed to encourage conservation.

The other customer classes (apartments/condos, commercial/industrial, landscape, and government accounts) pay the same fixed bi-monthly charge based on their meter size as well as a uniform volume rate based on their class type. Landscape rates (potable irrigation) are a slightly higher rate than usage for domestic and commercial purposes. Uniform rates are typically applied to customer classes whose water demands vary significantly between customers.

Table 1.1 below summarizes the Utility's current water rate structure, which is on a bi-monthly basis.

Table 1.1 Existing Bi-monthly Rates

Tiered Variable Rates			Fixed Charge		
Allocation (CCF)	**FYE 2017**	**FYE 2018**	**Meter Size**	**FYE 2017**	**FYE 2018**
Single Family			5/8"	$39.85	$41.05
0 – 20	$1.52	$1.60	3/4"	39.85	41.05
21 – 50	1.80	1.90	1"	73.45	75.65
> 50	2.46	2.60	1.5"	129.40	133.30
Uniform Rates			2"	196.55	202.45
Commercial/Industrial	$1.78	$1.88	3"	375.60	386.90
Apartments/Condos	1.87	1.97	4"	577.05	594.40
Landscape	2.14	2.26	6"	1,136.65	1,170.75
Government	1.98	2.09	8"	1,808.20	1,862.40
Schools	2.10	2.22			
Recycled	1.60	1.60			

* FYE 2018 rates were scheduled to be implemented on Jan. 1, 2018, but have been postponed pending the results of this rate study.

Chapter 2

OVERVIEW OF RATE SETTING PROCESS

Rate analyses are performed periodically such that revenues from rates adequately fund utility operations, maintenance, and necessary capital investments and upgrades, and the appropriate rates to fairly and allocate the costs of providing water to customers and among the various customer classes.

Revenue Requirement Analysis
Compares existing utlity revenues to its operating, capital reserves, and policy driven costs to establish the adequacy of existing cost recovery levels.

Water Demand Analysis
Forecasts water sales based on historical billings, modifications to the rate structure, and any regulatory restrictions.

In California, water rates must adhere to the cost of service requirements imposed by Proposition 218 and the State Constitution. Proposition 218 requires that property related fees and charges, including water rates, do not exceed the reasonable and proportional cost of providing the service. Article X, §2 of the State Constitution establishes the need to preserve the State's water supplies and discourage the wasteful or unreasonable use of water by encouraging conservation.

Functional Cost Analysis
Identifies and apportions annual revenue requirements to functional rate components based on its application of the utility system.

Rate Design Analysis & Calculation
Considers both the level and structure of the rate design to collect the distributed revenue requirements from each class of service.

The Utility also has obligations to safeguard and preserve the State's limited water resources. Article X, §2 of the State Constitution also establishes the need to preserve the State's water supplies and discourage the wasteful or unreasonable use of water by encouraging conservation. To achieve these multi-faceted requirements (rates that must simultaneously be equitable and reasonable, as well as provide a conservation message) Carollo's cost of service approach tests the adequacy of existing revenues, recommends additional revenues where needed, and develops rates built on comprehensive cost allocation and customer data analyses.

Rate Adoption
Compliant with the Proposition 218 requirements, the Study presents the rationale and justification behind the changes.

The processes presented are advocated by the AWWA and the Water Environment Federation (WEF) for water rate setting. Carollo has adapted this reference material and combined it with specific California rate setting requirements to reflect the Utility's specific water infrastructure and demands. While the process is described in a linear step by step approach, it is better understood as an iterative process where the ultimate objective is to balance revenues with costs in an equitable and proportional manner for customers.

2.1 Step-By-Step Approach

2.1.1 Revenue Requirement Analysis

The methodology applied to establish annual rate revenue needs is consistent with industry standards established by the *Principles of Water Rates, Fees and Charges: Manual of Water Supply Practices M1* (M1 Manual), which is published by AWWA, a national industry trade group that makes recommendations on generally accepted practices in the water industry. The revenue requirements analysis compares the forecasted revenues of the utility to its forecasted operating and capital reserve costs to determine the adequacy of the existing rates to recover the utility's costs. If any shortfalls exist, rates may need to increase.

2.1.2 Water Demand Analysis/Revenue Projection

Forecasting water sales and purchases is a critical component in the rate setting process. As part of the budget process, the Utility forecasts the expected water usage based on historical demand, proposed changes to rates, regulatory impacts, weather, and other variables. Future demands are based on historic sales and escalated for projected growth and per capita demand changes. These forecasted water demands are then compared against forecasted revenue requirements and rates are developed in order to recover costs.

2.1.3 Functional Cost Analysis

After determining the revenue requirement, the next step in the analysis is to outline the cost to deliver each unit of water and to serve each customer. This process takes each item in the water system's budget and allocates the items based on what function is served. For example, some cost items support the ability to deliver additional, more expensive water, while other costs are incurred to provide customer service or to fund capital replacement. Organizing the budget in terms of end function allows the creation of a direct nexus between the budget item and the rate, bridging the cost incurred by the Utility and the unique and varied benefits delivered to each customer.

2.1.4 Rate Design & Calculation

The rate design involves developing a rate structure that proportionately recovers costs from customers. The rate structure must be tailored to the customer demand and account profile, built upon a nexus among customer classes (i.e., single-family residential and commercial) and the rates that customers are charged on a parcel basis, resilient enough to handle changing cost and demand scenarios, and flexible enough to meet multiple other unique criteria. For example, in the potable water system, water supply costs are recovered based on the units of water sold (demand), while service costs are recovered based on the size of a customer's meter and, therefore, allocated based on the total number of meter equivalents, which accounts for the number and hydraulic capacity of the meters served.

The rate design allows the Utility to develop unit costs that can then be layered based on requirements to meet customer needs. This is a critical process for establishing tiered rates, as increasing usage incurs additional costs making excess water more expensive to maintain and provide.

The final part of the rate design analysis is the rate calculation. This provides the nexus between the revenue requirements, the functional cost allocation, and the final rates that customers are charged. This process

connects planned expenditures to the designed rates by establishing rates to match the estimated revenue generation with expenditures.

2.1.5 Rate Adoption

To comply with the procedural requirements of Proposition 218, the results of the revenue requirement analysis, functional costs analysis, water demand analysis, and rate design analysis are documented in this Study to provide the rationale and justifications behind the proposed rate changes and the anticipated financial impacts. While the document should be accessible to a layperson's understanding, it must still provide sufficient detail to fully support and document the rate setting process.

In order to adjust rates, the City must provide a written notice 45 days prior to adoption of the rates. During this 45 day notice period, any property owner or tenant directly responsible for the payment of water service fees may submit a written protest to the proposed rate increases. If written protests against the proposed rate increases are not presented by a majority of affected property owners or customers, the City Council will be authorized to adopt the rate increases.

As the following sections of this Study will demonstrate, this step-by-step approach creates a fair and equitable foundation for each charge and rate that the City levies to proportionally recover system costs from the City's customers.

Chapter 3

REVENUE REQUIREMENTS ANALYSIS

3.1 Introduction

The adequacy of the existing rate structure can be measured by comparing revenue requirement projections against revenues projections under existing rates. If revenue projections under existing rates do not meet forecasted requirements, rates need to be adjusted.

The first step in a rate analysis is to prepare a revenue requirements forecast. This analysis has two main purposes – it serves as a means of evaluating the Utility's fiscal health and adequacy of current rate levels, and it sets the basis for near- and long-term rate planning.

The revenue requirement forecast is derived from five major cost components: Operations and Maintenance (O&M), Annual Debt Service; Policy Requirements & Coverage; Capital Expenditures; and, Offsetting Revenues.

There are two tests utilized to define the annual revenues necessary to provide both sufficient (1) cash flow and (2) bond coverage. These sufficiency tests are commonly used to determine the amount of annual revenue that must be generated from an agency's rates.

- **Cash Flow Sufficiency Test –** The cash flow test defines the amount of annual revenues that must be generated to meet annual expenditure obligations of the utility.
- **Bond Coverage Sufficiency Test –** Bond coverage refers to the collection in revenues to meet all operating expenses and debt service obligations plus an additional multiple of that debt service. The Utility has a legal minimum bond coverage ratio of 1.25x; however, to allow account for some revenue volatility the bond coverage test was set to meet a 1.50x coverage ratio.

The cash-flow test identifies projected cash requirements in each given year. Cash requirements include O&M expenses, debt service payments, policy-driven additions to working capital, miscellaneous capital outlays, replacement funding, and rate-funded capital expenditures. These expenses are compared to total annual projected revenues. Shortfalls are then used to estimate needed rate increases.

The bond coverage test measures the ability of a utility to meet legal and policy-driven revenue obligations. Given the Utility's existing debt obligations, it is required to collect sufficient funds through rates to meet all on-going O&M expenses, as well as 1.25 times (1.50 times as tested) the total debt-service requirements due in a year.

As the Utility is primarily in a pay-as-you-go capital-replacement cycle, the bond coverage test will not be a driver of rate increases. If revenues are not sufficient enough to satisfy one or both of the tests, the greater deficiency (shortfall) drives the rate increase.

3.2 Revenue Requirement Analysis

3.2.1 Operating & Management Budget Projections

Operating needs are expenditures that the Utility incurs in the day-to-day operations of its systems, such as employee salaries and benefits, fuel, chemicals, power, and water purchases. Other costs in the operating budget include the City's indirect costs, such as administration, and customer service.

The City's adopted FYE 2018 operating budget served as the basis and for forecasting future operating expenses. The budget was compared to prior year actual financial information to identify any anomalies or one-time expenditures not appropriate for forecasting in future years. Utility staff also reviewed the budget for costs that may need to be adjusted due to future operational changes. Unless manually calculated, future years were forecasted using escalation factors appropriate for the type of expense. These factors were assigned on a line-item basis using one of the factors from Table 3.1.

Table 3.1 Escalation Factors

Cost Escalator	Description
General Cost Inflation	This rate applies to most expenses in the operating expense forecast, and the Utility's expected long-term inflation rate (3.2%). This percentage is reflective of Southern California's historical cost inflation for water and sewer services.
Purchased Water Costs	As the Utility purchases water from numerous suppliers, costs were escalated at 3%, unless specific increases were known. While recent increases have exceeded this percentage, the Utilities primary water supplied (SAWCo) is forecasting inflationary increases following the most recent 25 percent adjustment.

The results of this forecast can be seen in Table 3.2.

Table 3.2 Projected O&M Costs

Cost Center	FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022	FYE 2023
Administration	$3,535	$3,649	$3,766	$3,887	$4,011	$4,140
Customer Service	$841	$869	$897	$926	$955	$986
Meter Service	$749	$774	$799	$824	$851	$878
Production & Storage	$15,990	$16,501	$17,029	$17,574	$18,134	$18,715
Transmission & Distribution	$1,734	$1,790	$1,848	$1,907	$1,968	$2,031
Conservation	$275	$284	$293	$302	$311	$321
Total	**$22,963**	**$23,700**	**$24,459**	**$25,242**	**$26,047**	**$26,882**

***All values in thousands of dollars**

3.2.2 Capital Improvement Plan

The CIP includes a variety of capital projects that involve repairing (or replacing) existing assets and/or expanding system capacity to accommodate growth. In the 2013 rate study; Carollo prepared a detailed pipe repair and replacement funding analysis which identified a funding plan to pay for the necessary CIP while mitigating the effects on the rate payer. However, due to the drought, the revenues necessary to complete these projects did not materialize and the project was deferred. As the need for this funding still remains it was included in the CIP budget. Carollo also worked with the City to identify and prioritize other projects that have since been identified over the course of the study. To mitigate the need for higher rate increases, annual capital expenditures were limited in FYE 2018 and 2019 in order to first build reserves prior to reaching full funding levels. Table 3.3 identifies the five-year CIP used in the revenue requirement analysis.

Table 3.3 CIP Schedule

Project Title	FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022	FYE 2023
Pipe Repair & Replacement	$0	$1,000	$2,000	$2,000	$2,000	$2,000
Remaining CIP	350	17,509	3,539	4,569	4,464	3,742
Total	**$350**	**$18,509**	**$5,539**	**$6,569**	**$6,464**	**$5,742**

* All values in thousand dollars. All projects are assumed to be funded through rate funding, with the exception of a proposed $16.5 million SRF loan issued in FYE 2019.

3.2.3 Debt Service

Existing debt service payments are established in the Utility's water debt repayment schedules. The water fund's annual payment for existing debt service is currently was $1.2 million through FYE 2017 after which it decreased to around $700,000. The Utility currently has plans to fund significant CIP in FYE 2019 with a $16,000,000 State Revolving Fund loan in which payments would begin in FYE 2021.

Table 3.4 summarizes the Water Fund's existing debt repayment schedule over the next five years.

Table 3.4 Debt Service Schedule

Fiscal Year	Existing Debt	Future SRF Debt	Total Debt
FY 2018	$717,750	-	$717,750
FY 2019	$720,550	-	$720,550
FY 2020	$716,150	-	$716,150
FY 2021	$716,250	$310,897	$1,024,038
FY 2022	$715,750	$750,151	$1,458,399
FY 2023	$714,650	$750,151	$1,457,299

3.2.4 Debt Service Coverage

The Utility must meet debt service coverage requirements on its outstanding bond issues. Coverage requirements typically vary between 1.00x and 1.50x or higher. The Utility's required debt coverage is 1.25x, which means that the Utility's adjusted net revenues needs to amount to at least 125 percent of the annual

debt service. Annual debt service includes the annual principal and interest payments on outstanding debt. The purpose of the coverage requirement is to provide a buffer (for repayment) regardless of potential swings in revenues or expenditures.

With the proposed revenue adjustments, the Utility should easily exceed the coverage requirements during each year of the study's planning period. However, as any adjustments to rates for FYE 2018 can only be applied for 3 months (April -June) and – should expenditures come in in-line with the budget projects, the Utility is forecasted to be deficient in coverage. However, the Utility is able to secure one-time revenues through water sales and revenue from the most recent sale will provide sufficient revenues to cover any forecasted shortfall in FYE 2018. Carollo excluded these one-time revenues from the analysis as they are not predictable (in timing or amount). Should additional one-time sales occur, these will go towards funding the Utilities defined $14M capital shortfall (over the next five years).

3.2.5 Policy Driven Needs

In addition to the operating and capital expenses, there are also policy-driven expenses that need to be covered. The revenue requirement analysis targets a minimum operating fund balance between 90 & 365 days of operating expenses. As much of the Utility's revenue is variable, this target would mitigate the Utility from revenue impacts caused by a sudden decrease in water demand, as was seen in 2015 and 2016. It also better enables the Utility to fund day-to-day operations as revenues are generated over 6 bill periods, as opposed to monthly billings.

Currently the Utility has less than $1 million in reserves. Based on the O&M expenses shown above in Table 3.2 the Utility aims to have approximately $5.6-$12.2 million in reserves. However, in order to avoid steep rate increases in excess of those already needed for O&M, reserves will be replenished gradually over the next five years.

Figure 3.1 details the proposed replenishment of reserves under the proposed rates and forecasted financials. While the forecast shows reserves continue to fall in the "minimal" zone (90 days of operating), the Utility will go from 7 days of reserves to 60 days.

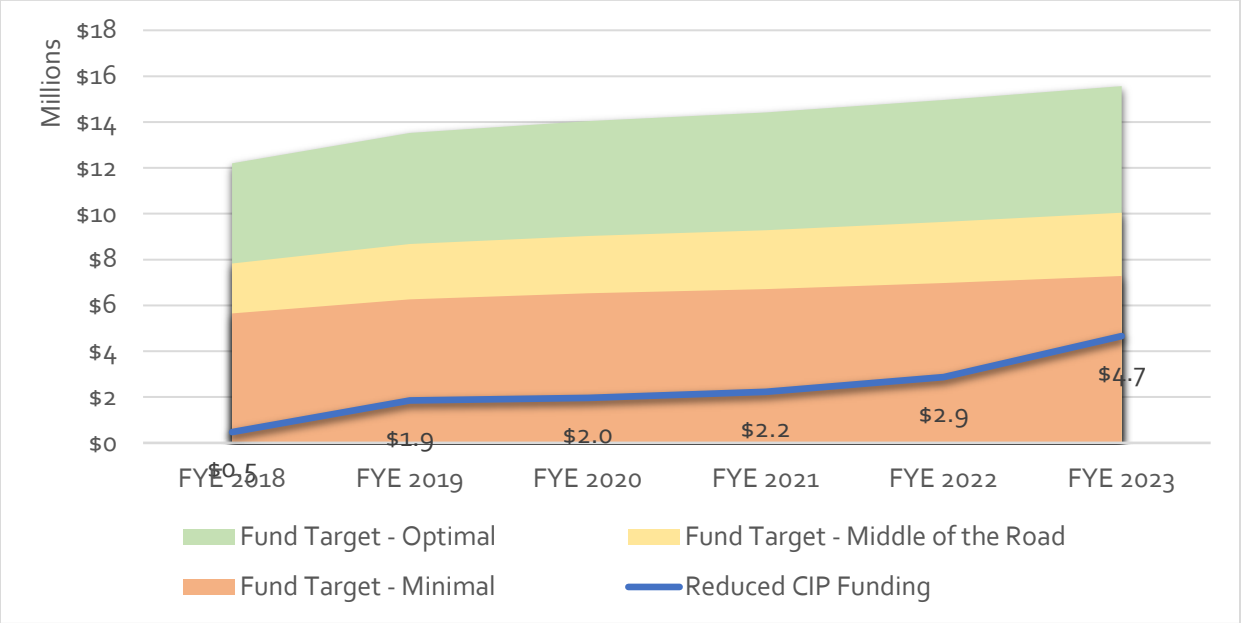

Figure 3.1 Reserve Forecast (with proposed increases)

The Utility should continue to monitor revenues and reserve levels on an annual basis. The reserve target may also be adjusted further as policy dictates to minimize rates or to smooth future rate increases. It is recommended that the Utility adopt rates which support the defined reserve policy. Given the existing depleted reserve levels, in future rate studies, the Utility could analyze the benefits of building additional reserves, such as a capital reserves, a rate-stabilization reserve, or a catastrophe reserve to provide additional rate and financial resilience. In order to fund these reserves, future increases may need to exceed inflationary levels.

3.3 Water Demand & Revenue Projections

The Utility derives revenue from a variety of sources. Currently, user rate revenue has generated over 90 percent of the water fund's revenues. This ratio is only expected to increase as the FYE 2018 budget expects $21.5 million in rate revenue, compared with $850,000 in other revenue, such as interest income and the lease of surplus water rights.

As the user charges are based on both the number of accounts (fixed charge) and consumption (variable charge) it is necessary to predict both values in order to forecast revenues under the existing rate. The account growth assumption was conservatively set at a flat 0.5 percent per year as the population of Upland is expected to increase at a rate of approximately 1 percent a year. This conservative estimate is used to help ensure that the assumption does not outpace actual growth resulting in less than forecasted revenues.

In order to forecast consumption growth the existing FYE 2018 consumption data was compared to the same months from FYE 2017 in which a 7.5 percent increase in consumption was identified. As this is a relatively large bounce back for one year this growth is not expected to continue. Thus, conservative increases of 3 and 2 percent were chosen for the subsequent years and no growth was assumed after FYE 2020. These assumption were chosen as they equate to an approximately 20 percent demand hardening from previous highs which seems appropriate given the increase in conservation awareness brought on by the drought. The effects of both of these assumptions can be seen in the usage forecast in Table 3.6

Table 3.5 Customer Class Demand Forecast (CCF)

Class	FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022	FYE 2023
Single Family Residential	4,165,944	4,307,996	4,421,050	4,443,090	4,465,420	4,487,750
Commercial / Industrial	980,100	1,014,900	1,040,400	1,045,602	1,050,804	1,056,006
Apartments / Condominiums	1,340,332	1,387,442	1,422,378	1,429,168	1,435,958	1,442,748
Landscape	1,032,240	1,067,682	1,093,648	1,098,362	1,103,076	1,107,790
Government	149,566	154,976	159,096	160,043	160,990	161,937
Schools	106,028	109,200	111,384	111,384	111,384	111,384

3.4 Recommended Revenue Requirements

Over the course of developing the proposed revenue requirements, multiple rate revenue forecasts were developed to explore the feasibility of funding future capital needs and options to mitigate ratepayer impacts. The extent of the proposed revenue adjustments is largely contingent on the funding and timing of

capital projects. Given the annual nature and timing of the projects, the issuance of new debt was not analyzed.

In addition to capital funding, financial scenarios were reviewed to evaluate the sensitivity and impact of conservation in relation to increasing water costs. Given the Utility's revenue susceptibility to future water demand the analysis assumed flat annual water demands from, moderate growth levels, and inflationary cost escalators.

Table 3.6 identifies the water utility's cash position, if no increases are adopted. As demonstrated by the analysis, the Utility's cash flow is forecasted to be negative in the existing and futures years.

Table 3.6 Projected Revenue Requirement (Prior to Rate Adjustments)

	FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022	FYE 2023
Revenues						
User Charges	$20,983	$21,582	$22,042	$22,184	$22,349	$22,492
Flat Rate Customers	$65	$67	$69	$71	$73	$75
Recycled Water	$500	$516	$533	$550	$568	$586
Other Revenues	$835	$862	$889	$917	$946	$976
Total Revenues	**$22,383**	**$23,026**	**$23,533**	**$23,721**	**$23,935**	**$24,129**
Expenses						
Administration	$3,535	$3,649	$3,766	$3,887	$4,011	$4,140
Customer Service	$841	$869	$897	$926	$955	$986
Meter Service	$749	$774	$799	$824	$851	$878
Production & Storage	$15,990	$16,501	$17,029	$17,574	$18,134	$18,715
Transmission & Distribution	$1,734	$1,790	$1,848	$1,907	$1,968	$2,031
Conservation	$275	$284	$293	$302	$311	$321
Debt Service	$391	$721	$716	$1,024	$1,458	$1,457
CIP Pay-Go	350	2,009	5,539	6,569	6,464	5,742
Total Expenses	**23,704**	**26,430**	**30,714**	**32,835**	**33,969**	**34,081**
Cash Flows	**(1,321)**	**(3,403)**	**(7,179)**	**(9,108)**	**(10,030)**	**(9,933)**

Based on developed financial outlook, the following revenue adjustments for the next 5 years are shown in Table 3.7 below. Given the negative cash flows shown in Table 3.6, the proposed adjustments are necessary to generate positive cash flows to meet the projected expenditures, debt obligations, and to maintain targeted reserve levels.

Table 3.7 Recommended Revenue Adjustments

Fiscal Year	Revenue Adjustments (%)	Date Implemented
FYE 2018	17%	April 1, 2018
FYE 2019	9%	January 1, 2019
FYE 2020	9%	January 1, 2020
FYE 2021	5%	January 1, 2021
FYE 2022	3%	January 1, 2022
FYE 2023	3%	January 1, 2023

The proposed rate increases are front loaded (higher over the first few years) with recommended inflationary increases in the last two years. This allows funding of reserves gradually over the long-term. In addition, to avoid larger initial increases some CIP projects were deferred in order to first recover reserves. As detailed above in Section 3.2.5 , additional funding, beyond the outlined Capital program, is required to fully balance and fund the Utility's reserves, and full R&R needs and asset reinvestment.

All proposed increases beside FYE 2018 are shown to be effective January 1. January increases allow ratepayers to become accustom to the new rates ahead of peak summer usage.

Table 3.8 Projected Revenue Requirements with Proposed Increases

	FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022	FYE 2023
Total Revenues	$24,551	$27,507	$30,592	$32,332	$33,514	$34,739
Total Expenses, including Rate Funded CIP	23,704	26,430	30,714	32,835	33,969	34,081
Cash Flows	**$(429)**	**$1,386**	**$106**	**$265**	**$643**	**$1,789**

Chapter 4

COST OF SERVICE ANALYSIS

The purpose of a cost-of-service analysis is to provide a rational basis for distributing the full costs of the City of Upland's Public Water Utility service to each customer class in proportion to the demands they place on the system. Carollo developed a detailed cost allocation that serves as the basis for the proposed rate adjustments. This analysis yields an appropriate method for allocating costs, which could be sustained unless substantial changes in cost drivers or customer consumption patterns occur.

The functional allocation assigns the annual revenue requirement for a select base year (FYE 2018) by major function. The Utility's primary functions are related to base flow, peak flow, customer costs, and capacity costs. These functional cost pools include the rate paid for water supplied by outside agencies, the system's existing O&M expenditures, debt service, and rate-funded capital costs.

The cost of service analysis employs a tailored review of costs with a step-by-step approach. Taking the revenue requirement analysis outlined previously, the functional allocation designates each budget item to a specific Utility functional category, which is intended to translate each cost into a specific rate component. Those functional categories and their associated costs are allocated to the distinct customer classes based on each class' unique account, meter, and demand characteristics. A customer class consists of customers that commonly create or share responsibility for certain costs incurred by the utility. In the end, the revenue requirement has been allocated in a two-step process:

4.1 Functional Cost Categories

4.1.1 Customer

Customer costs are fixed expenditures that relate to operational support activities, including accounting, billing, customer service, and administrative and technical support. These expenditures are essentially common to all customers, regardless of meter size or volume of water used.

4.1.2 Capacity

Service costs are fixed expenditures that include meter and capacity related costs, such as meter maintenance and peaking charges, that are included based on the meter's hydraulic capacity or reserved capacity in the system.

4.1.3 Base Demand

Base costs support baseline demand for the Utility. These costs include baseline supplies, treatment, distribution, and storage, up to a level that meets the Utility's baseline demands throughout the year.

4.1.4 Peak Demand

Peak system demand can take several forms. The first and most basic is simply due to diurnal demand patterns—customers use more water early in the morning, and again in the evening. When this happens in aggregate across all customers, it generates a peak demand period on the system. Another form of peak occurs seasonally. Customers use more water in the hot, dry summer months than they do in the cooler,

wetter winter months. This has been observed across virtually every agency's customer base. In the functional cost allocation, peak costs primarily cover the cost of conservation and portions of the water system that were specifically identified as providing system peak.

4.2 Functional Cost Factors

The allocation factors used in the Functional Allocation are outlined in the following table. In the Functional Allocation, each line item in the Utility's budget is classified according to each of these functions listed. The budgeted value for that line item is then allocated based on the percentages associated with the allocation classification.

Table 4.1 Allocation Factors

Allocation Basis	Purpose	Customer	Capacity	Base	Peak
Customer Only	Customer Costs are common to all accounts and include the costs of billing, customer accounting, general and administrative costs, and other related costs.	100%			
Capacity Only	Capacity costs are incurred to establish or maintain additional system capacity and the ability to maintain daily service to all customers.		100%		
Base Only	Base costs cover a baseline level of water service, which excludes peak demands, whether seasonal or diurnal.			100%	
System Peaking	Costs that are common to Base/Peak, allocated based on system use			63%	37%
Fixed	General mix of customer and capacity related costs to be recovered purely through a fixed revenue stream.	15%	85%		
Capacity / Peaking	Costs related to peaking (capacity and demand).	5%	5%	56%	34%
Conservation	Costs allocated to accounts (general benefit) and Peak (targeted use).				100%
As All Others	As all others reallocates designated costs in accordance with the preliminary cost allocation results.	10%	20%	43%	27%

4.3 Allocation to Functional Components

The breakdown between functional categories is important and used to better understand how costs are incurred and whether they fluctuate with changes in water sales. For example, debt service or personnel costs are considered fixed cost and could be recovered through a fixed charge. Alternatively, purchased water is solely related to how much water sold and therefore could be attributed and recovered via the variable rates.

There is significant debate over the proper allocation ratio. Until the recent drought, the California Urban Water Conservation Council (CUWCC) advocated no higher than a 30/70 percentage split (fixed/variable) as defined in Best Management Practice 1.4. The belief being that any higher fixed percentage would hinder the Utility's ability to incentivize conservation. However, following the drought, the CUWCC removed this BMP as it left too many agencies unduly susceptible to revenue volatility.

Figure 4.1 shows that the actual expenses accumulated by the Utility are actually closer to 50 percent whereas, when applying the above allocation factors, a 31/69 percentage split was defined. While the proposed rates will not mirror expenditures, and thus create some revenue risk, the proposed rates coupled with the proposed implementation of the temporary demand management rates will provide added safeguards.

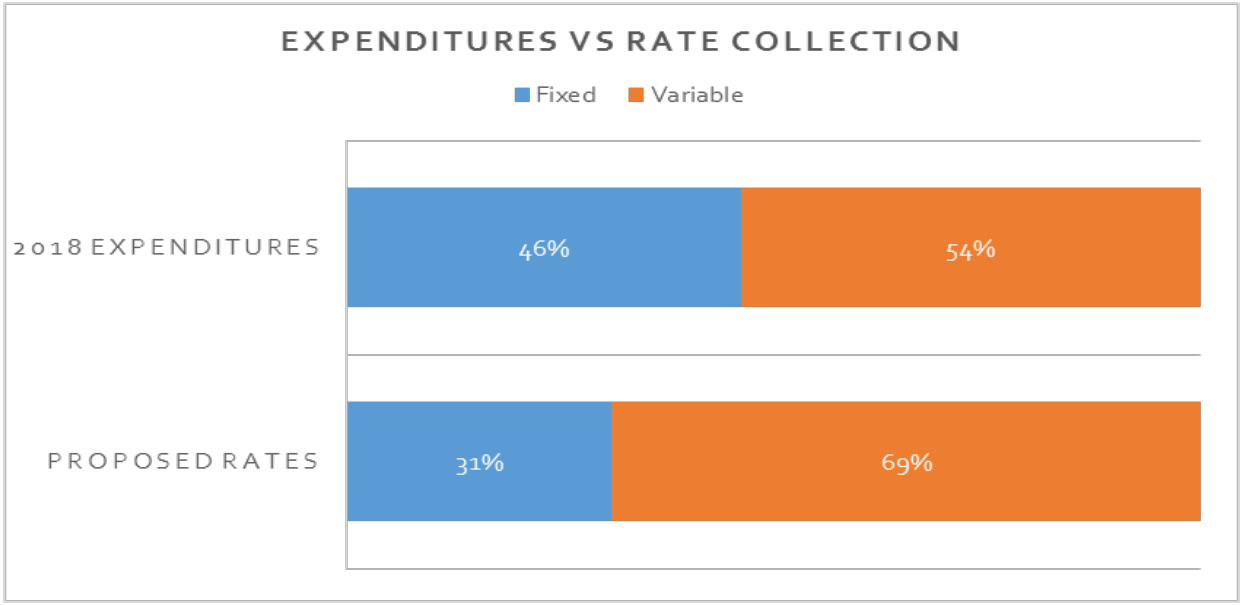

Figure 4.1 Expenditures vs Rate Collection

Presented in Figure 4.2 are the results of the functional allocation. The Service and Customer components collectively represent 31 percent of the Utility's costs that will generate the fixed charge. The remaining 69 percent of costs are allocated to the Base and Peak components and are responsible for the variable rates. The full functional allocation can be seen in the appendix.

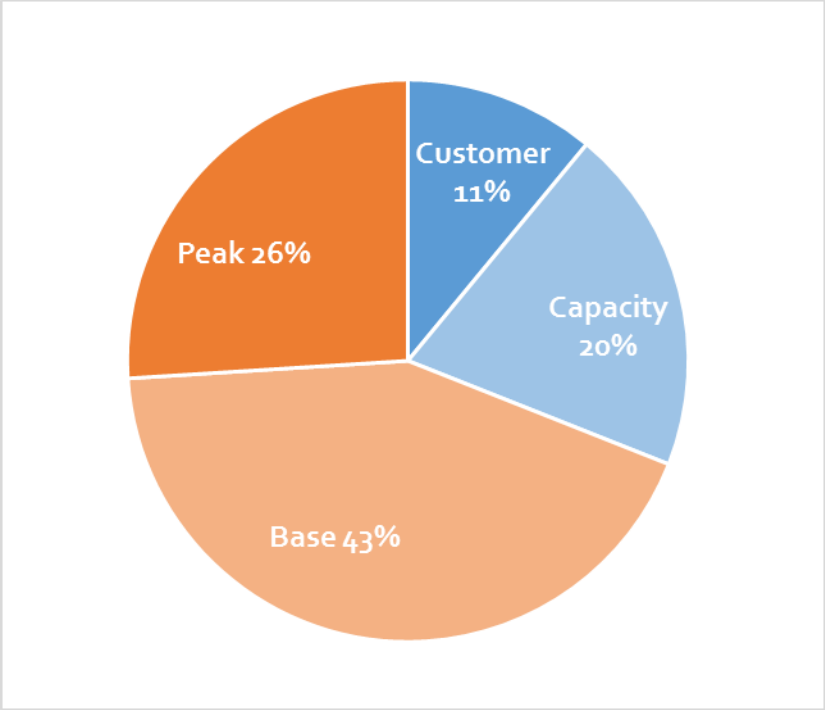

Figure 4.2 Cost of Service Allocation Results

The results of this allocation and implementation into the rate design will represent a roughly 15 percent revenue risk, as those fixed costs will be recovered through a variable rate rather than a fixed rate.

4.4 Customer Class Allocation

4.4.1 Base Water Cost Allocation

The base water costs were allocated to each customer class based on their individual proportion of the Utility's total yearly water sales. For example, SFR customers purchased 3,849,122 CCF of the Utility's total 7,190,165 CCF in FYE 2017. Thus SFR customers are allocated 54% (3,849,122 ÷ 7,190,165) of base costs. The full allocation results can be seen in Table 4.2.

Table 4.2 Base Water Customer Class Allocation

Customer Class	FYE 2017 Consumption (CCF)	Allocation Basis (% of Usage)
Single Family Residential	3,849,122	54%
Commercial/Industrial	907,114	13%
Apartments	965,421	13%
Condominiums	275,560	4%
Landscape	956,071	13%
Government	138,251	2%
Schools	98,626	1%

4.4.2 Peak

Peak system demand can take several forms from diurnal demand patterns of usage patterns throughout the day to seasonally where customers use more water in the hot, dry summer months than they do in winter months.

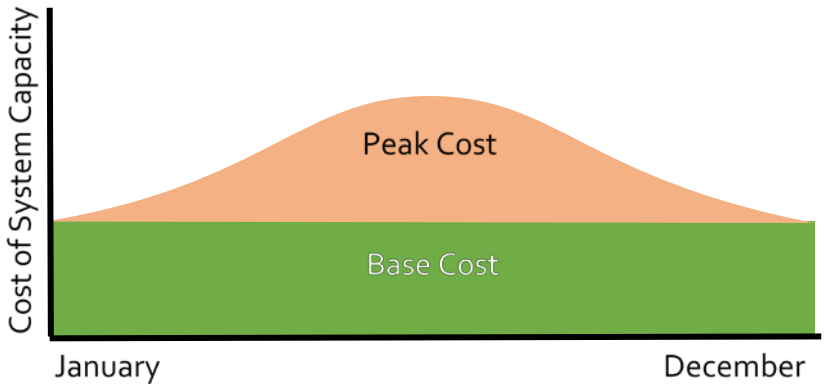

Figure 4.3 Typical Peak Demands

Peak costs primarily cover the incrementally greater production costs for the Utility to meet this higher demand. Because the water system must be designed to handle this peaking load, peaking requirements effect a number of facets of infrastructure including sizing of storage and overall system distribution capacity. As such, agency's infrastructure is designed and built according to peak demands.

4.4.2.1 Customer Class Peaking Profiles

Each customer class served by the Utility demonstrates a unique annual peak profile. The annual peak profile is depicted as the ratio of each month to the lowest demand month of the year. Figure 4.4 outlines the FYE 2016 peak profile for the Utility.

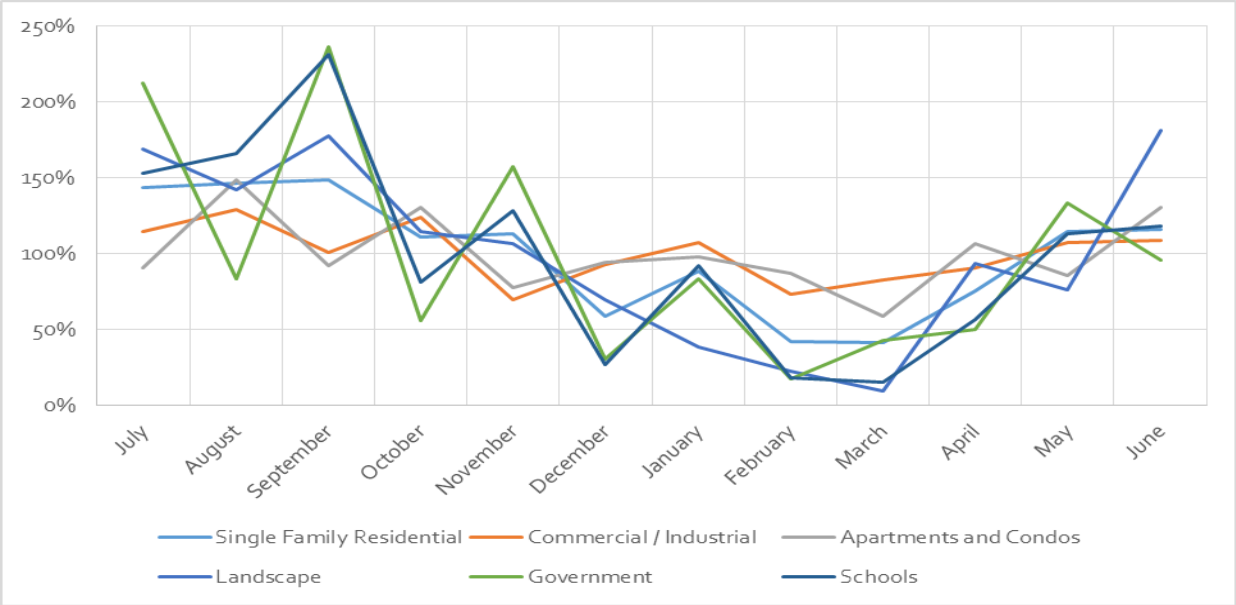

Figure 4.4 Class Peaking Profiles

These peak profiles are useful for allocating defined peak costs appropriately. While each customer class has access to the same system, each customer classes' use of that system (not just volume) plays a critical role in how costs are incurred. As discussed previously, the Utility must build its system for peak, not average, demand. As much of that capacity is underutilized throughout the year due to a seasonal peak curve, this methodology allocates peak costs to the users driving the need for extra capacity. Table 4.3 details each customer share of peak costs and the corresponding annual allocation.

Table 4.3 Peak Water Customer Class Allocation

Customer Class	Base Allocation (% of Usage)	Peak Allocation (% of Peak Weighted Usage)
Single Family Residential	54%	53%
Commercial/Industrial	13%	11%
Apartments	13%	12%
Condominiums	4%	4%
Landscape	13%	16%
Government	2%	3%
Schools	1%	2%

4.5 Functional Allocation Results

The following table shows the results of the functional cost allocation analysis based on the forecasted expenses for FYE 2018. These results are calculated by first determining the total allocation for both Base and Peak by multiplying the results from the revenue requirement by the functional allocation results. These totals are then multiplied by their respective class allocations from Table 4.2 and Table 4.3.

Table 4.4 Consumption Factor Class Allocation

Cost Allocation Summary	Base	Peak	Total
Single Family Residential	$5,667	$3,472	$9,139
Commercial / Industrial	$1,335	$702	$2,037
Apartments	$1,421	$814	$2,235
Condominiums	$406	$255	$661
Landscape	$1,408	$1,050	$2,458
Government	$204	$190	$393
Schools	$145	$120	$265
Total	**$10,586**	**$6,603**	**$17,188**

*** All values in thousand dollars.**

Chapter 5

RATE DESIGN ANALYSIS

The rate design analysis links the customer class costs with the water rates necessary to achieve cost recovery. The focus of this process is to achieve full cost recovery and substantiate that each customer class is paying their fair and proportionate share of system costs.

5.1 Existing Rate Structure

The Utility establishes rates and charges necessary to maintain its high-quality service. Based on the most recent cost of service study (2013), the rates have historically been designed to reflect a fairness principle that all customers pay for the cost of providing safe and reliable water services. As such the existing rate structure will be maintained.

The existing water rate structure includes two rate components:

- Fixed Service Charge, assessed on a per meter equivalent basis.
- Variable rate (commodity rate) per hundred cubic feet (CCF) of water sold and billed bi-monthly.

Depending on the customer class, the variable rate is assessed in an inclining tiered rate structure (SFR) or a uniform rate (Apartments, Condominiums, Commercial/Industrial, Governments, and Schools). The following sections summarize the recommendations for specific rates, charges, and classes.

5.2 Recommendations

Given the numerous and, at times, competing elements of rate design, selection of an appropriate rate structure is complex. There is no single structure that meets all objectives equally. Furthermore, not all objectives are valued equally by all agencies. Each objective has merit and plays an important role when implementing changes and evaluating the overall effectiveness of proposed changes. These elements and competing objectives were discussed and evaluated at length throughout the financial and rate study process.

The recommended rate schedules are designed to recover the revenue requirement in a way that collects a proportionate share of costs from each class. The proposed rate structure refines the Utility's existing structures to incorporate Staff, Council, and public input, changes in customer demands, and recent regulatory and legal frameworks. The details behind each of the rate recommendations, including any new components or structural changes, are outlined within this report.

Various financial scenarios have been developed to balance financial stability and customer impacts. To set a clear path towards aligning costs, increasing reserves, and managing decreased water sales, Carollo recommends an annual rate increase from FY 2018 to FYE 2023 by 17%, 9%, 9%, 5%, 3%, and 3%.

5.3 Fixed Charge

A monthly fixed charge is a cost recovery mechanism that is generally included in the rate structure to assist in the Utility in recovery of fixed expenditures, including the Customer and Capacity allocated costs.

While an increased fixed charge provides a stable source of revenues for the utility, increasing the fixed charge reduces the commodity rates and incentive for conservation. The proposed revenue adjustments as a percentage do not equal or necessarily correlate to an equivalent percentage increase to rates or monthly

bills. The results of the updated cost of service analysis will affect users differently based on their meter size and water consumed.

The first part of the fixed charge is derived from the costs allocated to Customers. In order to define this rate, the total cost allocated to Customers was divided by the number of bi-monthly bills forecasted for FYE 2019. As there are forecasted to be 114,000 bi-monthly bills in FYE 2018 the customer component for FYE 2018 will be $21.80 ($2,484,760 ÷ 114,000 bills)

The second part of the fixed charge is derived from the costs allocated to Capacity. The Capacity costs are split through the use of the Meter Equivalent Unit (MEU). The MEU is an industry wide standard calculated by the AWWA which is used to compare the capacity of different sized meters. A rate per MEU is then defined by dividing the Capacity costs by the total number of MEUs. For FYE 2018 there are forecasted to be 32,445 MEUs which results in a cost of $25.10 per MEU ($$4,877,483 ÷ 32,445 MEUs).

The fixed charge is then defined for each meter size by multiplying the rate per MEU by its respective capacity ratio and then adding the Customer rate. The results for each meter size are shown in Table 5.1

Table 5.1 Fixed Charge Calculation

Meter Size	Capacity Ratio	Service Unit	Customer Unit	Total*	Existing
5/8"	1.0	$25.10	$21.80	$46.90	$39.85
3/4"	1.5	$37.60	$21.80	$59.40	$39.85
1"	2.5	$62.65	$21.80	$84.45	$73.45
1-1/2"	5.0	$125.30	$21.80	$147.10	$129.40
2"	8.0	$200.45	$21.80	$222.25	$196.55
3"	16.0	$400.90	$21.80	$422.70	$375.60
4"	25.0	$626.40	$21.80	$648.20	$577.05
6"	50.0	$1,252.75	$21.80	$1,274.55	$1,136.65
8"	80.0	$2,004.40	$21.80	$2,026.20	$1,808.20

* Total has been rounded up to the nearest $0.05.

Existing is based on FYE 2017 rates, effective Jan, 1, 2017.

Table 5.1 identifies the proposed bi-monthly fixed charges for the 5-year rate period.

Table 5.2 Future Fixed Charges

Meter Size	FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022	FYE 2023
5/8"	$46.90	$52.25	$57.85	$60.80	$62.75	$64.70
3/4"	59.40	66.25	73.30	77.05	79.50	82.00
1"	84.45	94.15	104.20	109.60	113.00	116.55
1-1/2"	147.10	164.00	181.50	190.85	196.85	203.05
2"	222.25	247.80	274.20	288.40	297.45	306.80
3"	422.70	471.25	521.50	548.45	565.70	583.45
4"	648.20	722.65	799.75	841.05	867.45	894.75
6"	1,274.55	1,421.00	1,572.55	1,653.80	1,705.70	1,759.35
8"	2,026.20	2,259.00	2,499.95	2,629.10	2,711.65	2,796.90

* Total has been rounded up to the nearest $0.05.

5.4 Commodity Rates

The commodity rates are developed for each customer class designed to recover the costs proportionate to water demands. Costs of service based rates were developed for each customer class based on the principle of maintaining vertical and horizontal customer-class equity. This means that each customer class would only pay its assigned share of costs of service and that each member of each class would pay their fair share of customer class costs.

The Utility currently differentiates commodity rates between six customer classes: Single Family, Multi-family, Landscape, Commercial, School, and Government. To encourage conservation, the Utility implemented tiered rates for its single family class. As water usage various widely for other users, the remaining customer classes' rates were given a uniform structure. Carollo recommends maintaining the existing rate structure and just updating the cost allocation based on the updated consumption patterns.

5.4.1 Uniform Rates

Uniform rates are calculated for each class based on the classes projected annual water consumption and the allocation of peak and base costs. The uniform rate for each customer class then blends the peak and base costs by dividing the sum of the cost by forecasted consumption. The results can be seen in Table 5.3.

Table 5.3 Uniform Commodity Rate Calculation

Class	Base Costs	Peak Costs	Total Costs	Forecasted Consumption (CCF)	Rate per CCF
Multi-Family*	$1,827,024	$1,068,918	$2,895,942	1,340,332	$2.17
Commercial	$1,335,491	$701,724	$2,037,215	980,100	$2.08
Landscape	$1,407,568	$1,050,005	$2,457,573	1,032,240	$2.39
Government	$203,539	$189,938	$393,477	149,566	$2.64
Schools	$145,201	$119,910	$265,111	106,028	$2.51

* Condominiums and apartments are combined as multi-family for rate-setting.

As these rates were developed based on FYE 2018 to derive rates for FYE 2019 – FYE 2023 they were increased by the recommended rate increases in Table 5.4. The prosed rates can be seen below.

Table 5.4 Recommended Uniform Commodity Rates

Class	FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022	FYE 2023
Multi-Family	$2.17	$2.34	$2.54	$2.67	$2.76	$2.85
Commercial	2.08	2.25	2.44	2.57	2.65	2.73
Landscape	2.39	2.58	2.81	2.95	3.05	3.14
Government	2.64	2.85	3.09	3.24	3.34	3.44
Schools	2.51	2.73	2.97	3.14	3.25	3.37

5.4.2 Tiered Rates

The Utility's tiered rate structure is built upon the idea that peak usage results in increasing costs for the Utility, unique from the costs incurred for basic (i.e., average) service. Additionally, it indirectly incentivizes conservation by sending a price signal to customers that if they use more water they will have to pay a higher price. As users increase their demand, the Utility must continue to produce and import more water at an increased cost compared with base demand, and size, operate, and maintain larger facilities to meet the higher demand. Built on the foundation of the base-extra capacity methodology, these additional costs are covered through the Utility's tiered rate system. Every unit of water begins with a base unit cost intended to recover the Utility's basic production, conveyance, and distribution costs. The concept of proportionality requires that cost allocations consider both the average quantity of water consumed (base) and the peak rate at which it is consumed (peaking).

As part of this cost of service study, Carollo evaluated the size of the tiers, or tier breaks, within the Single Family Residential customer classes. As the existing tier break points provide a reasonable basis for allocating peaking costs no changes to the tiers are assumed at this time in order to mitigate customer impacts. Tiered rates are not applied to the other customer classes as customers within those classes are heterogeneous. While Single Family usage may vary, the basic need is essentially the same compared to that of a gas station, restaurant, or grocery store.

In order to establish an equitable rate for each tier both a common base rate and unique peak rates were developed for each tier. In order to develop each tiers peak rate, peaking factors were identified through the analysis of usage patterns. These peaking factors were then used to allocate the peak costs identified in the functional allocation to each tier.

5.4.2.1 Base Rate

Each tier is first developed by calculating the base rate for each unit of water. This base rate is identical for each tier. The calculation is outlined below.

Table 5.5 Base Component for Tiered Rates

Calculation	Value
Allocated base costs (from Table 4.4)	$5,667
Projected FYE 2018 usage (CCF)	4,165,944
Base Rate ($ / CCF)	$1.36

5.4.2.2 Peak Rate

After the base rate is calculated, the peak rate is calculated for each tier based on the peaking factors associated with each tier.

Table 5.6 Peak Component Calculation for Tiered Rates

Calculation	Tier 1	Tier 2	Tier 3
Total allocated peak costs *(from Table 4.4)*		$3,472	
Peak factor calculation method	Min Month / Avg. Month	Avg. Month / Avg. Month	Max Month / Avg. Month
Peak factor	0.41	1.00	1.47
Projected demand (CCF)	1,733,937	1,433,719	988,288
Weighted demand *(CCF * peak factor)*	718,868	1,433,719	1,457,652
Unit cost per peak unit *(Allocated costs / sum of weighted demand)*		$0.96	
Peak Rate *(Unit cost per peak unit x peak factor)*	$0.40	$0.96	$1.42

5.4.2.3 Single Family Tiered Rates

The final tiered rates are calculated by adding the $1.36 per CCF for the base costs to the peak unit cost.

Table 5.7 Single Family Tiered Rates per CCF

Tier	FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022	FYE 2023
1 (0 - 20 CCF)	$1.76	$1.91	$2.07	$2.18	$2.24	$2.31
2 (21 – 50)	$2.32	$2.52	$2.73	$2.87	$2.96	$3.05
3 (51 - +)	$2.78	$3.01	$3.26	$3.43	$4.3	$3.65

5.4.3 Demand Management Rates

Demand rates are temporary surcharges that can be implemented in time of need to safeguard cost recovery. At the discretion of the City Council, the City may introduce demand rates in concert with the existing rate schedule during necessary usage reductions. As outlined throughout the report, decreased demand can undermine the reliability of rate revenue, leaving the agency to find cost savings, absorb the decreased cash flow, or further increase rates.

Demand rates can be defined as a fixed component, variable rate surcharge, or a combination of both. If baseline demands are not realized, decreasing demands drive need for additional rate increases in the short-term. The Utility's current rate structure recovers 64 percent of annual revenues through variable rates.

When calculating demand management rates, the adjusted demand scenario determines both the reduced revenue and any cost savings due to reduced operational needs. This analysis reviewed three demand stages— up to 10 percent, up to 20, and greater than 20 percent—from projected FYE 2018 demands. These demand stages are presented as ranges as drops in demand cannot be easily targeted and can be volatile from month to month. The City (staff and Council) will have the ability to implement these rates when necessary to provide sufficient revenues under various drought, water shortage, or demand reduction periods. The rates can either be implemented proactively (known shortage or drought) or reactively (wait and see if reductions are prolonged). The projected demand revenue requirements and proposed rate are shown for all classes in the following table.

Table 5.8 Demand Management Rates

	Level 1 *Up to 10% Reduction*	Level 2 *Up to 20% Reduction*	Level 3 *Up to 30% Reduction*
Lost Revenues	$(1,799)	$(3,567)	$(5,289)
Cost Savings*	1,105	2,186	3,270
Net Revenues to Recover	(694)	(1,381)	(2,019)
Projected CCF**	6,982,053	6,207,236	5,429,815
Demand Management Surcharge ($/CCF)	**$0.10**	**$0.17**	**$0.31**

* Cost savings calculated as water purchase costs, reduced by the percentage demand decrease.
** Baseline demand equal to 7,774,210 CCF.

5.5 Recycled Water Rates

The Utility's rates for recycled water service are based on the potable landscape rate. The basis of this rate is due to the lower allocation of peak costs to this rate. Recycled water customers do not benefit from the same costs that the Utility's potable customers support, and therefore, a reduced landscape rate closely reflects their cost of service. Furthermore, this takes into account the capital projects that specifically benefit the potable system, and are included in the full landscape rate but excluded from the recycled water rate.The proposed rates are outlined below. The current recycled water rate is $1.60 per CCF.

Table 5.9 Recycled Water Rates per CCF

	FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022	FYE 2023
$ / CCF	$1.91	$2.06	$2.25	$2.36	$2.44	$2.51

Chapter 6

CUSTOMER IMPACTS

Before implementing any rate structure recommendations, Carollo worked closely with Utility staff to evaluate the impact of the proposed rate structure and revenue adjustments to water customers. Although is potentially under funding capital reinvestment, the proposed revenue increases and the capital funding levels were balanced to mitigate overall impacts to ratepayers while increasing capital reinvestment.

The following figure shows the calculated monthly impact of the proposed rates for single-family customers across various usage levels. The blue portion of the bar represents the customers fixed charge, while the red represents the commodity or variable portion of the overall bill.

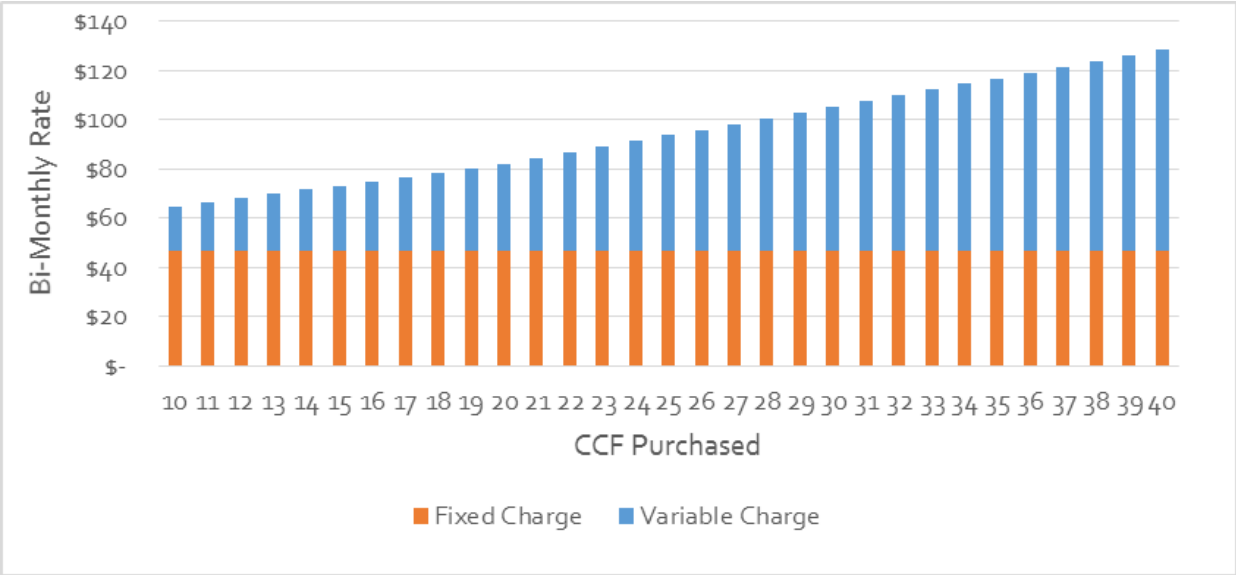

Figure 6.1 New SFR 5/8" Bi-Monthly Rates

6.1 Residential Bill Impact

The typical single-family residential bi-monthly bill (assumed to be 34 CCF bi-monthly based on the typical usage level) would increase by approximately $19 from FYE 2017 and by $15 from the current FYE 2018 rates, or on a monthly basis, $9.50 and $7.50 respectively. The bill comparison is shown in Figure 6.2.

Figure 6.2 Bi-Monthly SFR Bill Impact

6.2 Neighboring Agency Comparison

Despite a very significant increase in rates, the City of Upland is able to keep the costs for a typical single family residence (34 ccf bi-monthly) with a 5/8" meter below the average of the neighboring agencies. This can be seen below in Figure 6.3. Under the proposed rate increases, Upland's typical bill would continue to be noticeably lower than all of its surrounding peer water agencies.

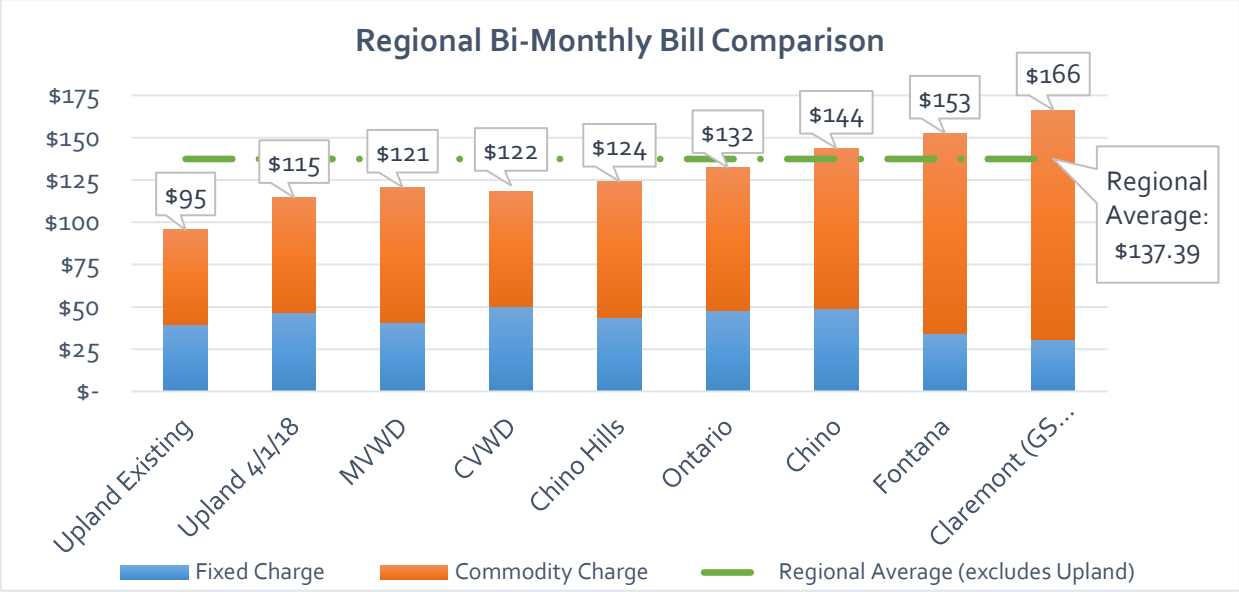

Figure 6.3 Neighboring Agency Rate Comparison

Appendix A

FUNCTIONAL ALLOCATION

Table 6.1 Offsetting Revenues and Expenditures FYE 2018

Department	Detailed	FYE 2018 Budget	Allocation Basin
Water Administration - 6201			
	Salaries & Benefits	$486,370	Fixed
	Maintenance & Operations	2,080,090	Fixed
	Allocated Costs	614,094	Fixed
	Capital Outlay	355,000	Fixed
Customer Service - 6202			
	Salaries & Benefits	$609,340	Customer Only
	Maintenance & Operations	212,055	Customer Only
	Allocated Costs	19,965	Customer Only
	Capital Outlay	-	Customer Only
Meter Services - 6203			
	Salaries & Benefits	$276,710	Fixed
	Maintenance & Operations	451,300	Fixed
	Allocated Costs	21,265	Fixed
	Capital Outlay	-	Fixed
Production/Storage - 6205			
	Salaries & Benefits	$580,830	System Peaking
	Maintenance & Operations	3,741,400	Capacity / Peaking
	Water Purchases	10,844,232	Capacity / Peaking
	Allocated Costs	150,960	System Peaking
	Capital Outlay	-	System Peaking
Transmission & Distribution - 6206			
	Salaries & Benefits	$1,147,160	Capacity / Peaking
	Maintenance & Operations	504,811	System Peaking
	Allocated Costs	82,413	Capacity / Peaking
	Capital Outlay	-	Capacity / Peaking
WECWC Mgmt Control - 6207			
	Salaries & Benefits	$105,960	As All Others
	Maintenance & Operations	7,400	As All Others
	Allocated Costs	-	As All Others
	Capital Outlay	-	As All Others
Water Conservation - 6208			

Salaries & Benefits	$120,180	Conservation
Maintenance & Operations	155,300	Conservation
Allocated Costs	-	Conservation
Capital Outlay	-	Conservation
Debt Service - 6210		
Salaries & Benefits	$-	Capacity Only
Maintenance & Operations	390,900	Capacity Only
Allocated Costs	-	Capacity Only
Capital Outlay	-	Capacity Only
Storm Water Mgmt & Recharge - 6211		
Salaries & Benefits	$210,420	As All Others
Maintenance & Operations	181,800	As All Others
Allocated Costs	4,400	As All Others
Capital Outlay	-	As All Others
Other Expenses		
Water Construction Permits	$190,000	As All Others
Water Connection Fee	5,000	As All Others
Water Meter Installations	75,000	As All Others
Muni Code- Late Charges	240,000	As All Others
Interest Earnings	60,000	As All Others
Miscellaneous Reimbursements	205,000	As All Others
Other Expenses	60,000	As All Others
* WECWC and Storm Water Mgmt. & Recharge were consolidated under Production and Storage elsewhere in the report.		