

Saint Paul Regional Water Services

Cost of Service Study

July 12, 2022



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Cost of Service and Water Rate Study Team



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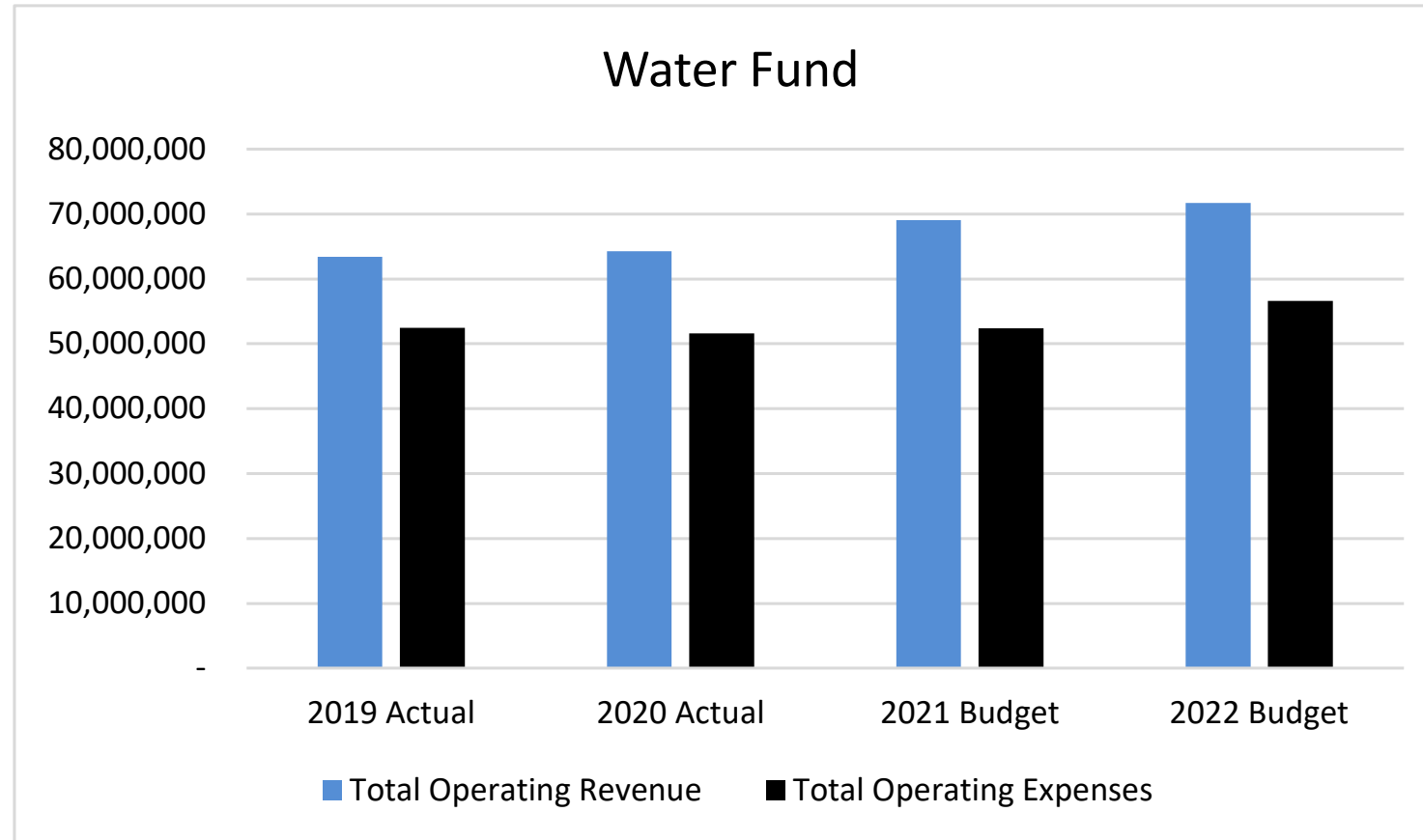
**Matt
Stark**
Manager

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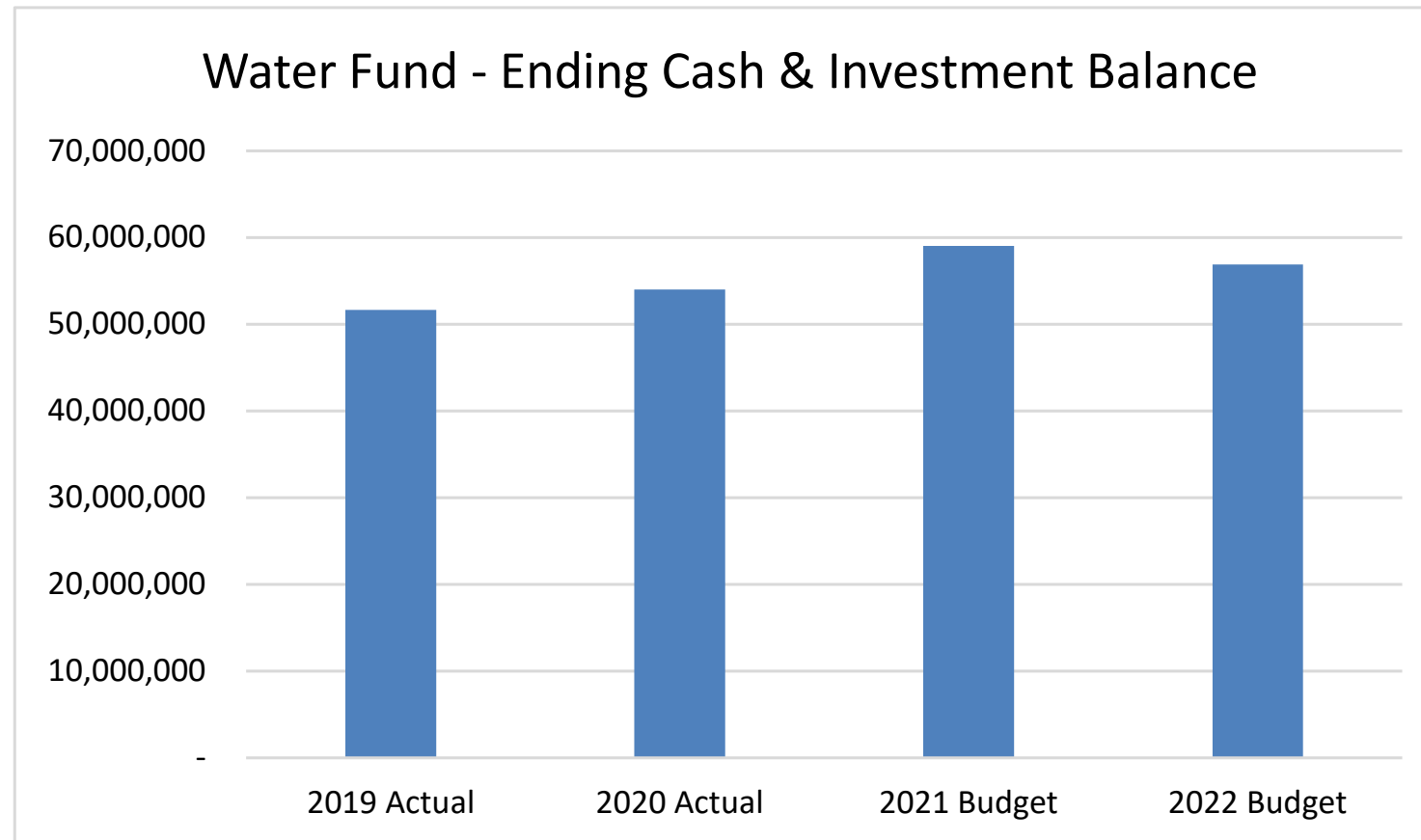
Purpose of the Study

- Determine retail and wholesale water rates necessary to fund operations and capital improvements
- Fund cash reserves
- 10-year planning period

Historical Information



Historical Information



Assumptions

- 2022 budget served as basis for projections
- Current consumption patterns
- Wholesale water consumption data 2017-2021
- Assets of the water system
- Prior cost of service studies
- Capital Improvement Plan
- Water consumption would remain at current levels

Capital Improvement Plan

	Water Utility	G.O. Water Revenue Bond	Water Revenue Bond	State Revolving Loan Fund	Other	Totals
2022	19,250,000	-	54,000,000	46,000,000	4,000,000	123,250,000
2023	22,442,000	-	36,000,000	52,500,000	11,100,000	122,042,000
2024	21,246,000	-	-	52,500,000	5,400,000	79,146,000
2025	20,443,000	-	-	25,700,000	-	46,143,000
2026	22,606,000	-	-	7,500,000	-	30,106,000
2027	25,570,000	-	-	7,500,000	-	33,070,000
2028	35,795,000	-	-	-	-	35,795,000
2029	39,355,000	-	-	-	-	39,355,000
2030	29,437,000	-	-	-	-	29,437,000
2031	37,971,000	-	-	-	-	37,971,000
2032	28,200,000	-	-	-	-	28,200,000
Total	302,315,000	-	90,000,000	191,700,000	20,500,000	604,515,000

Retail Rate Projections

	2022	2022	2023	2023	2024	2024	2025	2025
	Winter	Summer	Winter	Summer	Winter	Summer	Winter	Summer
<u>Water Rate 1 Monthly (W1M)</u>								
Meter Reading Fee	\$ 12.00	\$ 12.00	\$ 13.20	\$ 13.20	\$ 14.52	\$ 14.52	\$ 15.61	\$ 15.61
ROW Fee	\$ 1.51	\$ 1.51	\$ 1.51	\$ 1.51	\$ 1.51	\$ 1.51	\$ 1.51	\$ 1.51
Consumption Fee (per 100 cf)	\$ 3.33	\$ 3.43	\$ 3.66	\$ 3.77	\$ 4.03	\$ 4.15	\$ 4.33	\$ 4.46
Water Main Surcharge (per 100 cf)	\$ 0.20	\$ 0.20	\$ 0.22	\$ 0.22	\$ 0.24	\$ 0.24	\$ 0.26	\$ 0.26
Base Fee	\$ 6.00	\$ 6.00	\$ 6.60	\$ 6.60	\$ 7.26	\$ 7.26	\$ 7.80	\$ 7.80
<u>Water Rate 1 Quarterly (W1Q)</u>								
	Winter	Summer	Winter	Summer	Winter	Summer	Winter	Summer
Meter Reading Fee	\$ 12.00	\$ 12.00	\$ 13.20	\$ 13.20	\$ 14.52	\$ 14.52	\$ 15.61	\$ 15.61
ROW Fee	\$ 4.50	\$ 4.50	\$ 4.50	\$ 4.50	\$ 4.50	\$ 4.50	\$ 4.50	\$ 4.50
Consumption Fee (per 100 cf)	\$ 3.33	\$ 3.43	\$ 3.66	\$ 3.77	\$ 4.03	\$ 4.15	\$ 4.33	\$ 4.46
Water Main Surcharge (per 100 cf)	\$ 0.20	\$ 0.20	\$ 0.22	\$ 0.22	\$ 0.24	\$ 0.24	\$ 0.26	\$ 0.26
Base Fee	\$ 18.00	\$ 18.00	\$ 19.80	\$ 19.80	\$ 21.78	\$ 21.78	\$ 23.41	\$ 23.41

Wholesale Cost of Service Analysis

- American Water Works Association (AWWA) *Principals of Water Rates, Fees, and Charges Manual M1*
- November 2017 - Cost of Services Study for Wholesale Customers Cities of Little Canada and Roseville by SPRWS
- November 2019 - Cost of Services Study for Wholesale Customers Cities of Little Canada and Roseville November 2017 And Incorporating Cost Of Service Study for University Of Minnesota November 2019 by SPRWS

Cost of Service Analysis - Assumptions

- Assets serving each wholesale customer same as 2019 study
- 2022 cost/foot of distribution piping serving each wholesale customer
- 2022 cost of preparing and collecting bill including meter reading
- 2022 administration and engineering design base percentages
- Present worth of assets
- Asset functional classification
- 5% return on investment

Cost of Service Analysis – Consumption Data

Year	Roseville (MGY)	Little Canada (MGY)	Wholesale U of M	Retail (MGY)	Total consumption Water (MGY)	Total Treated Water (MGY)
2017	1,640.605604	353.181664		10,377.556024	12,371.343292	14,349.124731
2018	1,714.346436	339.788724		10,309.872496	12,364.007656	14,469.866214
2019	1,629.465640	337.297884		9,930.225844	11,896.989368	14,121.936735
2020	1,708.833676	355.041940	105.170296	9,782.851144	11,951.897056	14,005.936735
2021	1,878.726168	383.789076	129.864020	10,337.531292	12,729.910556	14,647.457608
Average	1,714.395505	353.819858	117.517158	10,147.607360	12,262.829586	14,236.716104

Cost of Service Analysis – Consumption Data

	Average Day			Max Day		Max Hour	
Customers	MGY	MGD	% of Total	MGD			
Retail Customers	10,147.61	27.80	82.28%	51.03	82.28%	153.09	82.28%
Roseville	1,714.40	4.70	13.90%	8.62	13.90%	25.86	13.90%
Little Canada	353.82	0.97	2.87%	1.78	2.87%	5.34	2.87%
U of M	117.52	0.32	0.95%	0.59	0.95%	1.77	0.95%
Total	12,333.34	33.79	100.00%	62.02	100.00%	186.06	100.00%

Cost of Service Analysis – Base Extra Capacity Allocation Percentages

	Base	Extra Capacity		
Base Extra Capacity	Capacity	Max Day	Max Hour	Total
Total Capacity (MGD)	33.79	62.02	186.06	
Percent Allocation				
Avg Day and Max Day	54%	46%	0%	100%
Avg Day and Max Hour	18%	0%	82%	100%
Avg Day, Max Day and Max Hour	18%	33%	49%	100%

Cost of Service Analysis – Asset Value Present Worth

- Current SPRWS assets book value inflated to present worth for each functional area
- Current Depreciation from SPRWS asset records
- Wholesale customer specific assets that provide supply to them include:
 - Roseville – distribution mains
 - Little Canada – distribution mains
 - U of M – distribution mains; elevated tanks, pumps and other assets
- All other assets distributed by base extra capacity method

Cost of Service Analysis – Capital Cost Allocation

Description	Roseville	Little Canada	U of M	Total
Plant Value (Present Worth Allocation)	\$ 24,824,524	\$ 5,114,685	\$ 4,794,985	\$ 34,734,193
Return on Investment (5%)	\$ 1,241,226	\$ 255,734	\$ 239,749	\$ 1,736,710
Current Depreciation	\$ 557,024	\$ 116,118	\$ 87,746	\$ 760,887
Total Capital Cost	\$ 1,798,250	\$ 371,852	\$ 327,495	\$ 2,497,597

O & M Expenses Allocation – Base Extra Capacity Method

Wholesale Customer	O & M Cost Allocation
Roseville	\$ 3,570,753
Little Canada	\$ 758,977
U of M	\$ 314,911
Total	\$ 4,644,641

Total Cost of Services to Wholesale Customers

Description	Roseville	Little Canada	U of M	Total
Plant Value (Present Worth Allocation)	\$ 24,824,524	\$ 5,114,685	\$ 4,794,985	\$ 34,734,193
Return on Investment (5%)	\$ 1,241,226	\$ 255,734	\$ 239,749	\$ 1,736,710
Current Depreciation	\$ 557,024	\$ 116,118	\$ 87,746	\$ 760,887
Total Capital Cost	\$ 1,798,250	\$ 371,852	\$ 327,495	\$ 2,497,597
O & M Cost	\$ 3,570,753	\$ 758,977	\$ 314,911	\$ 4,644,641
Total Revenue	\$ 5,369,003	\$ 1,130,829	\$ 642,406	\$ 7,142,238

Wholesale Customer Revenues and Charges - Roseville

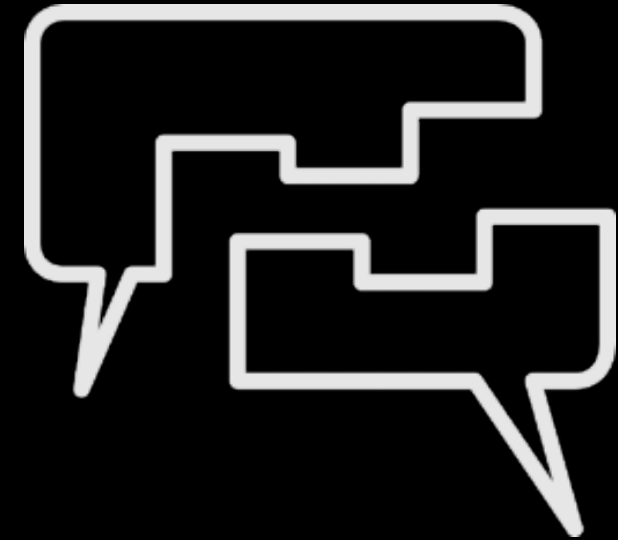
Future Years	2022	2023	2024	2025	2026	2027
Total Revenue Requirement	\$ 7,142,238	\$ 7,856,462	\$ 8,642,108	\$ 9,290,266	\$ 9,987,036	\$ 10,486,388
Roseville						
Revenue Requirement	\$ 5,369,003	\$ 5,905,903	\$ 6,496,494	\$ 6,983,731	\$ 7,507,511	\$ 7,882,886
Preliminary Volume Rate	\$ 2.03	\$ 2.23	\$ 2.45	\$ 2.64	\$ 2.835572	\$ 2.98
Preliminary Volume Fee Revenue	\$ 4,647,803	\$ 5,112,583	\$ 5,623,842	\$ 6,045,630	\$ 6,499,052	\$ 6,824,005
Base fee revenue	\$ 721,200	\$ 793,320	\$ 872,652	\$ 938,101	\$ 1,008,458	\$ 1,058,881
Monthly Base Fee rounded	\$ 60,100	\$ 66,100	\$ 72,700	\$ 78,200	\$ 84,000	\$ 88,200
Base fee revenue rounded	\$ 721,200	\$ 793,200	\$ 872,400	\$ 938,400	\$ 1,008,000	\$ 1,058,400
Volume Fee Revenue needed	\$ 4,647,803	\$ 5,112,703	\$ 5,624,094	\$ 6,045,331	\$ 6,499,511	\$ 6,824,486
Volume rate	\$ 2.03	\$ 2.23	\$ 2.45	\$ 2.64	\$ 2.84	\$ 2.98

Wholesale Customer Revenues and Charges – Little Canada

Future Years	2022	2023	2024	2025	2026	2027
Total Revenue Requirement	\$ 7,142,238	\$ 7,856,462	\$ 8,642,108	\$ 9,290,266	\$ 9,987,036	\$ 10,486,388
Little Canada						
Revenue Requirement	\$ 1,130,829	\$ 1,243,912	\$ 1,368,303	\$ 1,470,925	\$ 1,581,245	\$ 1,660,307
Preliminary Volume Rate	\$ 2.03	\$ 2.23	\$ 2.45	\$ 2.64	\$ 2.84	\$ 2.98
Preliminary Volume Fee Revenue	\$ 959,287	\$ 1,055,216	\$ 1,160,737	\$ 1,247,793	\$ 1,341,377	\$ 1,408,446
Base fee revenue	\$ 171,542	\$ 188,696	\$ 207,566	\$ 223,133	\$ 239,868	\$ 251,861
Monthly Base Fee rounded	\$ 14,300	\$ 15,700	\$ 17,300	\$ 18,600	\$ 20,000	\$ 21,000
Base fee revenue rounded	\$ 171,600	\$ 188,400	\$ 207,600	\$ 223,200	\$ 240,000	\$ 252,000
Volume Fee Revenue needed	\$ 959,229	\$ 1,055,512	\$ 1,160,703	\$ 1,247,725	\$ 1,341,245	\$ 1,408,307
Volume rate	\$ 2.03	\$ 2.23	\$ 2.45	\$ 2.64	\$ 2.84	\$ 2.98

Wholesale Customer Revenues and Charges – U of M

Future Years	2022	2023	2024	2025	2026	2027
Total Revenue Requirement	\$ 7,142,238	\$ 7,856,462	\$ 8,642,108	\$ 9,290,266	\$ 9,987,036	\$ 10,486,388
U of M						
Revenue Requirement	\$ 642,406	\$ 706,647	\$ 777,312	\$ 835,610	\$ 898,281	\$ 943,195
Preliminary Volume Rate	\$ 3.11	\$ 3.42	\$ 3.76	\$ 4.04	\$ 4.35	\$ 4.57
Preliminary Volume Fee Revenue	\$ 488,545	\$ 537,399	\$ 591,139	\$ 635,474	\$ 683,135	\$ 717,292
Base fee revenue	\$ 153,862	\$ 169,248	\$ 186,173	\$ 200,136	\$ 215,146	\$ 225,903
Monthly Base Fee rounded	\$ 12,800	\$ 14,100	\$ 15,500	\$ 16,700	\$ 17,900	\$ 18,800
Base fee revenue rounded	\$ 153,600	\$ 169,200	\$ 186,000	\$ 200,400	\$ 214,800	\$ 225,600
Volume Fee Revenue needed	\$ 488,806	\$ 537,447	\$ 591,312	\$ 635,210	\$ 683,481	\$ 717,595
Volume rate	\$ 3.11	\$ 3.42	\$ 3.76	\$ 4.04	\$ 4.35	\$ 4.57



Questions?

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