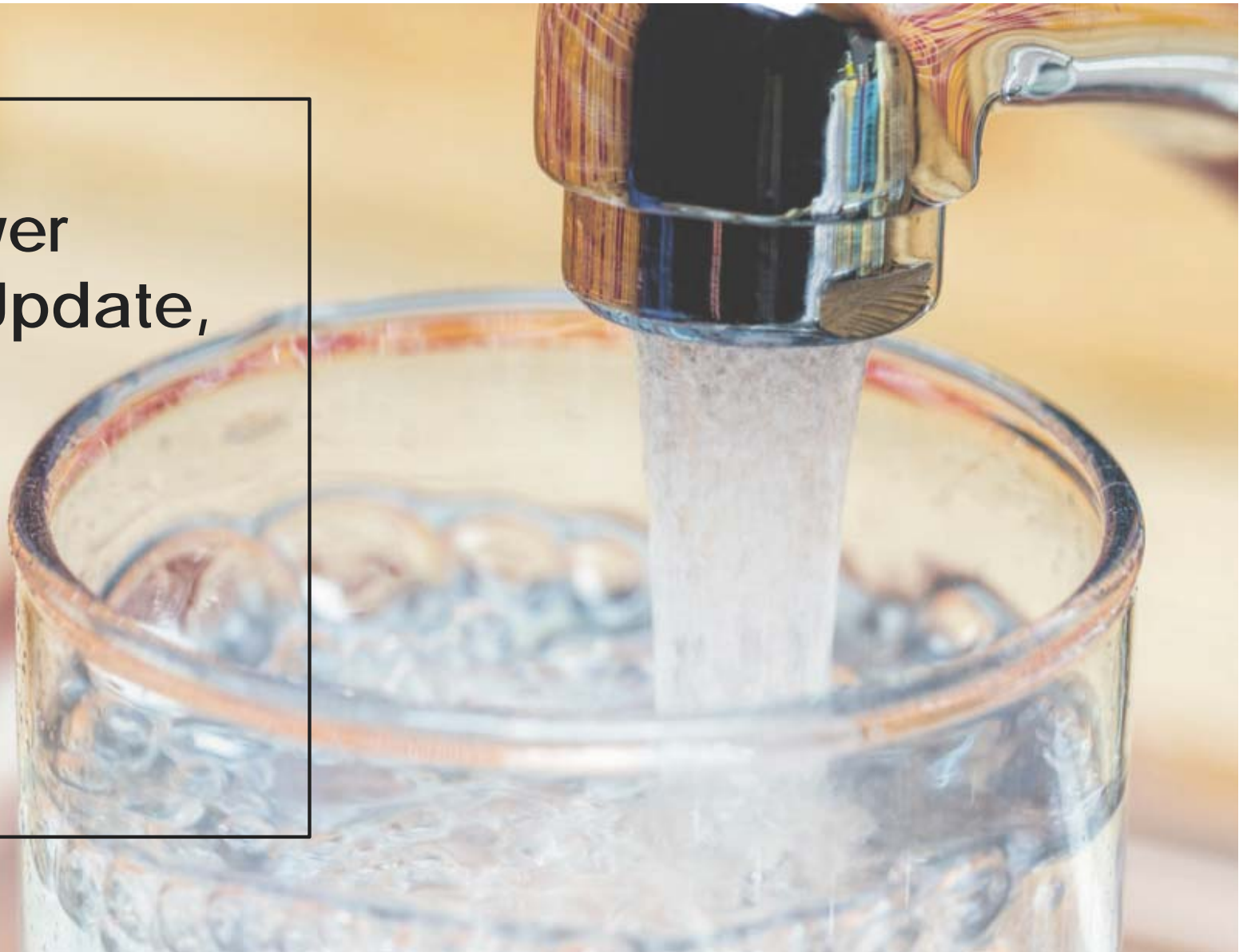


**Somerville
Water & Sewer
Rate Study Update,
FY2022 Rate
Proposal**



Current FY 2022 Proposal

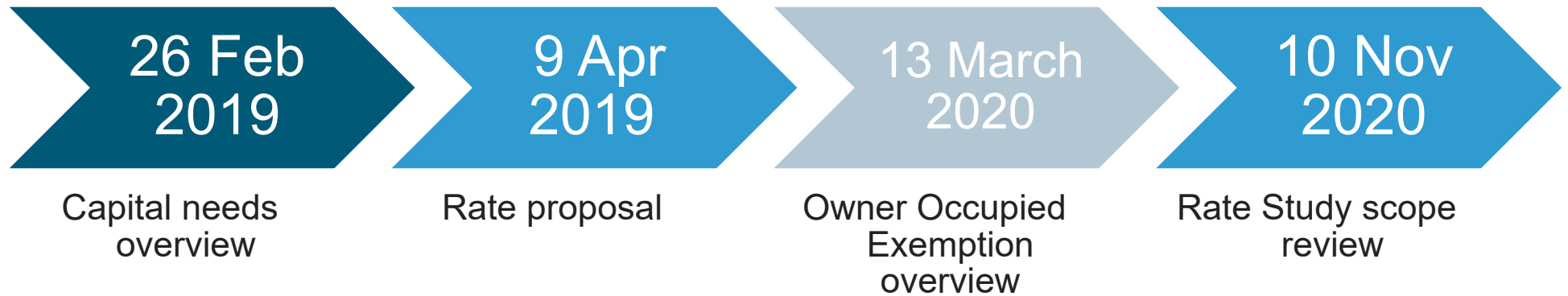
- Water usage rate adjustment of 7.00%
- Sewer usage rate adjustment of 10.50%
- Rate increases will support needed capital investments, many of which will ensure continued regulatory compliance
- Pilot affordability program with \$100K stabilization appropriation to address acute needs in the community
- Utility Funds receive \$2M annually in stabilization contributions



Agenda

- Rate Study Overview
- Affordability Analysis
- Revenue Sufficiency
- FY2022 Rate Proposal

Recent history of rate discussions



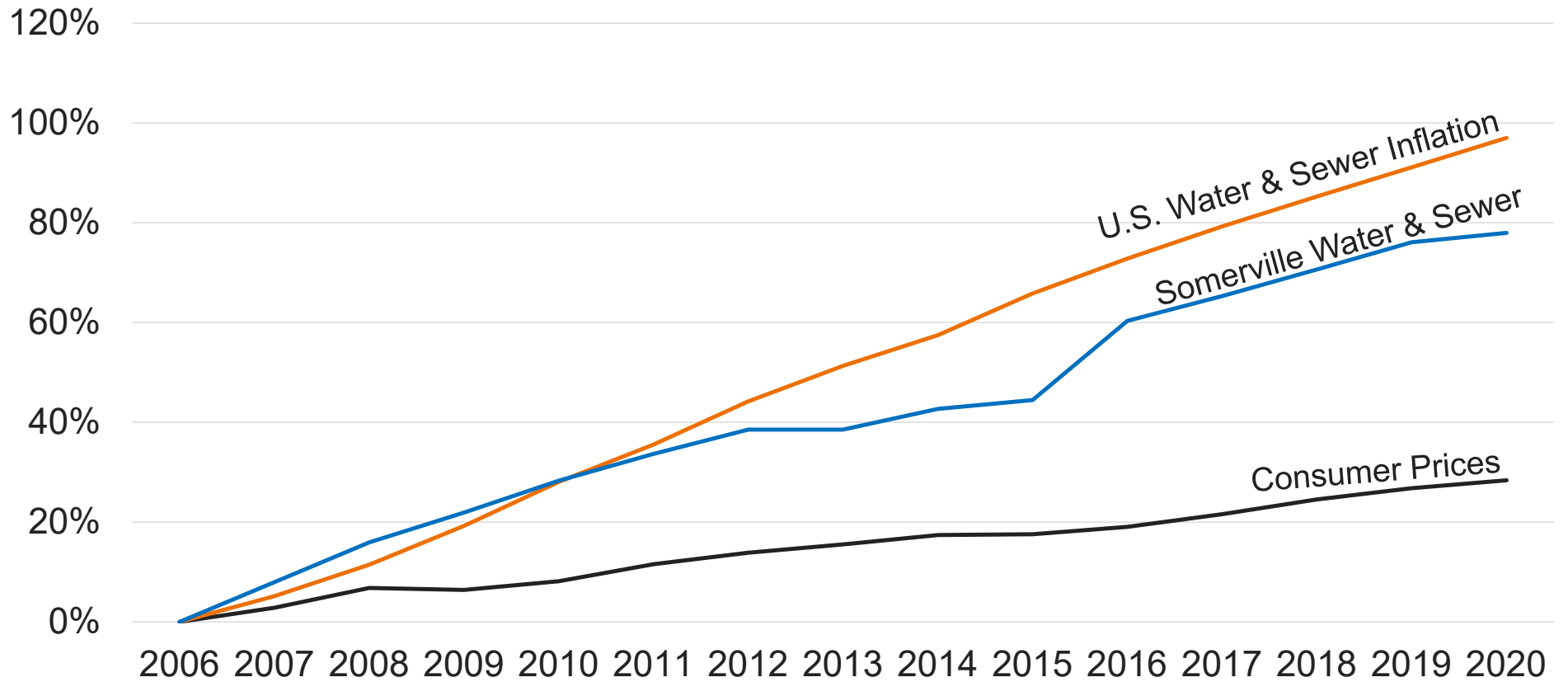
CONTEXT

Rate Study Scope Progress

Task	Status
Affordability analysis	Complete, included in this presentation
Data collection / model build	Complete, informs analysis
Forecast of revenue requirements (10-year window)	Complete, included in this presentation
Rate design	In process, subject of future presentations and collaboration
Implementation plan and billing practices review	Not started

Affordability

Utilities Face Steep Inflation



EPA's Regulatory Requirement of Affordability Demonstrates Low Burden

Current Residential
Indicator



$$\frac{\$752 \text{ (Average Bill)}}{\$97,328 \text{ (Median Income)}} = 0.77\%$$

Unaffordable Residential
Indicator



$$\frac{\$4,379}{\$97,328} = 4.5\%$$

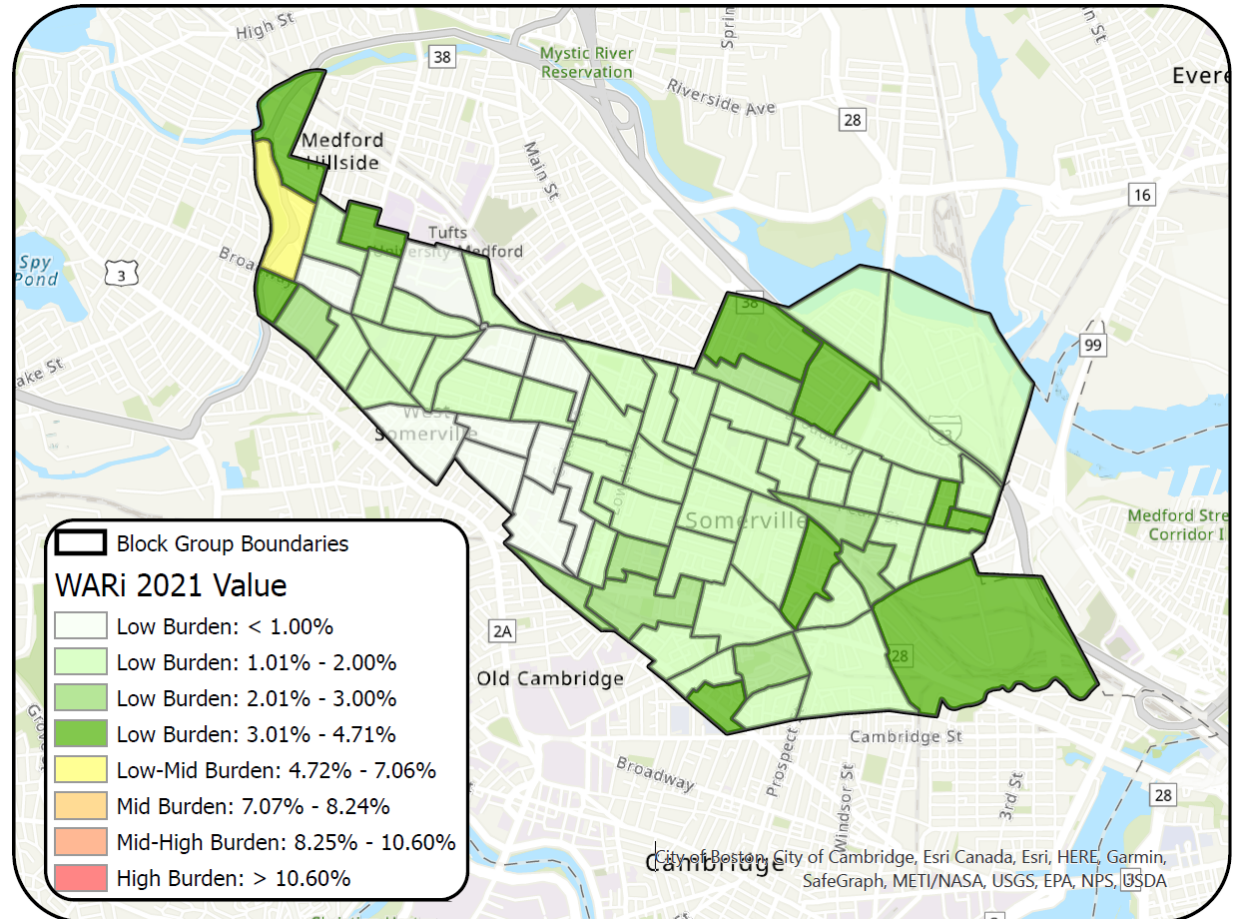
2021 WARI[®] Affordability

WARI[®]

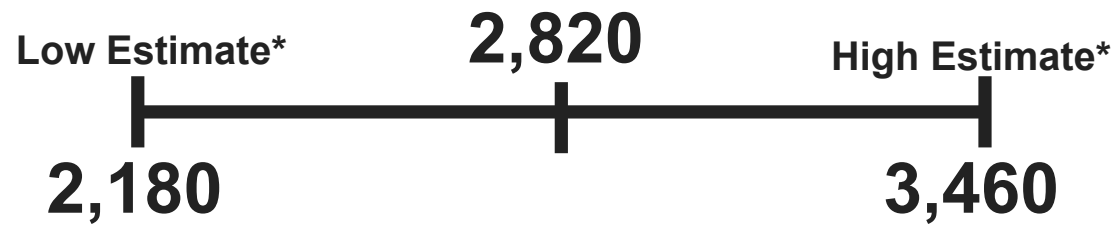
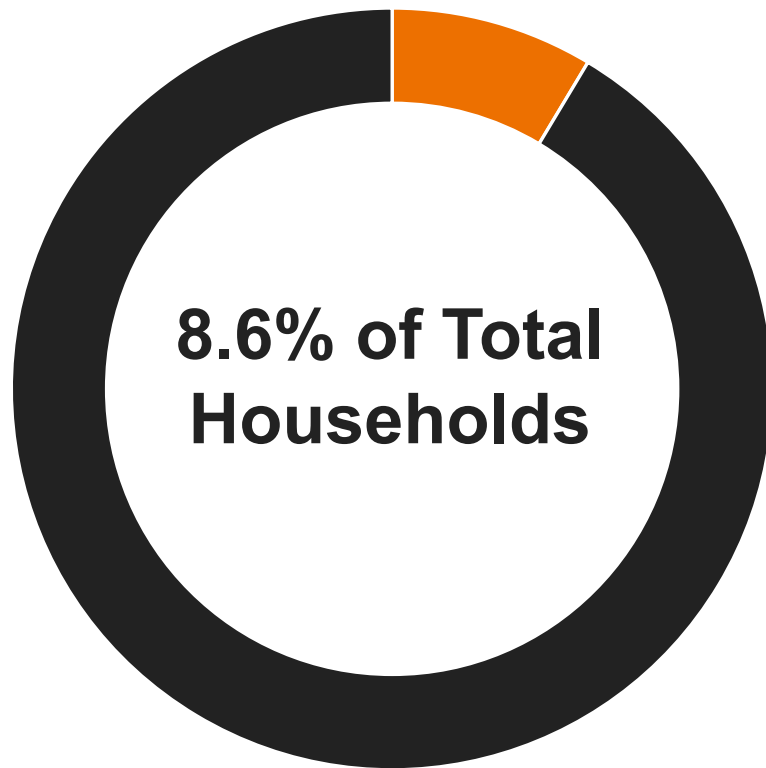
- Weighted Average Residential Index (WARI[®])
- Calculate residential indicator for every income bin in every census block group – 32,000+ calculations
- Calculate weighted average over all census tracts for a single WARI[®] value

Key Findings

- Utility unaffordability in the service area is not widespread
- Affordability is an account-by-account dynamic
- Any efforts would need to be tailored and targeted



Households with Unaffordable Utility Bills According to WARI



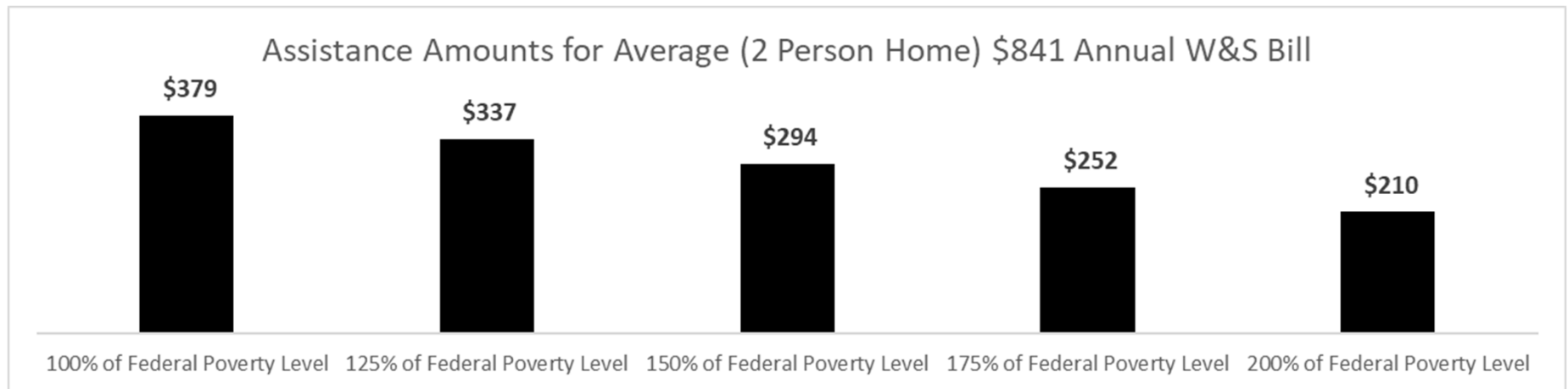
*Range based on census statistical error in ACS data

Target Affordability Program Considerations

- Affordability programs normally consider income (ex: 200% of federal poverty line)
- Ideally, partner with an agency such as the City of Cambridge, who already administers the Low-Income Home Energy Assistance Program (LIHEAP) for Somerville
- Federal funding is expected to become available

Affordability Pilot Program Design

- Income level scaling: less income = more assistance



Revenue Sufficiency

CIP April 2021 update

FY21-FY31 Water & Sewer Capital Investment Plan (CIP) Project List
APRIL 2021

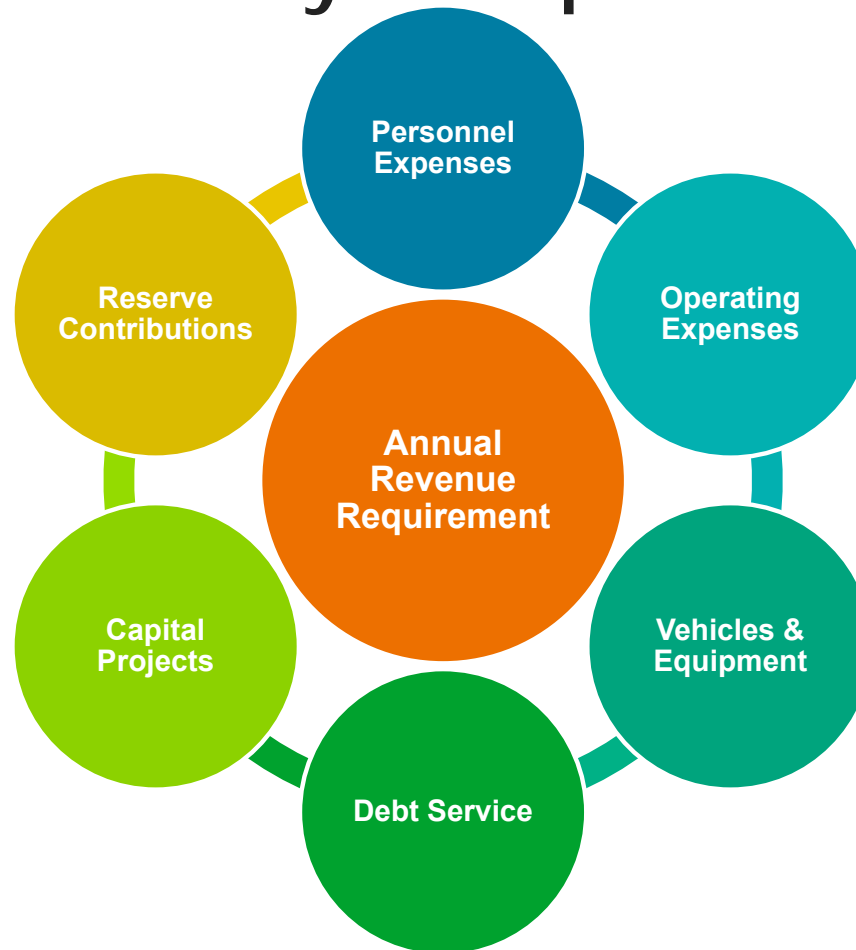
Water Enterprise Fund	CIP Category	Funding Source	Planning Estimate Only	Year Added to the CIP	Approved by City Council	Total (FY21-FY31)	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31
Somerville Ave. Utility & Streetscape Improvements - Water	USQ DIF	Water Enterprise		2016	✓	\$ 340,000	\$ 180,000	\$ 160,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Water Improvements	Recurring	Water Enterprise / MWRA LWSAP	n/a	2016	✓ (FY20)	\$ 74,500,000	\$ -	\$ 200,000	\$ 7,110,000	\$ 7,310,000	\$ 7,600,000	\$ 7,910,000	\$ 8,220,000	\$ 8,550,000	\$ 8,900,000	\$ 9,200,000	\$ 9,500,000
Lead Line Replacement Program	Recurring	Water Enterprise / MWRA LLP	n/a	2017		\$ 16,130,000	\$ 1,060,000	\$ 850,000	\$ 1,470,000	\$ 1,510,000	\$ 1,540,000	\$ 1,500,000	\$ 1,590,000	\$ 1,610,000	\$ 1,640,000	\$ 1,660,000	\$ 1,700,000
Water Vehicles ¹	Recurring	Water Enterprise	n/a	2018	✓ (FY20)	\$ 1,400,000	\$ -	\$ 150,000	\$ 290,000	\$ 260,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000
Pitman St. - Water Improvements	Recommended	Water Enterprise	✓	2019		\$ 1,020,000	\$ -	\$ -	\$ -	\$ 1,020,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Water Meter Replacement	Recommended	Water Enterprise	✓	2019		\$ 7,000,000	\$ 3,500,000	\$ 3,500,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Spring Hill Sewer Separation - Project Area 1 Water Line Improvements	USQ DIF	Water Enterprise	✓	2021	✓ (Design)	\$ 8,870,000	\$ 30,000	\$ 2,950,000	\$ 3,310,000	\$ 2,580,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Spring Hill Sewer Separation - Highland Ave Water Line Improvements	USQ DIF	Water Enterprise	✓	2021		\$ 2,960,000	\$ -	\$ 60,000	\$ 100,000	\$ 2,190,000	\$ 610,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Spring Hill Sewer Separation - Project Area 2B Water Line Improvements	USQ DIF	Water Enterprise	✓	2021		\$ 3,080,000	\$ -	\$ -	\$ -	\$ 90,000	\$ 1,210,000	\$ 1,780,000	\$ -	\$ -	\$ -	\$ -	\$ -
Yard 3	Recommended	PAYGO	✓	2021		\$ 1,000,000	\$ -	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000
Total						\$ 116,300,000	\$ 4,770,000	\$ 7,970,000	\$ 12,380,000	\$ 15,060,000	\$ 11,160,000	\$ 11,390,000	\$ 10,010,000	\$ 10,360,000	\$ 10,740,000	\$ 11,060,000	\$ 11,400,000
Sewer Enterprise Fund	CIP Category	Funding Source	Planning Estimate Only	Year Added to the CIP	Approved by City Council	Total (FY21-FY30)	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31
Somerville Ave. Utility & Streetscape Improvements - Sewer	USQ DIF	Sewer Enterprise		2016	✓	\$ 19,380,000	\$ 7,320,000	\$ 12,060,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Poplar St. Stormwater Pump Station	USQ DIF	Sewer Enterprise	✓	2016*	OPM only	\$ 21,830,000	\$ 510,000	\$ 830,000	\$ 4,840,000	\$ 10,960,000	\$ 4,690,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Spring Hill Sewer Separation: Project Area 1- Sewer	USQ DIF	Sewer Enterprise	✓	2017*	Design only	\$ 10,360,000	\$ 840,000	\$ 3,240,000	\$ 3,590,000	\$ 2,750,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Nunziato Stormwater Storage	USQ DIF	Sewer Enterprise	✓	2016	Design only	\$ 16,610,000	\$ -	\$ -	\$ 8,450,000	\$ 6,530,000	\$ 1,630,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Sewer Improvements	Recurring	Sewer Enterprise	n/a	2016		\$ 48,460,000	\$ -	\$ 4,020,000	\$ 4,210,000	\$ 4,390,000	\$ 4,260,000	\$ 4,720,000	\$ 4,940,000	\$ 3,140,000	\$ 3,840,000	\$ 3,240,000	\$ 3,240,000
Sewer Vehicles ¹	Recurring	Sewer Enterprise	n/a	2018	✓ (FY19)	\$ 1,660,000	\$ -	\$ 520,000	\$ 40,000	\$ 400,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000
Manhole Sealing	Underway	Sewer Enterprise / MWRA / I Phase 9	✓	2019		\$ 1,290,000	\$ 830,000	\$ 460,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Somerville Marginal Interceptor Rehabilitation	Recommended	Sewer Enterprise	✓	2017*	Design only	\$ 4,610,000	\$ 160,000	\$ 4,450,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
SSES & I/I Assessment	Recommended	Sewer Enterprise	✓	2019		\$ 9,960,000	\$ 60,000	\$ 1,600,000	\$ 1,730,000	\$ 1,800,000	\$ 610,000	\$ 630,000	\$ 660,000	\$ 680,000	\$ 710,000	\$ 740,000	\$ 740,000
Willow to Grove Sewer Replacement	Recommended	Sewer Enterprise	✓	2019		\$ 3,010,000	\$ -	\$ 220,000	\$ 1,330,000	\$ 1,460,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Flint St. Sewer Replacement	Recommended	Sewer Enterprise	✓	2019		\$ 3,720,000	\$ -	\$ 220,000	\$ 1,680,000	\$ 1,820,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Sewer Separation Project 1	Recommended	Sewer Enterprise / MWRA / I/I	✓	2019		\$ 51,690,000	\$ -	\$ -	\$ 2,570,000	\$ 9,480,000	\$ 19,820,000	\$ 19,820,000	\$ -	\$ -	\$ -	\$ -	\$ -
Sewer Separation Project 2	Recommended	Sewer Enterprise / MWRA / I/I	✓	2019		\$ 21,690,000	\$ -	\$ -	\$ 2,570,000	\$ 9,480,000	\$ 19,820,000	\$ 19,820,000	\$ -	\$ -	\$ -	\$ -	\$ -
Sewer Separation Project 3	Recommended	Sewer Enterprise / MWRA / I/I	✓	2019		\$ 35,910,000	\$ -	\$ -	\$ -	\$ -	\$ 2,780,000	\$ 10,120,000	\$ 21,440,000	\$ 21,440,000	\$ -	\$ -	\$ -
Sewer Separation Project 4	Recommended	Sewer Enterprise / MWRA / I/I	✓	2021		\$ 38,110,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,890,000	\$ 10,400,000	\$ 22,410,000	\$ 22,410,000	\$ -
Sewer Separation Project 5	Recommended	Sewer Enterprise / MWRA / I/I	✓	2021		\$ 38,600,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,120,000	\$ 11,250,000	\$ 24,230,000
Spring Hill Sewer Separation: Highland Avenue - Sewer	USQ DIF	Sewer Enterprise	✓	2021		\$ 6,310,000	\$ -	\$ 140,000	\$ 250,000	\$ 4,620,000	\$ 1,300,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Spring Hill Sewer Separation: Project Area 2B- Sewer	USQ DIF	Sewer Enterprise	✓	2021		\$ 6,200,000	\$ -	\$ -	\$ -	\$ -	\$ 210,000	\$ 2,430,000	\$ 3,560,000	\$ -	\$ -	\$ -	\$ -
Boynton Yards - Pump Station	Boynton DIF	Sewer Enterprise	✓	2021		\$ 36,500,000	\$ -	\$ -	\$ 640,000	\$ 1,280,000	\$ 12,380,000	\$ 11,100,000	\$ 11,100,000	\$ -	\$ -	\$ -	\$ -
Boynton Yards - Infrastructure	Boynton DIF	Sewer Enterprise	✓	2021		\$ 24,280,000	\$ -	\$ -	\$ 430,000	\$ 860,000	\$ 8,230,000	\$ 7,380,000	\$ -	\$ -	\$ -	\$ -	\$ -
Clarendon Hill	Recommended	MasWorks	✓	2021		\$ 4,900,000	\$ 300,000	\$ 800,000	\$ 2,400,000	\$ 1,400,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
New Washington Street Sewer Realignment	Recommended	Sewer Enterprise	✓	2021		\$ 500,000	\$ 20,000	\$ 200,000	\$ 230,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Yard 3	Recommended	Pay go	✓	2021		\$ 2,000,000	\$ -	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000
Total						\$ 477,580,000	\$ 10,040,000	\$ 29,040,000	\$ 35,100,000	\$ 57,430,000	\$ 76,330,000	\$ 76,480,000	\$ 52,270,000	\$ 37,960,000	\$ 31,880,000	\$ 40,240,000	\$ 34,880,000

Notes: Fiscal year is the year in which we anticipate funding to be expended; authorization can occur in a previous fiscal year. The CIP Project List is a planning document that reflects a point in time.
 1Net of \$100,000 contribution per year from retained earnings.
 2Funded through prior year Recurring Sewer Improvement authorization.
 *Project was originally added in the Unscheduled category but is now in a scheduled category (USQ DIF, Underway, Recurring, or Recommended).

CIP Driver update

- Water System Improvement Plan – Complete (2020\$)
 - \$150M immediate action, implies \$15M/year need 10 years
 - Additional \$300M long-term need
- Sewer System Improvement Plan – Underway
 - Drainage & Water Quality Improvement – Early 2022
 - Placeholder sewer separation projects
 - CCTV Evaluation Study – Ongoing
- Regulatory
 - MS4 Administrative Order – On schedule
 - CSO – Overflows underperforming, court inquiring about Somerville

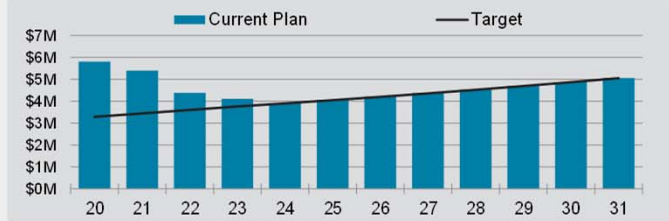
Revenue Sufficiency Components



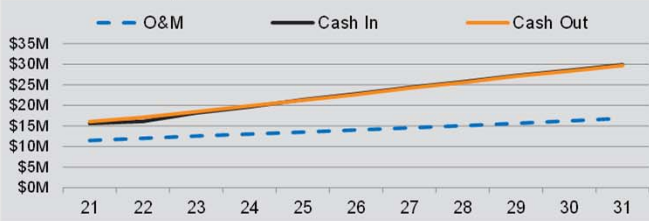
Water Control Panel (Just in Time Example)

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2026	FY 2031
Water Usage Rate Plan	0.00%	0.00%	22.44%	8.12%	9.06%	6.67%	7.09%	5.43%	5.96%	4.40%	4.69%	53.81%	101.43%
Net Cash Flow (\$ M)	-\$0.42	-\$1.01	-\$0.27	-\$0.20	\$0.15	\$0.15	\$0.16	\$0.16	\$0.17	\$0.18	\$0.18		

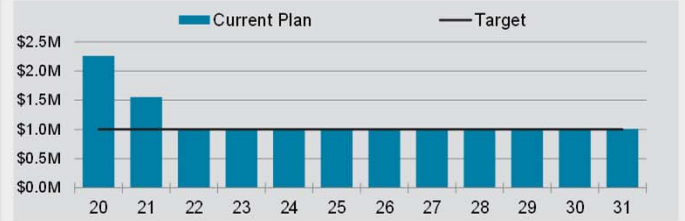
Operating Fund



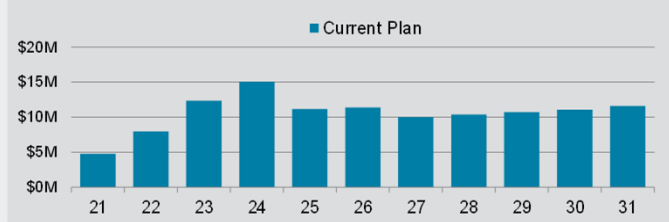
Revenues vs. Expenses



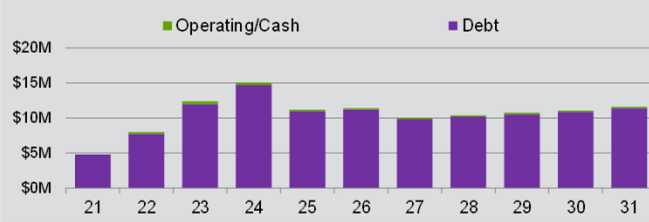
Stabilization Fund



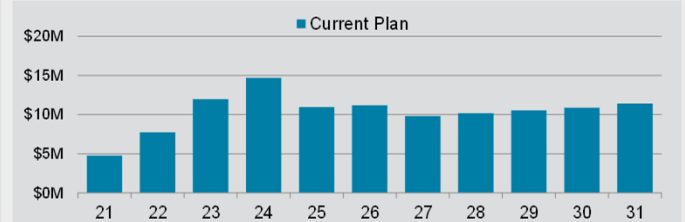
CIP Spending



CIP Funding



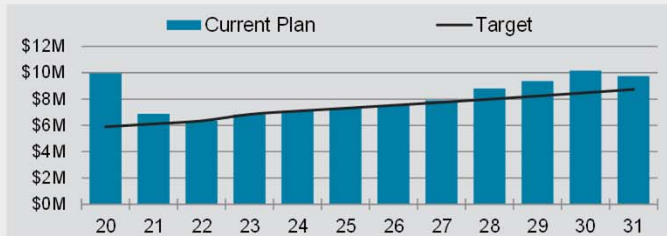
Borrowing



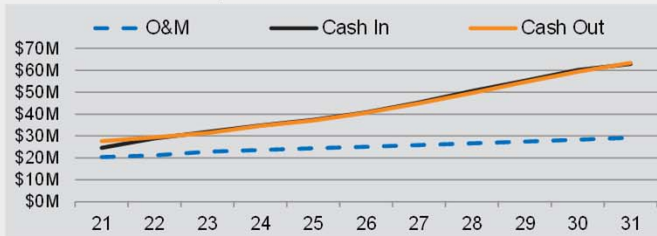
Sewer Control Panel (Just in Time Example)

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2026	FY 2031
Sewer Usage Rate Plan	0.00%	12.45%	11.98%	3.79%	10.09%	12.87%	11.84%	12.10%	9.45%	9.18%	4.44%	62.28%	153.76%
Net Cash Flow (\$ M)	-\$3.08	-\$0.53	\$0.50	\$0.25	\$0.22	\$0.22	\$0.38	\$0.89	\$0.56	\$0.80	-\$0.42		

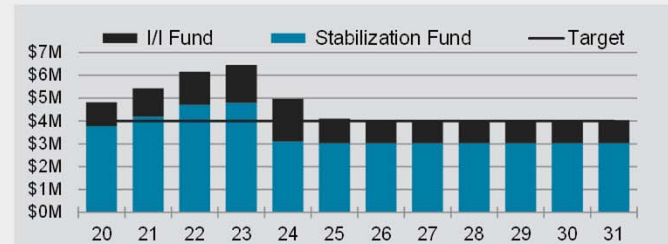
Operating Fund



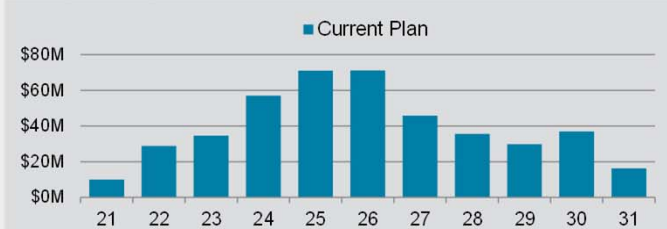
Revenues vs. Expenses



Stabilization Fund & I/I Fund



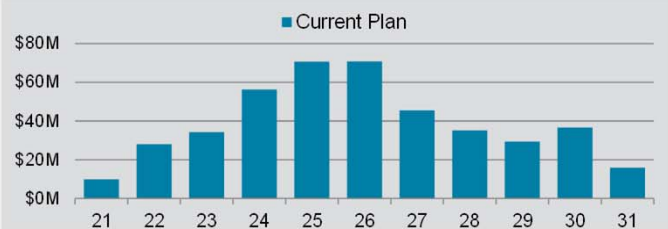
CIP Spending



CIP Funding



Borrowing



Key Customer Impacts

Total Change in Annual Costs for Various Billing Units (including base & volumetric charges, amended)				
	FY 2021	FY 2022	\$ Change	
Total Units per Bill (in CCF)	Annual Total	Annual Total	(FY 2022 - FY 2021)	% Change
15 (average condo unit)	\$784	\$840	\$55.98	7%
18 (average single family home)	\$946	\$1,017	\$70.92	7%
30 (average two-family home)	\$1,597	\$1,727	\$130.68	8%
42 (average three-family home)	\$2,247	\$2,437	\$190.44	8%
110 (average 8-unit apartment building)	\$6,043	\$6,583	\$539.40	9%

FY22 Proposal

- Public Hearing May 3 at 6PM
- Water usage revenue adjustment 7.00% FY 2022
- Sewer usage revenue adjustment 10.50% FY 2022
- Appropriate \$100K for a pilot affordability program
- Appropriate \$2M annually in stabilization contributions
- Schedule meetings for rate design in August



Questions/Discussion

Appendix

Rate Study Process

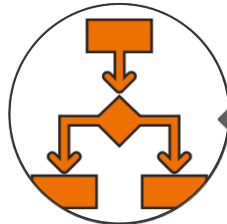
How Much?



Revenue Sufficiency

- Achieve financial policies & targets
- Fund system investment needs
- Sustainably fund operations

From Whom?



Defensible Allocation Methods

- Utilize industry accepted approaches
- Maintain inter and intra class equity
- Determine correct and appropriate units of service

How to Collect?



Simple, Equitable & Sustainable Rates

- Balance affordability and financial objectives
- Accomplish revenue stability
- Clear communication of costs

Revenue Sufficiency

Financial Plan

Financial plan is designed to ensure **revenues equal revenue requirements** over-time in order to provide **structural balance**

Revenue requirements of the water and sewer system consist of:

- Operating and maintenance expenses
- Existing debt service
- Capital improvement plan (cash funded or borrowing)
- MWRA water supply/wastewater treatment cost

Revenues of the system are generated from:

- User rates (metered water use)
- Stabilization Fund deposits
- Miscellaneous other income (ex: interest income)

Core Assumptions

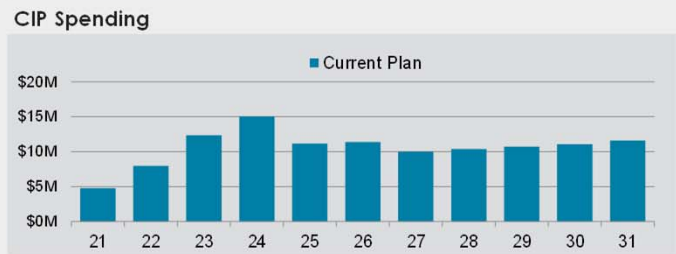
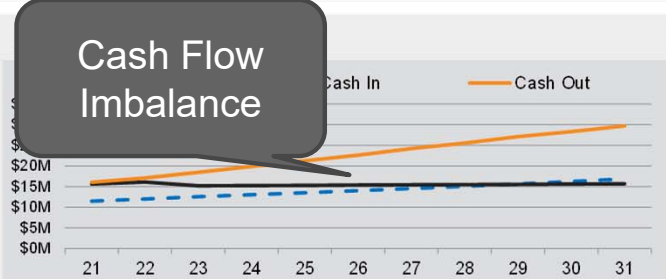
- The pandemic subsidies and utility demands normalize in Fiscal Year 2022
- Utility Funds receive \$2M annually in stabilization contributions
- MWRA cost will escalate at an average rate of 3-4% per annum
- Capital investment plan utilizes debt financing
- Maintaining reserve balances to preserve flexibility
- Assuming 100% spending of operating and capital expenses

Water Control Panel (Diagnostic)

Current Revenues Maintained

Reserves Depleted

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2026	FY 2031
Rate Plan	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Flow (\$ M)	-\$0.42	-\$1.01	-\$3.25	-\$4.61	-\$5.91	-\$7.25	-\$8.78	-\$10.06	-\$11.53	-\$12.71	-\$14.01		



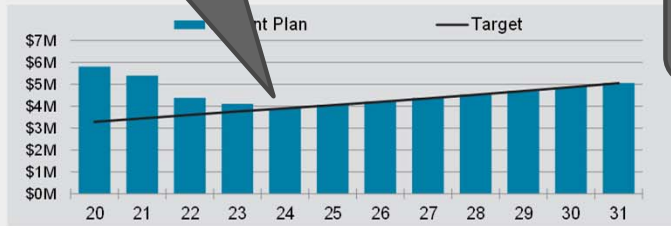
Water Control Panel (Just in Time)

Just in Time Adjustments

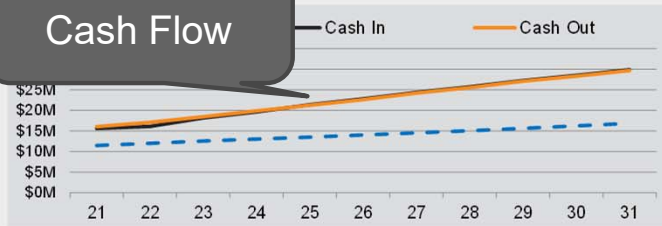
Reserves Maintained

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2026	FY 2031
Rate Plan	0.00%	0.00%	22.44%	8.12%	9.06%	6.67%	7.09%	5.43%	5.96%	4.40%	4.69%	53.81%	101.43%
Cash Flow (\$ M)	-\$0.42	-\$1.01	-\$0.27	-\$0.20	\$0.15	\$0.15	\$0.16	\$0.16	\$0.17	\$0.18	\$0.18		

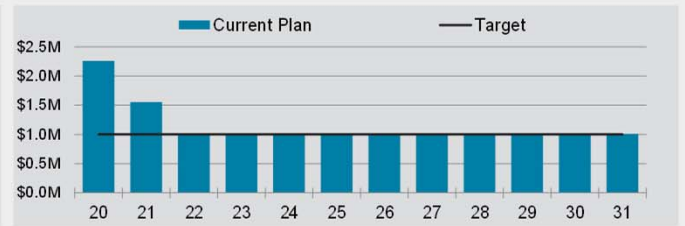
Operating Fund



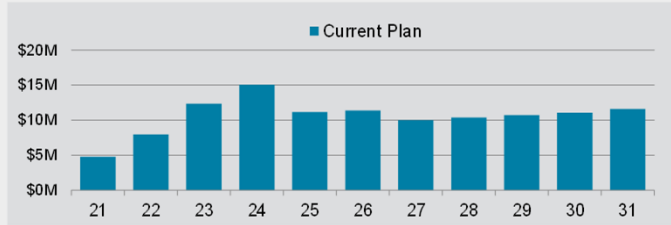
Sustainable Cash Flow



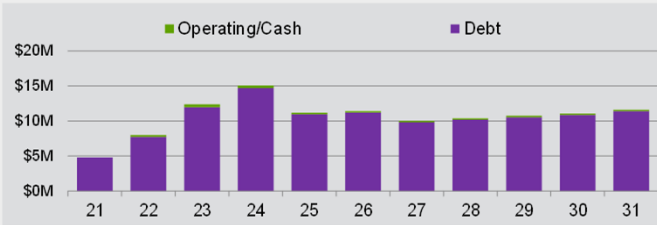
Stabilization Fund



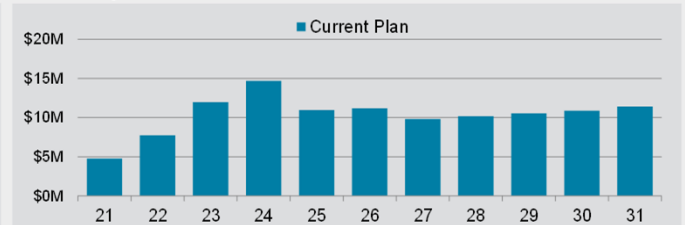
CIP Spending



CIP Funding



Borrowing



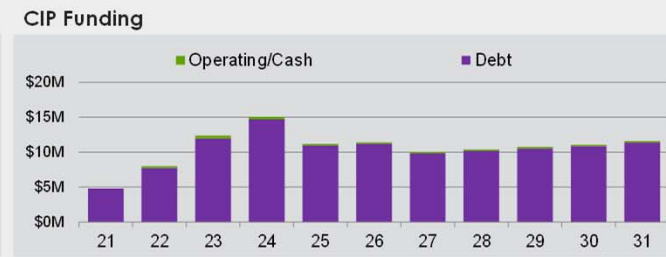
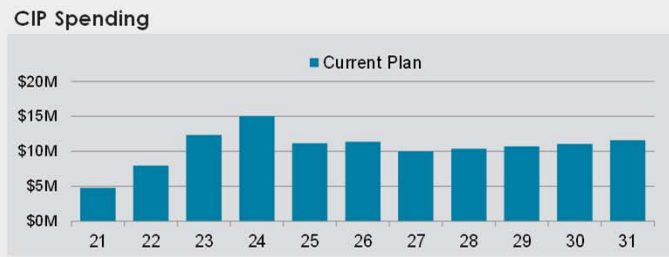
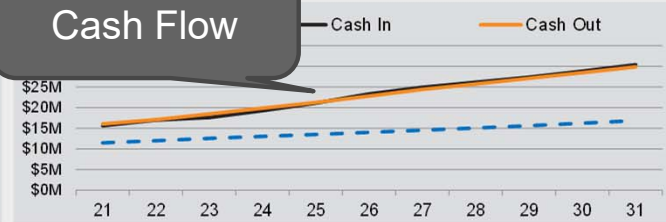
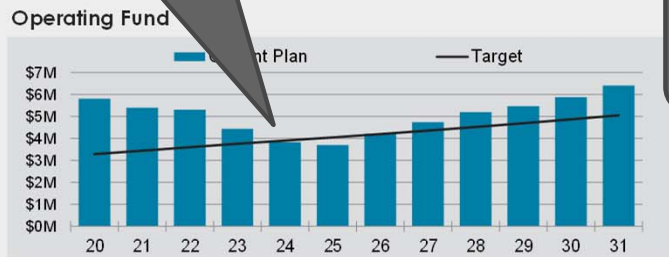
Water Control Panel (Level Solution)

Reserves
Maintained

"Smooth"
Revenue
Adjustments

Sustainable
Cash Flow

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2026	FY 2031
Rate Plan	0.00%	7.00%	10.00%	10.00%	10.00%	10.00%	7.00%	5.00%	5.00%	5.00%	5.00%	56.43%	103.57%
Cash Flow (\$ M)	-\$0.42	-\$0.09	-\$0.87	-\$0.61	-\$0.13	\$0.50	\$0.53	\$0.47	\$0.26	\$0.42	\$0.52		



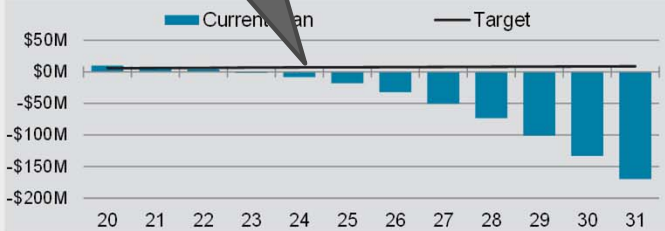
Sewer Control Panel (Diagnostic)

Current Revenues Maintained

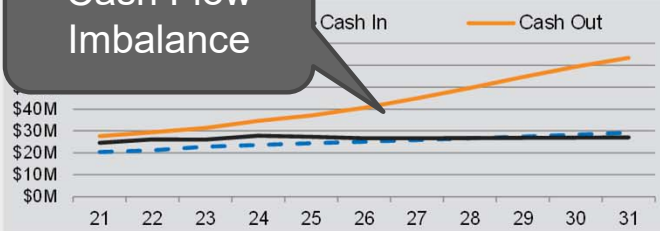
Reserves Depleted

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2026	FY 2031
Rate Plan	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Cash Flow (\$ M)	-\$3.08	-\$3.27	-\$5.32	-\$6.72	-\$9.74	-\$13.97	-\$18.27	-\$22.87	-\$27.76	-\$32.37	-\$36.28		

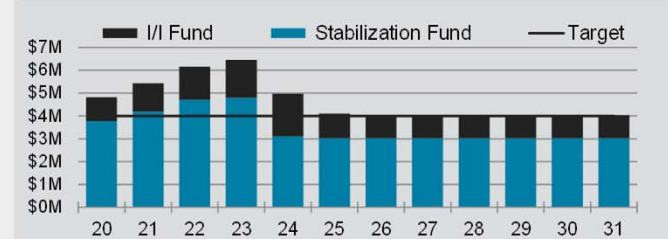
Operating Fund



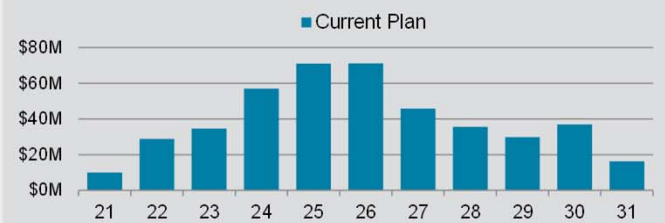
Cash Flow Imbalance



Stabilization Fund & I/I Fund



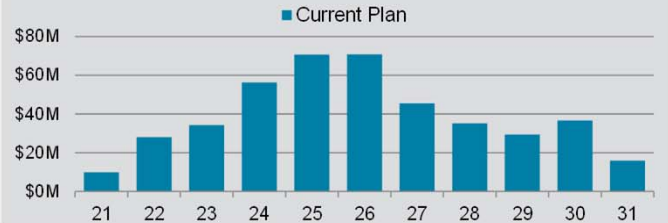
CIP Spending



CIP Funding



Borrowing

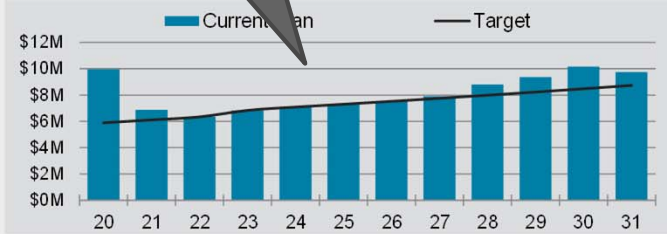


Sewer Control Panel (Just in Time)

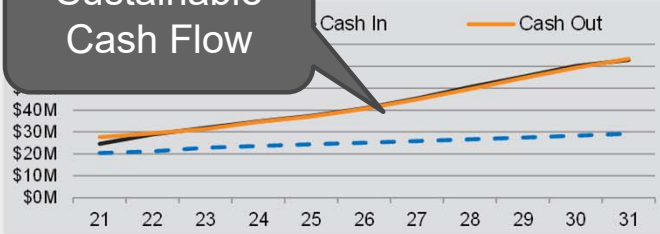
Reserves Maintained

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2026	FY 2031
Rate Plan	0.00%	12.45%	11.98%	3.79%	10.09%	12.87%	11.84%	12.10%	9.45%	9.18%	4.44%	62.28%	153.76%
Flow (\$ M)	-\$3.08	-\$0.53	\$0.50	\$0.25	\$0.22	\$0.22	\$0.38	\$0.89	\$0.56	\$0.80	-\$0.42		

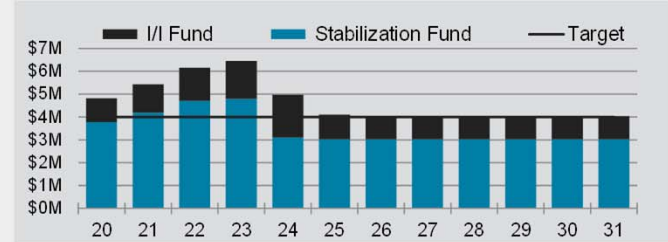
Operating Fund



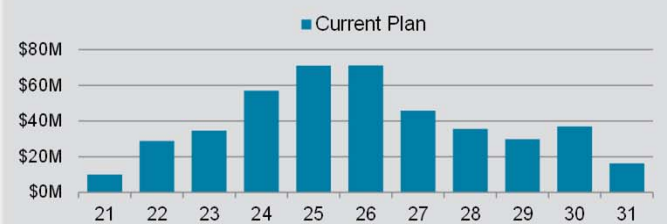
Sustainable Cash Flow



Stabilization Fund & I/I Fund



CIP Spending



CIP Funding



Borrowing



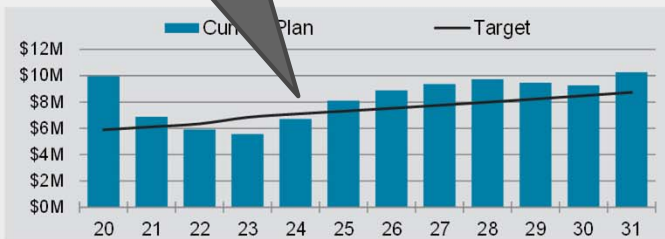
Sewer Control Panel (Level Solution)

“Smooth”
Revenue
Adjustments

Reserves
Maintained

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2026	FY 2031
Rate Plan	0.00%	10.50%	10.50%	10.50%	10.50%	10.50%	10.50%	10.50%	9.00%	9.00%	9.00%	64.79%	160.78%
Cash Flow (\$ M)	-\$3.08	-\$0.96	-\$0.36	\$1.16	\$1.39	\$0.78	\$0.49	\$0.35	-\$0.26	-\$0.20	\$1.01		

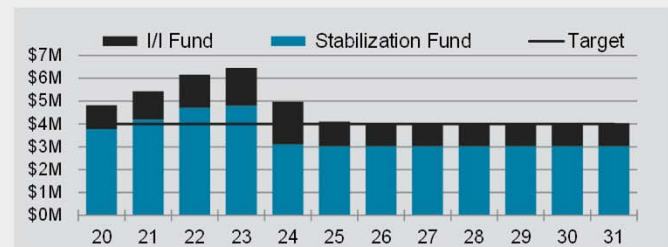
Operating Fund



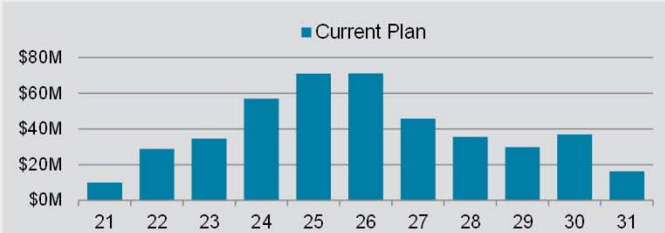
Sustainable
Cash Flow



Stabilization Fund & I/I Fund



CIP Spending



CIP Funding



Borrowing

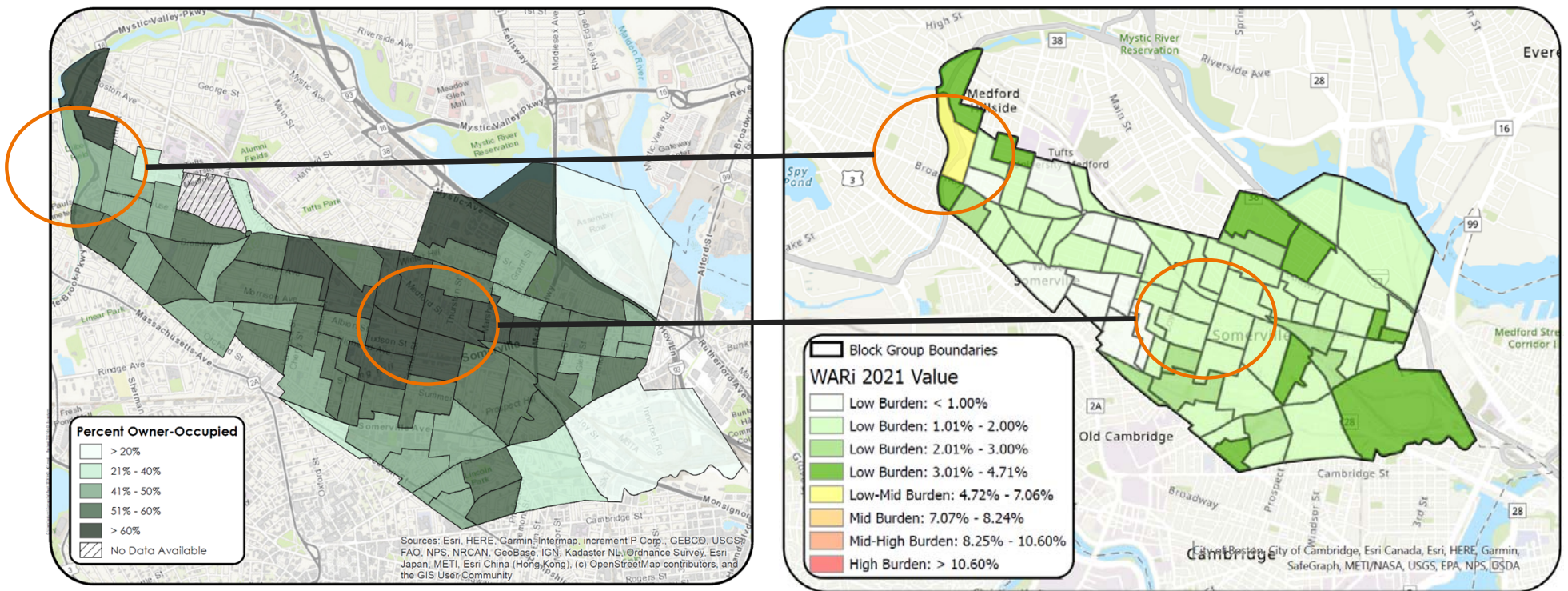


Affordability

Affordability Analysis

- Calculated affordability looking at the City service area (Regulatory)
- Analyzed billing data and census block groups to identify affordability at the “neighborhood level”
- Estimated how many individual households have an unaffordable water & sewer bill

Owner Exemption and Affordability Challenge



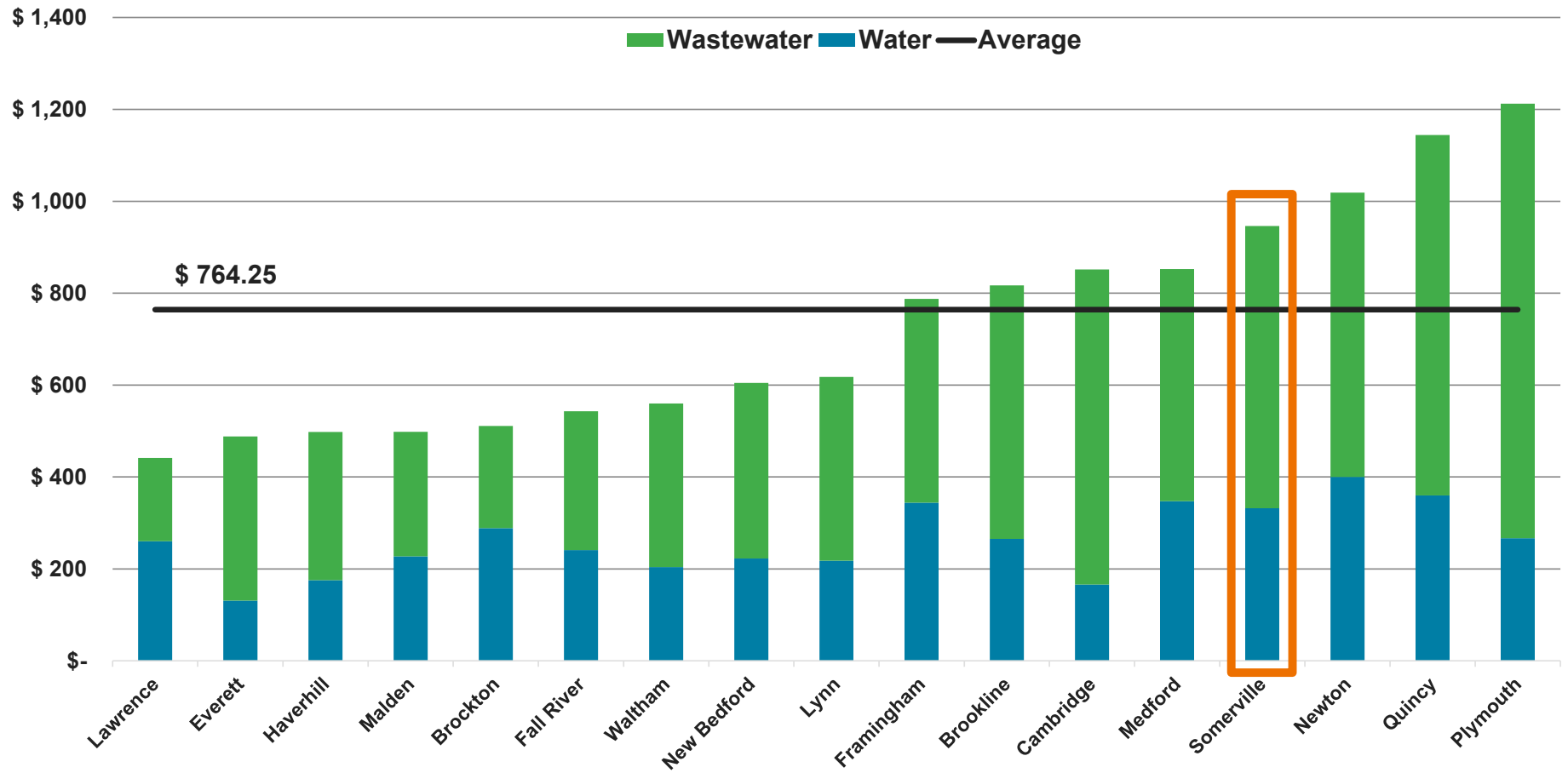
Hours Worked Affordability Metric

Hours Worked Metric (HM)

- Measures number of hours worked at minimum wage to pay water and sewer bill
- Service considered affordable when less than 8 hours worked to pay monthly bill

$$\frac{\text{Monthly Bill}}{\text{Minimum Wage}} = \text{Hours Work} = \frac{\$78.87}{\$13.50} = \mathbf{5.84 \text{ Hours}}$$

2021 Peer Survey – Residential @ 54 CCF Annually



Rate Design

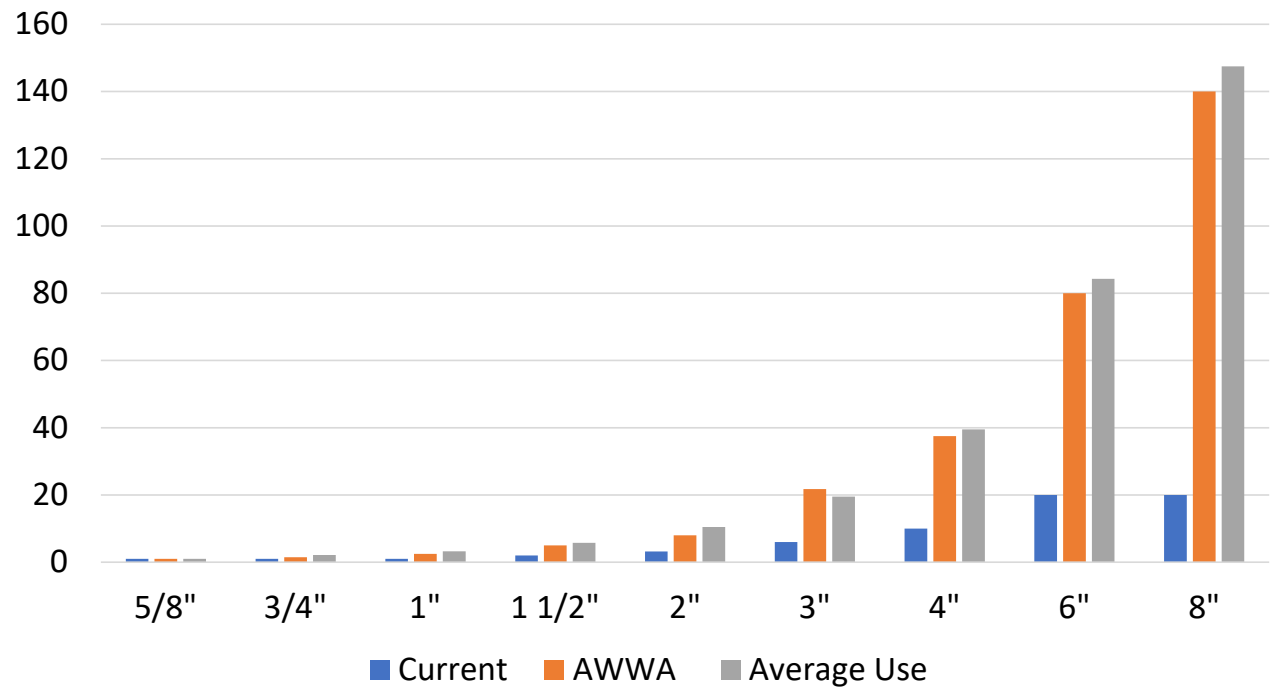
Rate Design Considerations

- Next step in the analysis will evaluate billing practices and customer classifications
- Meter replacement program will add key additional data for consideration
- Analyzing customer volume and system use data
- Anticipating council conversation over the next year and implementation FY 2023

Options for Scaling Base Charge

- Represents cost that the utility incurs in standing ready to serve customers when their demands occur 24/7
- Cost should scale by meter size

Meter Size	Scaling	Base Fee
5/8"	1.0	\$20.00
3/4"	1.0	\$20.00
1"	1.0	\$20.00
1.5"	2.0	\$40.00
2"	3.2	\$64.00
3"	6.0	\$120.00
4"	10.0	\$200.00
6"	20.0	\$400.00
8"	20.0	\$400.00



Volumetric Charge Considerations

- Considering the treatment of multi-unit properties with a single meter
- Analyzing the tier breakpoints for residential, using the most current census data and volumetric trends
- Evaluating the appropriateness of commercial tiers in light of industry standards

Volume Charge

Residential Tri-Annual

Tier	Volume CCF	Rate
1	0-8	\$4.20
2	9-13	\$4.68
3	14-67	\$6.74
4	68-133	\$7.06
5	>133	\$7.34

Commercial Bi-Monthly

Tier	Volume CCF	Rate
1	0-10	\$4.68
2	11-100	\$6.74
3	101-200	\$7.06
4	>200	\$7.34

Elements of Rates

Charge Type



Elements of Rates- Base Charge

Charge Type

Base Charge

How is it Applied

Fixed amount per meter

Rationale

Many of Utilities' costs are fixed (ex: debt)

Fixed revenues protect the utility from changes in demand

Bond rating agencies measure fixed cost recovery

Industry best practice

Elements of Rates- Volume Charge

Charge Type

Base Charge

Volume Charge

How is it Applied

Fixed amount per meter

Based on use in CCF

Rationale

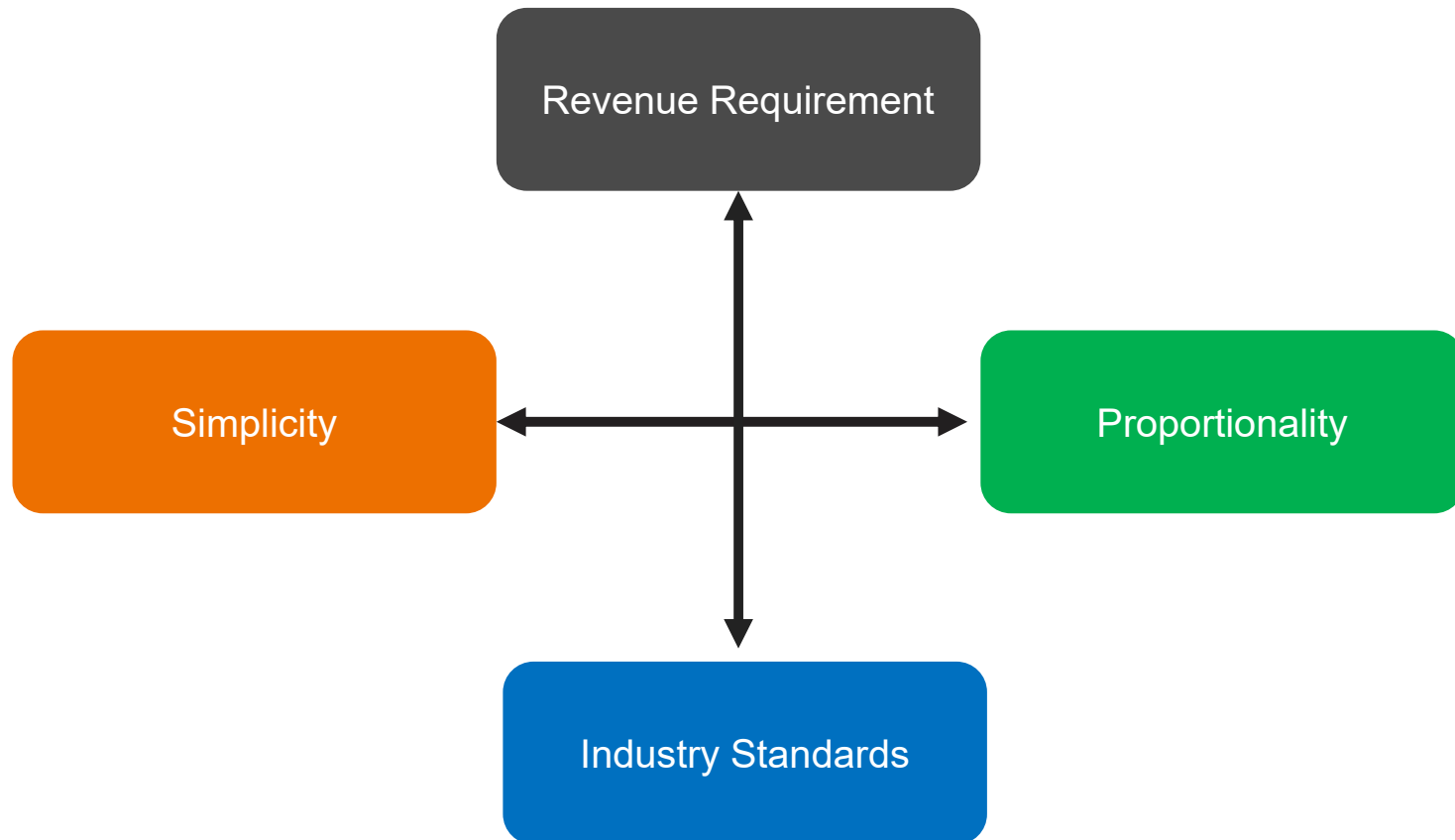
Convey conservation messaging

Allows customers to control their bill

Encouraged by regulation

Key measure of system utilization

Balancing Objectives

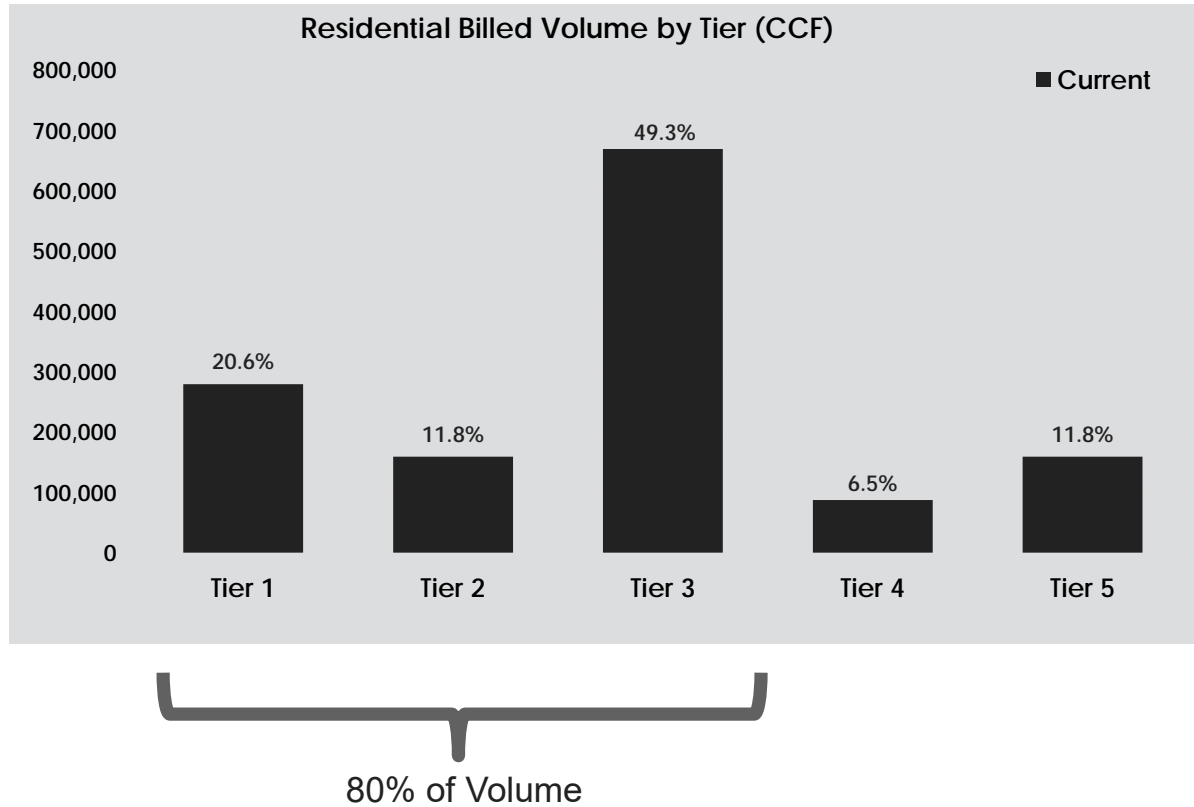


Residential Tiers



Currently Five Tri-Annual Tiers in Place

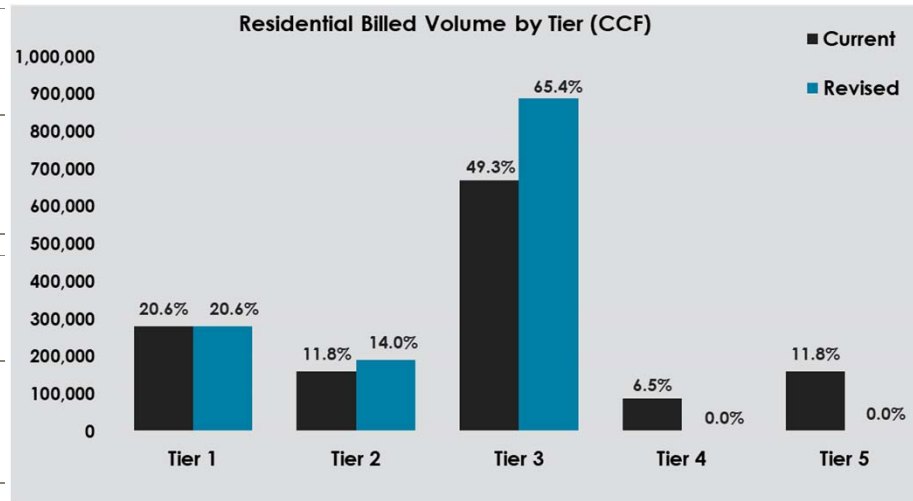
Tier	Volume CCF	Rate
1	0-8	\$4.20
2	9-13	\$4.68
3	14-67	\$6.74
4	68-133	\$7.06
5	>133	\$7.34





Reducing Residential to Three Tiers

1	Small Household Typical Indoor Usage	
	Description	Value
	People per Household	1.35
	Typical Indoor Use (Gallons per Capita per Day)	36.7
	Typical Essential Domestic Use (CCF/Tri-Annualy)	8
2	Average Household Typical Indoor Usage	
	Description	Value
	People per Household	2.37
	Typical Indoor Use (Gallons per Capita per Day)	36.7
	Typical Essential Domestic Use (CCF/Tri-Annualy)	14



3 All Additional Use

Proportionality

Multi-Unit Residential Pays More

3 Dwelling Units and 3 meters

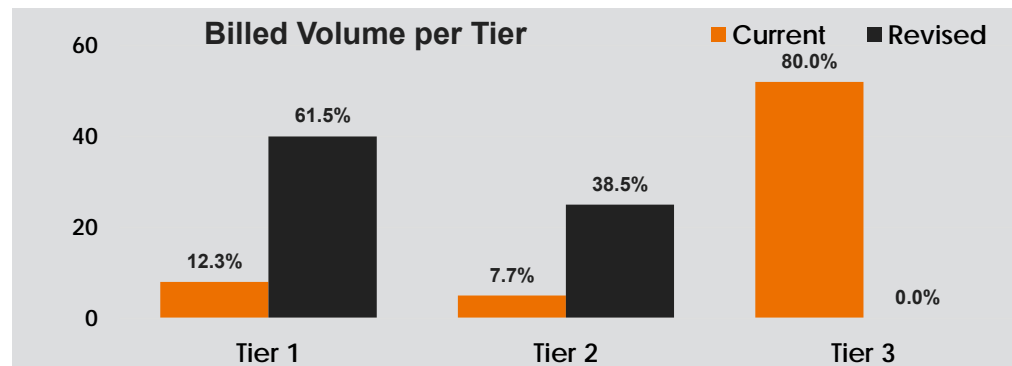


3 Dwelling Units and one meter

Meter Size:	5/8"(3)	5/8"(1)
3 Unit Total Tri-Annual Use CCF:	39	39
3 Unit Total Tri-Annual water Bill:	\$243	\$268

10.5% higher

Tiers as currently constructed can do not account for multiple units, resulting in higher bills for multiple units



Proportionality

Multi-Unit Residential Pays the Same

3 Dwelling Units and 3 meters

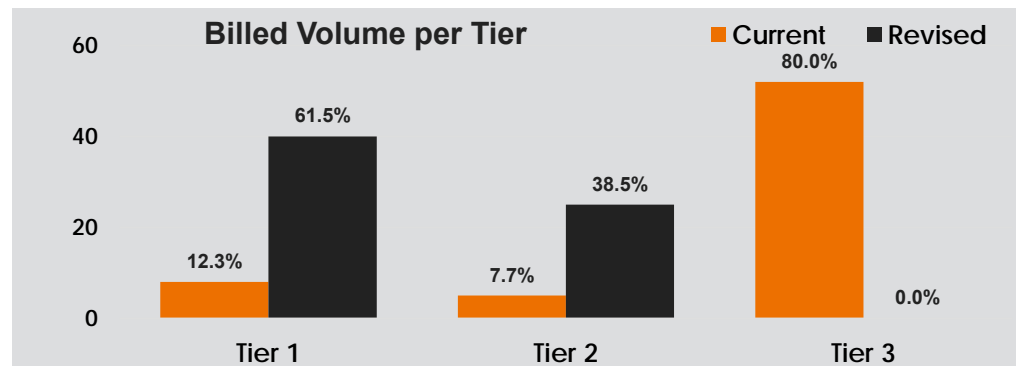


3 Dwelling Units and one meter

Meter Size:	5/8"(3)	5/8"(1)
3 Unit Total Tri-Annual Use CCF:	39	39
3 Unit Total Tri-Annual water Bill:	\$243	\$243

0% higher

Tiers can be constructed to account for multiple units, resulting in equal bills per unit

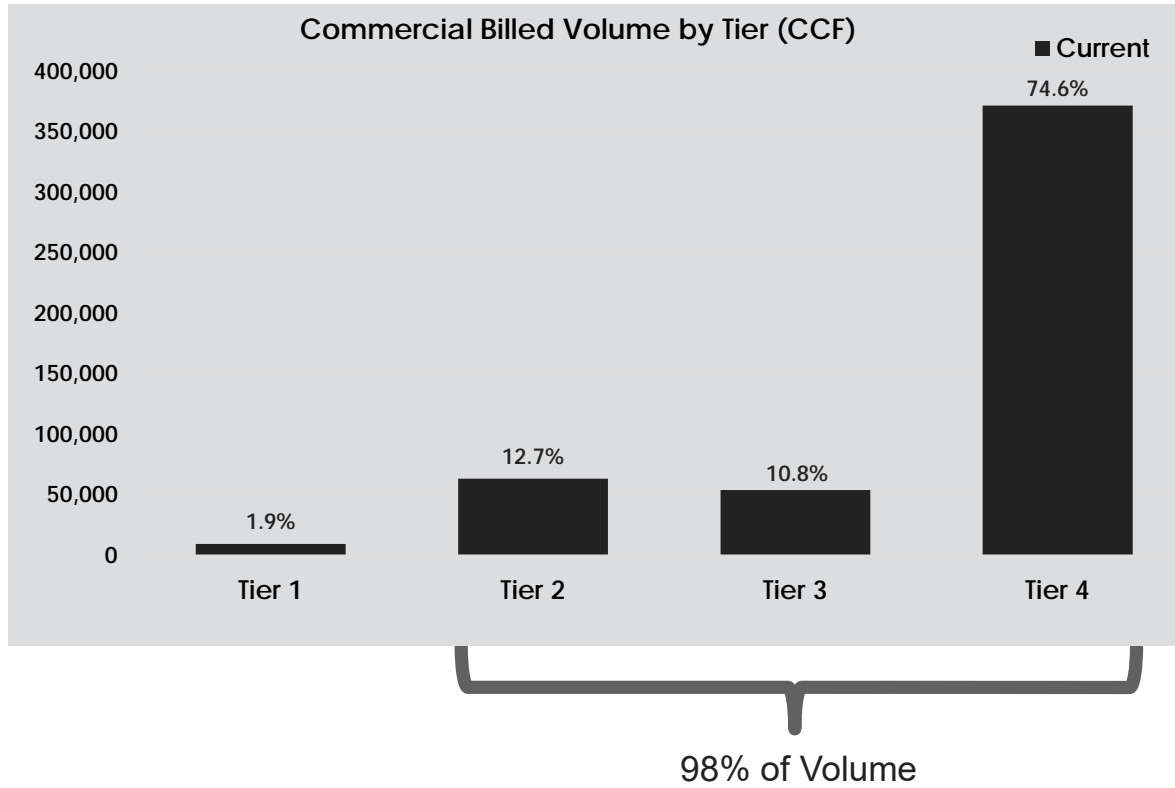


Commercial Tiers

Simplicity

Currently Four Bi-Monthly Tiers in Place

Tier	Volume CCF	Rate
1	0-10	\$4.68
2	11-100	\$6.74
3	101-200	\$7.06
4	>200	\$7.34



Reducing Commercial to One Tier

Simplicity

Proportionality

- Commercial demand drivers are individualized based on the type of business
- The most common rate structure applied to commercial customers is a uniform rate
- Single tier creates proportionality between all commercial users

