



CITY OF EAST PROVIDENCE

FY 2021 Water Rate Study Report

Final Report / December 10, 2020

December 10, 2020

Mr. James Marvel
Water Utilities Manager
City of East Providence
145 Taunton Ave.
East Providence, RI 02914

Subject: FY 2021 Water Rate Study Report

Dear Mr. Marvel,

Raftelis is pleased to present this report describing the assumptions and findings of our Water Rate Study (Study) performed for the City of East Providence (City). We would like to take this opportunity to thank you and your staff for the efforts and participation you put forth during the Study.

The major objectives of the Study included the development of a financial plan for the water enterprise to ensure financial sufficiency, meet operation and maintenance (O&M) costs, ensure sufficient funding for capital renewal and replacement (R&R) needs, and improve the financial health of the enterprises through adequate reserve fund balances and debt service coverage.

This report summarizes the key findings and recommendations related to the development of the financial plan and our review and recommended rate increases required to support those plans.

It has been a pleasure working with you, and we thank you and other City staff for the support provided during the course of this study.

Sincerely,

RAFTELIS FINANCIAL CONSULTANTS, INC.

A handwritten signature in black ink, appearing to read 'Dave Fox', with a stylized flourish at the end.

Dave Fox
Manager

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1. FINANCIAL PLAN

The first step in the rate-setting process was the development of a financial plan, which included establishing a forecast of revenue requirements, determining the necessary revenue increases using demand projections, and examining the forecasted operating results over the five-year forecast period (FY 2021 – FY 2025).

1.1 REVENUE REQUIREMENTS

The first major task in establishing a financial plan is developing an understanding of the revenue requirements of the utility over the forecast period. Requirements are comprised of cash-based expenses including: O&M expenses, annual debt service payments, cash-funded capital, and contributions to utility reserve funds.

1.1.1 Operating Expenses

O&M expenses represent normal, recurring expenses necessary to sustainably operate and maintain the system during the City's annual accounting cycle, which is a Fiscal Year ending October 31st. The FY 2020 operating budget was provided to Raftelis by City Staff and serves as the baseline for the projection of utility operating costs. Major operating cost categories are personnel, operations, purchased water, equipment, miscellaneous, electricity, finance, billing, and vehicles.

To develop a five-year forecast of system operating costs and account for growing utility costs and inflation, escalation factors are used for each major operating expense category. These escalation factors averaged 3% per year throughout the five-year forecast period. These cost escalation factors are consistent with historical trends seen in the consumer price index, construction cost index, and actual City historical expenses.

1.1.2 Capital Improvement Plan

One of the major components of establishing a financial plan was incorporating the City's water Capital Improvement Plan (CIP) and corresponding capital financing plan based on the anticipated capital expenditures for the system over the forecast period.

The City provided Raftelis with a CIP for the forecast period. Major elements of the water CIP include the repair and replacement of pipelines, replacement of meters and radios, and inspection of the 42 inch transmission line from Providence Water. The water CIP identifies about \$22.3 million in capital expenditures from FY 2021 to FY 2025.

Along with the CIP, the City provided Raftelis with its proposed financing plan. Funding for system projects is expected to be addressed through a combination of debt and cash financing. Approximately 20% of the total CIP cost is expected to be financed from cash, and the remaining balance is expected to be funded through State Revolving Fund loans at a term of 25 years, an interest rate of 5%, and an issuance cost of 1%. Exhibit 1 summarizes the CIP projects over the forecast period.

Exhibit 1: Capital Improvements Plan

	<u>FY 2021</u> <i>Planned</i>	<u>FY 2022</u> <i>Planned</i>	<u>FY 2023</u> <i>Planned</i>	<u>FY 2024</u> <i>Planned</i>	<u>FY 2025</u> <i>Planned</i>
<u>Water Capital Improvements</u>					
Meter Replacement	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000
Emergency Interconnections	-	2,500,000	-	2,000,000	2,000,000
Annual Infrastructure Improvements	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Equipment Replacement Program	200,000	200,000	200,000	200,000	200,000
Cleaning and Lining Program	5,000,000	-	5,000,000	-	5,000,000
<i>Subtotal: Water Capital Improvements</i>	<u>\$ 6,700,000</u>	<u>\$ 4,200,000</u>	<u>\$ 6,700,000</u>	<u>\$ 3,700,000</u>	<u>\$ 8,700,000</u>

1.1.3 Total Revenue Requirements

The total revenue requirements, O&M expenses, the existing and proposed annual debt service, and the cash-funded capital discussed in the preceding sections are shown below in Exhibit 2 in the projection of revenue requirements for the forecast period.

Exhibit 2: Water System Revenue Requirements

Water System Revenue Requirements	<u>FY 2021</u> <i>Forecast</i>	<u>FY 2022</u> <i>Forecast</i>	<u>FY 2023</u> <i>Forecast</i>	<u>FY 2024</u> <i>Forecast</i>	<u>FY 2025</u> <i>Forecast</i>
<u>Operating Expenses</u>					
Personnel	\$ 2,394,764	\$ 2,466,607	\$ 2,540,605	\$ 2,616,823	\$ 2,695,328
Operations	1,540,277	1,586,486	1,634,080	1,683,103	1,733,596
Purchased Water	2,781,000	2,864,430	2,950,363	3,038,874	3,130,040
Equipment	80,340	82,750	85,233	87,790	90,423
Miscellaneous	39,140	40,314	41,524	42,769	44,052
Electricity	169,950	175,049	180,300	185,709	191,280
Finance	-	-	-	-	-
Billing	67,980	70,019	72,120	74,284	76,512
Vehicles	206,000	212,180	218,545	225,102	231,855
<i>Subtotal: Operating Expenses</i>	<u>\$ 7,279,451</u>	<u>\$ 7,497,835</u>	<u>\$ 7,722,770</u>	<u>\$ 7,954,453</u>	<u>\$ 8,193,087</u>
<u>Debt Service</u>					
<i>Existing Debt</i>					
Senior Debt Service	\$ 1,814,713	\$ 1,804,705	\$ 1,794,079	\$ 1,782,161	\$ 1,769,634
Subordinate Debt Service	-	-	-	-	-
<i>Subtotal: Existing Debt</i>	<u>\$ 1,814,713</u>	<u>\$ 1,804,705</u>	<u>\$ 1,794,079</u>	<u>\$ 1,782,161</u>	<u>\$ 1,769,634</u>
<i>Proposed Debt</i>					
Senior Debt Service	\$ -	\$ -	\$ -	\$ -	\$ -
SRF Debt Service	-	383,130	598,220	981,349	1,162,832
Other Subordinate Debt	-	-	-	-	-
<i>Subtotal: Proposed Debt</i>	<u>\$ -</u>	<u>\$ 383,130</u>	<u>\$ 598,220</u>	<u>\$ 981,349</u>	<u>\$ 1,162,832</u>
<i>Subtotal: Debt Service</i>	<u>\$ 1,814,713</u>	<u>\$ 2,187,835</u>	<u>\$ 2,392,299</u>	<u>\$ 2,763,510</u>	<u>\$ 2,932,466</u>
<u>Capital Expenditures & Transfers</u>					
Rate Funded Capital (PAYGO)	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000
<i>Subtotal: Capital Expenditures & Transfers</i>	<u>\$ 1,000,000</u>	<u>\$ 1,000,000</u>	<u>\$ 1,000,000</u>	<u>\$ 1,000,000</u>	<u>\$ 1,000,000</u>
<i>Total: Water System Revenue Requirements</i>	<u>\$ 10,094,164</u>	<u>\$ 10,685,670</u>	<u>\$ 11,115,069</u>	<u>\$ 11,717,963</u>	<u>\$ 12,125,553</u>

1.2 REVENUES

The City's water utility collects revenue from several sources. Operating revenues consist primarily of revenues from water retail rates and charges. Other revenues include those coming from water connection fees, interest on investments and delinquent payments, and other miscellaneous revenue sources.

1.2.1 Demand for Services

To estimate system user charge revenue, a customer demand forecast must be developed and applied to utility rates and charges. To calculate demand, Raftelis reviewed the City's historical demand and customer growth and projected future demand for service over the forecast period. Detailed billing data was provided to Raftelis by the City. Raftelis then analyzed the detailed billing data to develop the demand forecast used in the model.

After discussions with City staff, it was agreed that Raftelis would assume the following customer growth and usage assumptions over the forecast period. Customer accounts are projected to remain flat throughout the duration of the forecast due to normal loss and gain of customers. For customer consumption demand, overall usage is projected to decline by 2.0% per year. The water utility has historically experienced yearly declines in water usage across most customer types. These declines are slightly more than those seen in other New England utilities but are generally consistent with national trends of declining use, often attributed to the installation of water-efficient appliances and customer conservation habits.

1.2.2 User Charge Revenues

Operating revenues are generated primarily from user rates and charges assessed to retail customers. General customer classes include residential, commercial, industrial, and governmental. Revenue from each of these customer classes has been forecast by using projected customer billing demand data over the study period and by applying the annual adjustments to the user rates and charges.

Revenues for FY 2021 have been projected based on the projected number of customer bills and billable units and the rates in place during FY 2020. The remaining years of the forecast period (FY 2021 – FY 2025) have been projected in the same way, using the projected number of bills and billable units of service and the future rates.

1.2.3 Other Revenues

In addition to user charge revenues, the City collects revenue from connection fees, other department revenue, and investment income. For our financial planning forecast, the revenue is based on budgeted amounts in FY 2020, and assumes no increases nor decreases because these non-operating revenue streams have been consistent over time according to City financial reports.

1.3 REVENUE SUFFICIENCY & RATE RECOMMENDATIONS

The most important element to any rate study is to ensure that a utility generates revenues that are sufficient for the operation of the system. Once the revenue requirements for user charges have been forecasted over the forecast period, the next step was determining the ability of the existing user charges to recover sufficient revenues to fully meet the anticipated operating and capital needs of the utility.

Based on the assumptions laid out in this report, the City’s existing water rates will not be sufficient to recover the system revenue requirements over the forecast period. This is evidenced by Exhibit 3 and 4. Exhibit 3 is a chart of revenues versus expenses over the next five fiscal years, showing how revenues fall below expenses for every year of the forecast. Exhibit 4 shows the reserve fund balance falling to zero by 2023 as funds are used to cover budget deficits.

Exhibit 3: Revenues and Expenses with No Rate Increases

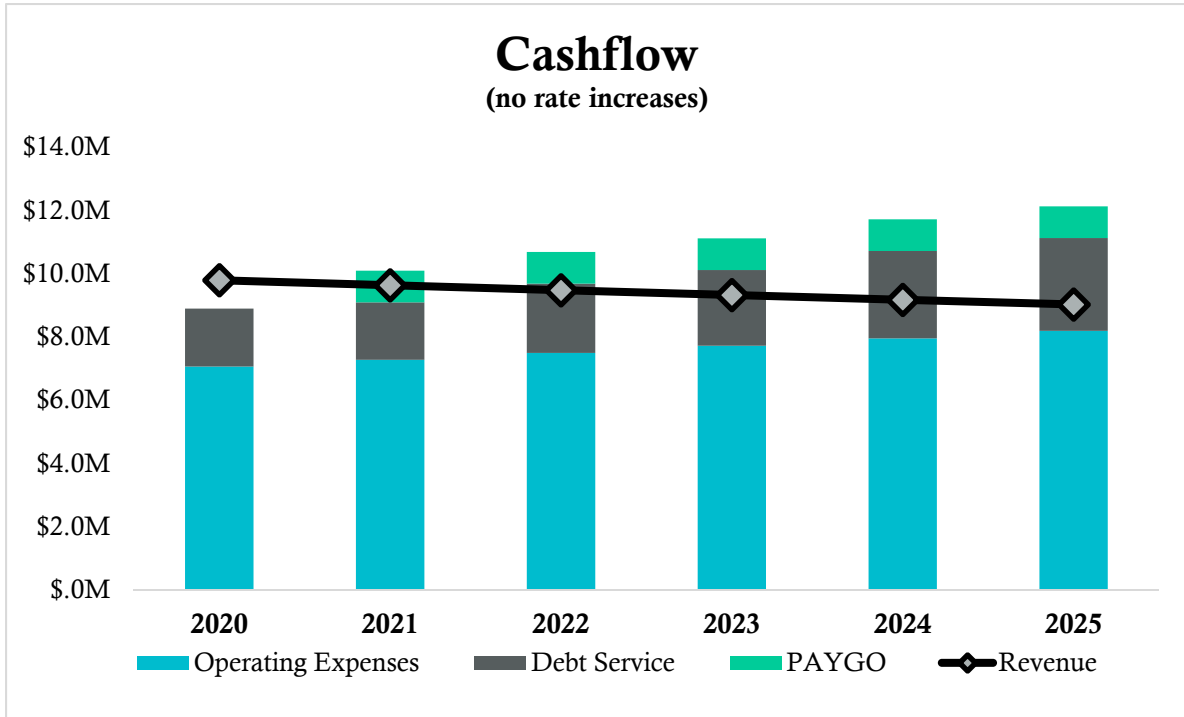
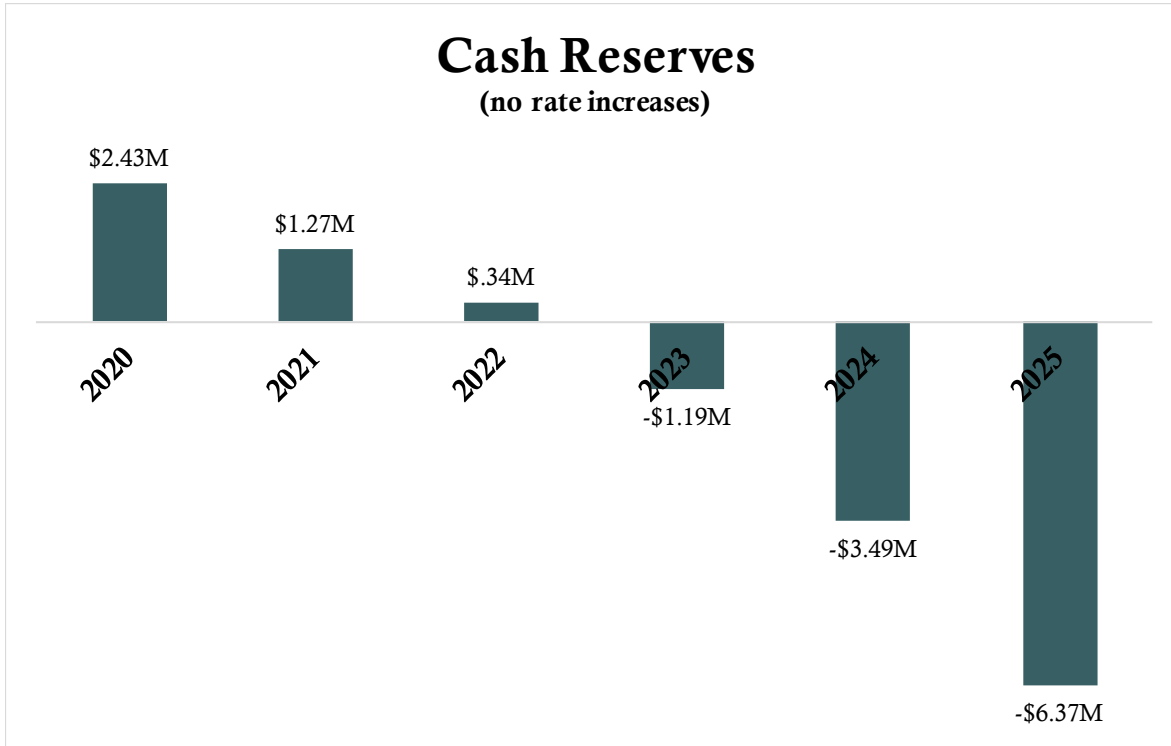


Exhibit 4: Water Utility Reserve Fund Balance with No Rate Increases



To achieve revenue sufficiency, rate increases are needed. Raftelis has assumed rate revenue increases for the duration of the forecast period. In order to fund system revenue requirements and meet reserve fund balance targets, 6% annual additional water user charge revenue will be needed for the duration of the forecast period (FY 2021 – FY 2025). Raftelis recommends that the City reevaluate these increases annually to ensure that they continue to sufficiently recover utility costs, and maintain financial viability as well as adequately exceed the City’s debt service coverage requirements on an annual basis. Exhibit 5 shows the proposed rates through FY 2025.

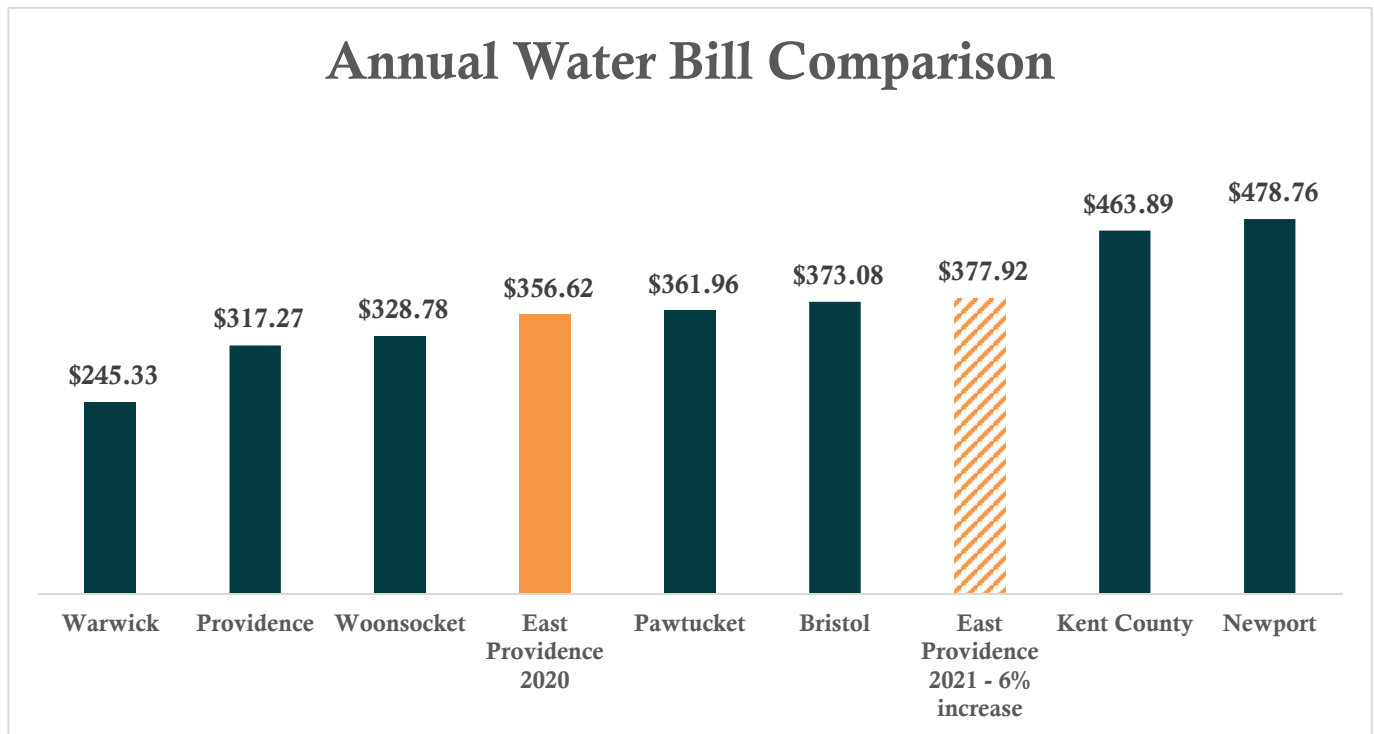
Exhibit 5: Existing and Proposed Water Rates

	<u>FY 2020</u> <i>Actual</i>	<u>FY 2021</u> <i>Forecast</i>	<u>FY 2022</u> <i>Forecast</i>	<u>FY 2023</u> <i>Forecast</i>	<u>FY 2024</u> <i>Forecast</i>	<u>FY 2025</u> <i>Forecast</i>
Water Rates & Charges						
<u>Annual Fixed Fee</u>						
5/8"	\$ 85.00	\$ 90.10	\$ 95.51	\$ 101.24	\$ 107.31	\$ 113.75
3/4"	127.50	135.15	143.26	151.86	160.97	170.63
1"	212.50	225.25	238.77	253.10	268.29	284.39
1 1/2"	425.00	450.50	477.53	506.18	536.55	568.74
2"	680.00	720.80	764.05	809.89	858.48	909.99
<u>Volume Charges (per Ccf)</u>						
All Usage	\$ 5.03	\$ 5.33	\$ 5.65	\$ 5.99	\$ 6.35	\$ 6.73

A customer that uses 54 hundred cubic feet of water per year (the median residential consumption in 2019) currently pays \$357 for water service annually. If a 6% water rate increase is approved, that customer’s bill would increase to \$378 per year.

Exhibit 6 shows a comparison of the City’s annual water bill and its peers in Rhode Island. It is important to remember that although these comparisons can be useful for benchmarking purposes, their interpretation is of limited use because they may or may not reflect the same level of service and infrastructure investment as the City of East Providence’s water utility. The comparison shows that for a typical residential customer in the City, a current annual bill ranks towards the lower end of peer water utilities, while the projected bill under a 6% increase is estimated to put it closer to the higher end of its peers. Of course, it is probable that peer utilities will also raise rates in 2021, making the City’s rates look even more favorable.

Exhibit 6: Water Bill Comparison with Peer Utilities



The financial plan described above (6% annual water rate increases through FY 2025) achieves the goals of the water utility. As shown in Exhibit 7, the smooth projection of rate increases is slightly below the forecast of revenue requirements in some years. This is because the City plans to use some of its reserves for capital repair and replacement projects. This is reflected in the decrease in operating reserve fund balances. While the revenues are forecasted to be slightly below revenue requirements, our forecasts indicate that the City will still maintain a healthy reserve fund balance throughout the forecast. Exhibit 8 shows the projected retained earning fund balances over the forecast period.

Exhibit 7: Water Financial Plan

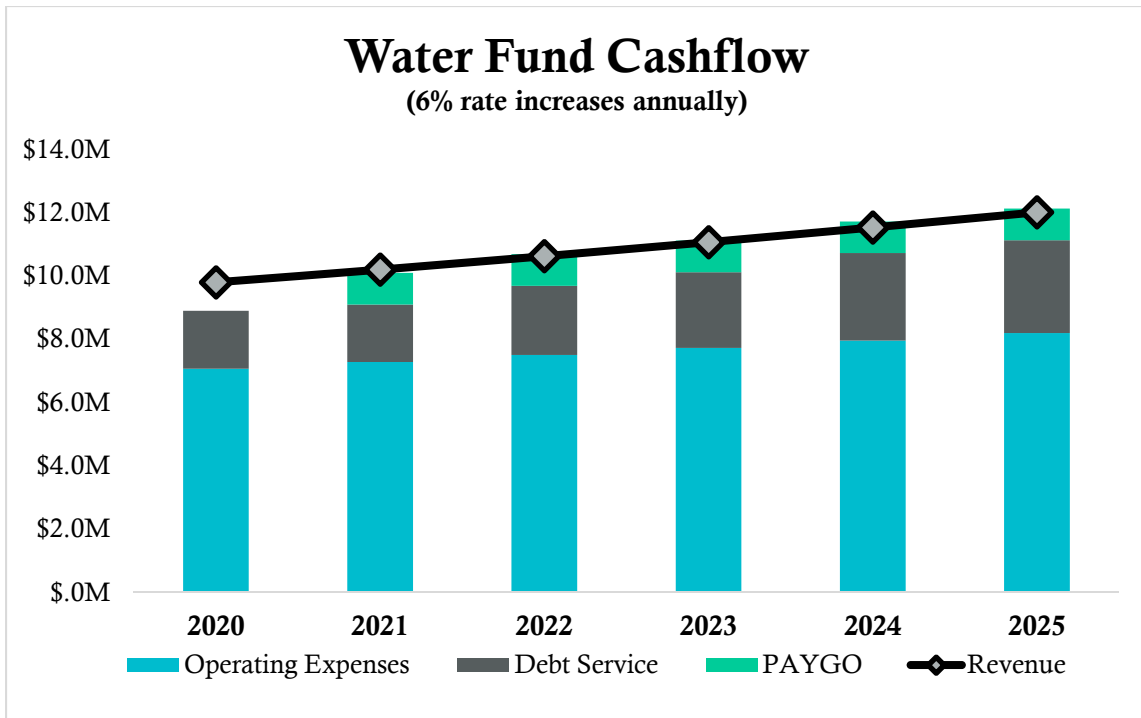
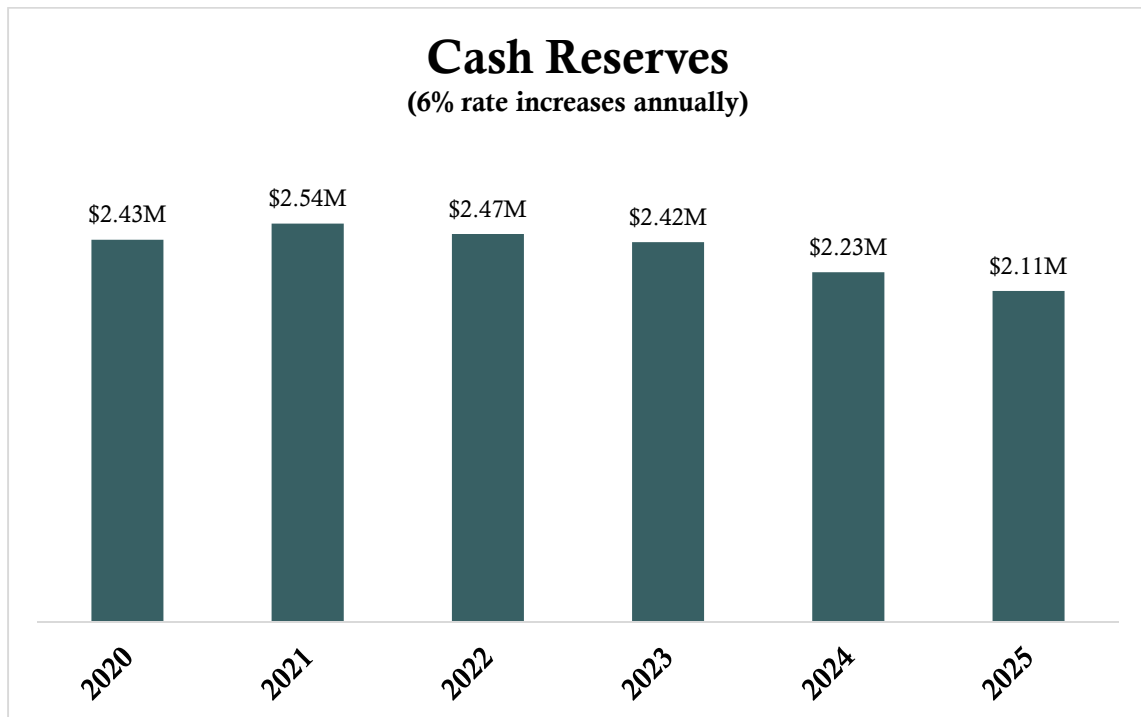


Exhibit 8: Projected Reserve Fund Balances



2. RECOMMENDATIONS

As stated in Section 1, Raftelis is recommending that the City increase its water rates by 6.0% in FY 2021. Given the information provided to Raftelis and the assumptions about the future described in this report, Raftelis is projecting the need for annual rate increases of 6% for the water utility through FY 2025. As noted earlier in the report, the City should continue to perform annual analyses to determine if these projected increases are appropriate for fiscal years 2022 through 2025, and make adjustments to the plan as necessary.

Although water rates are projected to increase annually by 6.0%, it is important to keep these increases in context with trends in the water and sewer industry. According to the American Water Works Association/Raftelis' Bi-Annual Rate Survey, water rates have been increasing from 2004-2018 at an annualized rate of 5.1%. Even with a conservative forecast, the City's projected increases are reasonably close to these nationwide averages. Additionally, the City is taking the steps necessary to preserve its water infrastructure, financial health of the utilities, and consistently deliver safe service to its customers. For utilities like the City that have appropriate management and reinvestment efforts, 6% increases are reasonable.

Although the forecast of rate increases is reasonable and on par with or below industry trends, the City should continue to reevaluate its financial plan annually to make adjustments to the planned rate increases in future years accordingly.