



City of Upland

FYE 2020 WATER RATE STUDY UPDATE

March 2020



EXECUTIVE SUMMARY

1.1 Purpose

The technical memorandum summarizes the rate recommendations for the City of Upland for FYE 2020. It provides background information related to the City's currently adopted rates and the calculation of those rates; changes that have occurred since that analysis; and recommendations for future rates.

1.2 Background and Existing Rate Structure

In FYE 2018, the City of Upland adopted an aggressive rate adjustment schedule for FYE 2018 through FYE 2022. This was in response to multiple factors that challenged the City's ability to fund operations and capital needs. Those factors included declining water sales revenue, increasing water purchase costs, substantial capital investment needs, and limited reserve funds.

1.3 Updated Financial Assessment

Carollo Engineers, Inc. was retained by the City in mid-2019 to reassess the water utility's financial health following several changes to the financial assumptions. Water sales appear to have modestly rebounded, reserve funds have recovered, and the City's operating and capital costs are more stable. Based on Carollo's assessment, the City is now meeting its three key financial metrics (cash flow, debt service coverage, and reserve funding).

1.4 Recommendations

Carollo concludes that the City may defer rate increases for FYE 2020 if desired without sacrificing financial performance or funding goals. For future years, Carollo recommends that the City reassess the situation annually to gauge how assumptions have changed. Almost all four challenges outlined above went from stable or under control, to undermining the City's financial health in just three years. Given how swiftly this change occurred, Carollo recommends cautiously monitoring each of these and other drivers and responding with rate increases when necessary.

Carollo generally does not recommend keeping rates flat for more than a few years, so a long-term strategy of at least keeping rates pace with inflation is prudent.

Section 1

INTRODUCTION

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 78,000 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) currently serves 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.

1.5 Study Purpose and Key Drivers

The City of Upland retained Carollo Engineers, Inc. (Carollo) in 2017 to conduct a Water Rate Study for rates beginning in FYE 2018 (2018 Study). Carollo delivered its recommendations in early 2018, which included substantial rate increases to address a budget and funding shortfall caused by several factors.

The City retained Carollo again in mid-2019 to update its rate model based on updated financial data from the City. This Rate Model Update (Update) presents recommendations for FYE 2020 rates. Carollo only updated financial baseline data and did not update usage data or assumptions, cost allocations, or rate structures.

1.6 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 and Table 2 below summarize the Utility's current water rate structure implemented, which is on a bi-monthly basis.

Table 1 Current FYE 2020 Variable Rates

Customer Class	Allocation (HCF)	Rate (\$/HCF)
Single Family		
Tier 1	0 – 20	\$1.91
Tier 2	21 – 50	\$2.52
Tier 3	> 50	\$3.01
Commercial / Industrial	All usage	\$2.25
Apartments / Condos	All usage	\$2.34
Landscape	All usage	\$2.58
Government	All usage	\$2.85
Schools	All usage	\$2.73
Recycled Water	All usage	\$2.06

Notes:

(1) All rates for FYE 2020.

Table 2 Current FYE 2020 Fixed Rates

Meter Size	Bi-Monthly Fixed Charge
5/8"	\$52.25
3/4"	66.25
1"	94.15
1.5"	164.00
2"	247.80
3"	471.25
4"	722.65
6"	1,421.00
8"	2,259.00

Notes:

(2) All rates for FYE 2020.

Section 2

FYE 2018 WATER RATE STUDY

1.7 Baseline and Challenges from FYE 2018 Study

The 2018 Study report provides a full summary of the City's financial situation and offers greater detail than is reasonable for this TM. Readers are encouraged to consult the report from the 2018 Study for a full overview of the study assumptions, methodology, and results.

When Carollo began its initial analysis in mid-2017, it was confronted with four key challenges that framed the 2018 Study.

1.7.1 Declining Water Demands

The City had experienced declining water sales for two straight years, with demands falling by 10 percent in FYE 2015 and then by another 20 percent in FYE 2016. While demands had increased by 8 percent in FYE 2017 due to a high-precipitation winter and an end to the historic California drought, demands were still down 22 percent from five years before in FYE 2013.

Unfortunately for the City, this decline occurred just after the City had finalized its previous rate study in mid-FYE 2014. The recommendations of that rate study were based on a status quo projection and did not anticipate such substantial declines in water sales and by extension revenues. The FYE 2014 Study projected FYE 2017 water sales revenues at approximately \$20.3 million, while actuals were closer to \$17.9 million, a shortfall of approximately 12 percent.

1.7.2 Insufficient Reserve Funds

Perhaps the City's greatest challenge was its struggle to keep adequate operating and capital reserves. At the time of the FYE 2018 Study, the City was projected to completely deplete its reserves due to cash flow shortages and capital funding needs. This severely threatened the City's ability to meet its operating needs for the future and resulted in significant capital deferral. Carollo recommended establishing and maintaining at least 90 days' worth of operating expenses. The City was falling short of this benchmark.

1.7.3 Increasing Water Supply Costs

The City acquires most of its water supply from external sources. San Antonio Water Company (SAWCo) delivers most of the City's water, making up nearly half of the City's supply portfolio by volume. Over the last several years, SAWCo has increased its water supply rate, increasing from \$222 per acre-foot (AF) in FYE 2017 to \$350 per AF in FYE 2020, an increase of 58 percent over that time.

The City's other water supply sources have also increased their unit costs over the last several, although not to the same degree as SAWCo. The Water Facilities Authority currently provides approximately 25 percent of the City's total water portfolio at a unit cost of \$980 per AF. This source is critical for meeting the City's peak summer demands for landscaping and irrigation. As a result of these increasing costs, the City's total water supply cost has increased from \$6.4 million in FYE 2016 to \$8.9 million in FYE 2019.

1.7.4 Significant Capital Improvement Needs

The City has identified substantial capital improvements needed to maintain service, particularly related to the City's distribution pipelines. Reservoir and pipeline replacement programs initiated by the City have placed additional funding needs on top of the City's existing operating costs. The pipeline

replacement over the next several years is approximately \$3 million annually, while the reservoir replacement project is estimated to cost approximately \$16.5 million total, funded by a new State Revolving Fund loan. Other well and reservoir rehabilitation projects are also planned, including a 7.5 million gallon reservoir rehabilitation.

1.8 Recommendations of the FYE 2018 Study

Due to these challenges, the 2018 Study recommended an aggressive rate program to help the City on a path of financial resiliency. In mid-2018, the City Council adopted the following series of rate adjustments.

Table 3 Recommended Rate Adjustments from FYE 2018 Rate Study

Fiscal Year	Revenue Adjustments (%)	Date Effective
FYE 2018	17%	April 1, 2018
FYE 2019	9%	January 1, 2019
FYE 2020	9%	January 1, 2020 (not yet implemented)
FYE 2021	5%	January 1, 2021
FYE 2022	3%	January 1, 2022
FYE 2023	3%	January 1, 2023

Section 3

CURRENT FINANCIAL SITUATION

This TM summarizes a financial update by Carollo of the FYE 2018 Water Rate Model. Carollo updated operating budgets, funding plans, capital improvement plans, and debt service schedules based on data received from the City. This update did not include usage assumptions, cost allocations, and rate design adjustments. Current rates were adopted in FYE 2019, and the Utility has maintained these rates in FYE 2020 (as shown in Table 1 and Table 2 above). This Update assumes no rate increases since January 1, 2019.

In order to update the 2018 rate analysis, Carollo revised the revenue requirements forecast. This analysis has two main purposes. First, it evaluates the Utility's fiscal health and the adequacy of current rate levels. Second, 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 three tests utilized to define the annual revenues necessary to provide both (1) cash flow, (2) bond coverage, and (3) reserves balance. 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.
- **Reserves Target Test** – considers the City’s reserve balances and looks at operating, capital, and other funds’ performance against City policy minimums. When the reserves targets are not met, this test recommends additional revenue.

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 ongoing O&M expenses and debt service, plus an additional 25 percent of the total debt-service requirements due in a year. Carollo used 50 percent as a more conservative planning assumption.

If revenues are not enough to satisfy one or both tests, the greater deficiency (shortfall) drives the rate increase.

1.9 Operations and Maintenance Budget Projection

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 2020 operating budget served as the basis for forecasting future operating expenses in this rate study update. 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 the same factors as previously determined in the FYE 2018 Rate Study. The projected O&M costs are shown in Table 4 below.

Table 4 Projected O&M Costs

Cost Center	FYE 2020	FYE 2021	FYE 2022	FYE 2023	FYE 2024
Administration	\$4,140	\$4,273	\$4,410	\$4,551	\$4,696
Customer Service	\$169	\$175	\$181	\$187	\$193
Meter Service	\$993	\$1,025	\$1,058	\$1,092	\$1,127
Production & Storage	\$15,721	\$16,225	\$16,744	\$17,280	\$17,833
Transmission & Distribution	\$2,655	\$2,740	\$2,828	\$2,918	\$3,011
Conservation	\$718	\$741	\$765	\$790	\$815
PVPA	\$4	\$5	\$5	\$5	\$5
Total O&M Costs	\$24,401	\$25,184	\$25,991	\$26,823	\$27,680

Notes:

- (1) All values in thousands of dollars.
(2) Totals may not tie due to rounding.

1.10 Revenue Projection

The Utility derives revenue from a variety of sources. Currently, user rate revenue generates over 90 percent of the water fund's revenues. Actual FYE 2019 revenues were used as the basis for projecting water revenues. 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.

Carollo's analysis excluded additional rate increases for the revenue sufficiency test. 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. Flat charge revenues were projected at 3.2 percent, similar to most O&M expenses. Table 5 summarizes the projected revenues for FYE 2020 through FYE 2024.

Table 5 Projected Revenues

Revenue Item	FYE 2020	FYE 2021	FYE 2022	FYE 2023	FYE 2024
Total Water Revenues	\$28,066	\$28,216	\$28,350	\$31,067	\$31,253
Flat Rate Sales	370	382	394	407	420
Recycled Water Sales	476	491	507	523	540
Total Other Revenues	1,293	1,333	1,375	1,418	1,462
Total Revenues	\$30,205	\$30,422	\$30,626	\$33,415	\$33,675

Notes:

- (1) All values in thousands of dollars.
(2) Totals may not tie due to rounding.

1.11 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 \$787,000 in FYE 2020. Annual debt service will increase in FYE 2021 with the addition of a Drinking Water State Revolving Fund Loan (DWSRF).

Table 6 summarizes the Water Fund's existing debt repayment schedule over the next five years.

Table 6 Debt Service Schedule

Fiscal Year	Total Debt	Forecasted DSCR
FYE 2020	\$787	4.66x
FYE 2021	\$948	3.20x
FYE 2022	\$1,016	2.32x
FYE 2023	\$1,441	2.94x
FYE 2024	\$1,444	2.47x

Notes:

- (1) All values in thousands of dollars.
- (2) Totals may not tie due to rounding.

1.11.1 Debt Service Coverage

The Utility must meet debt service coverage requirements on its outstanding bond issuances. Coverage requirements typically vary between 1.10x and 1.50x or higher, depending on the utility's rating of credit worthiness. 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.

The Utility's required debt coverage is 1.25x, which means that the Utility's net revenues (operating revenues less operating expenses, excluding debt) must be at least 125 percent of the annual debt service. The City is projected to meet its 1.25x debt service coverage requirement from FYE 2020 through FYE 2024.

1.12 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. Carollo worked with the City to update and prioritize capital projects to include in this rate study update. Carollo assumed an annual budget of approximately \$3 million for pipeline repair and replacement starting in FYE 2020 based on discussions with City staff. In addition, Carollo and City staff included further R&R projects in FYE 2021 and 2022. All projected were then escalated annually from FYE 2020 at 3 percent. Table 7 identifies the five-year CIP used in the revenue requirement analysis update.

Table 7 CIP Schedule

Project Type	FYE 2020	FYE 2021	FYE 2022	FYE 2023	FYE 2024
Pipe Repair & Replacement	\$3,000	\$3,096	\$3,195	\$3,297	\$3,403
Remaining R&R	-	1,800	1,500	-	-
Total CIP	\$3,000	\$4,896	\$4,695	\$3,297	\$3,403

Notes:

(1) All values in thousands of dollars.

(2) Totals may not tie due to rounding.

1.13 Reserves Balances

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 could mitigate revenue impacts caused by a sudden decrease in water demand, as was seen in 2015 and 2016. It could also better enable the Utility to fund day-to-day operations as revenues are generated over 6 bill periods, as opposed to monthly billings.

At the close of FYE 2019, the Utility had \$13.5 million in total reserves, which includes both cash for operating costs as well as capital funding for projects that are either planned or already encumbered. This figure is projected to be \$15.6 million at the close of FYE 2020. Based on the O&M expenses shown above in Table 4, the Utility aims to have at least \$5.3 in reserves given the City’s reserves target policy. Figure 1 shows the projected total reserves balance from FYE 2019 through FYE 2024 without any rate increases. For each year of the five-year period, reserves are above target levels.

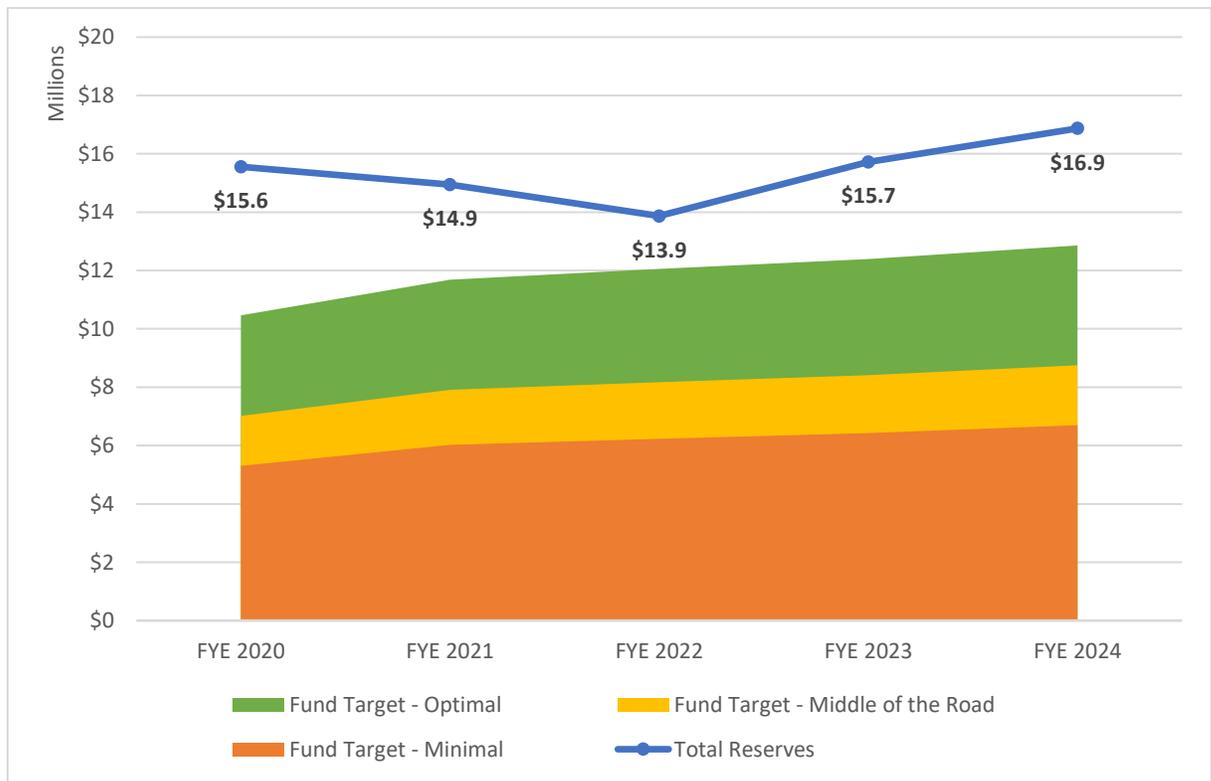


Figure 1 Total Projected Reserves Balance & Targets at Fiscal Year End

Section 4

RECOMMENDED STRATEGY AND RATES

Based on the updated revenue requirement analysis presented in Section 3, the City can defer its scheduled rate increases for FYE 2020 if desired. There is sufficient cash flow, debt coverage, and reserve balances to meet debt service coverage requirements, reserves policy targets, and pay for all anticipated CIP expenditures in FYE 2020.

This recommendation applies only to FYE 2020 and does not apply to future years. Carollo recommends revisiting this analysis at the end of FYE 2020. Keeping rates set at the same amount for more than a couple years is rarely recommend for several reasons. As was seen during the state's historic drought recently, water sales can change substantially in just a few short years.

Furthermore, while the Utility is projected to meet its debt coverage and reserve needs, it is projected to fall cash flow negative in FYE 2021 and 2022. While this may not immediately necessitate rate increases, maintaining positive cash flows is a good measure of performance in other financial measures. Ratings agencies also review this metric and gauge credit worthiness accordingly.

Therefore, Carollo recommends that the City revisit its financial performance annually. Before the next scheduled rate adjustment, the City should calculate any impact that this deferral has had. If the City is falling short or approaching its targets, additional rate revenues may be necessary. An inflation-based increase may prove sufficient.