



City of Tempe, Arizona

Water & Sewer Rate Study

Stakeholder Working Group Meeting #2 – Revenue Sufficiency Workshop

June 9, 2020

A Comprehensive Rate Study is A Series of Connected Investigations

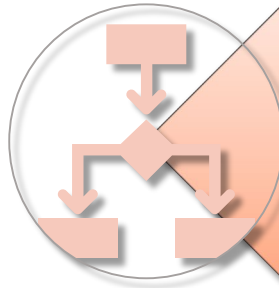
How
Much?



Revenue Sufficiency

- Policies & targets
- System investment needs and funding
- Sustainable operations

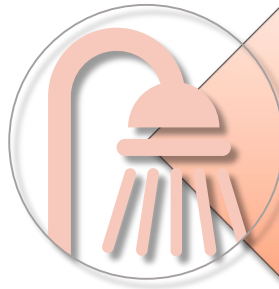
From
Whom?



Defensible Allocation Methods

- Industry accepted approaches
- Inter and intra class equity
- Correct and appropriate units of service

How to
Collect?



Simple, Equitable & Sustainable Rates

- Balance affordability and financial objectives
- Revenue stability
- Proposition 218 compliant rates

Components of the Revenue Requirement



What we will cover for each utility

Start: Discuss source data and assumptions:

- Current customers stats, trends, and revenues
- Operating expenditure requirements
- Discussion of multi-year capital improvements

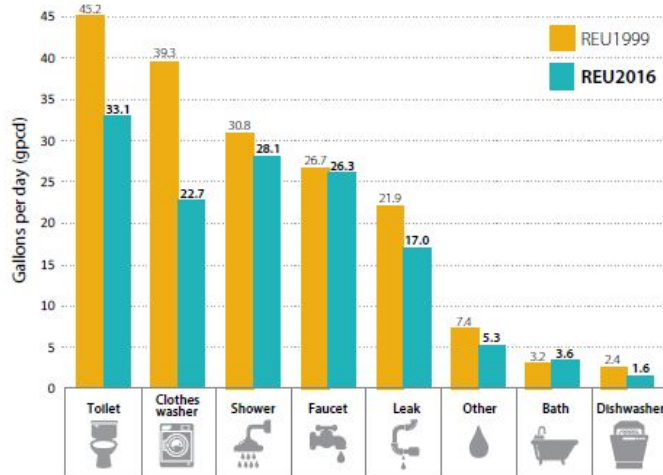
Finish: Review PRELIMINARY financial plans

Goal: Enhance understanding of resources and expenditure requirements, and receive input

Ask lots of questions & provide comments!

Things to keep in mind about utilities

Continued Reductions in Water Use



22%
DECREASE
PER HOUSEHOLD
DAILY WATER USE
1999 TO 2016

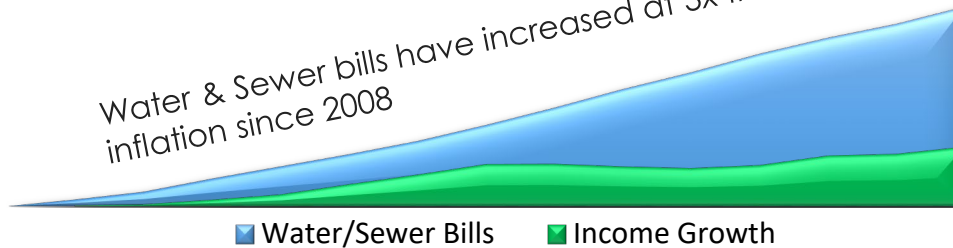
Infrastructure Reinvestment Needs

BURIED NO LONGER:
Confronting America's Water Infrastructure Challenge

American Water Works Association
The Authoritative Resource on Safe Water®

Affordability

Water & Sewer bills have increased at 3x the rate of inflation since 2008



Water Utility System Overview



Water System

137 MGD

Water production
capacity

850

Miles of water lines

\$140M

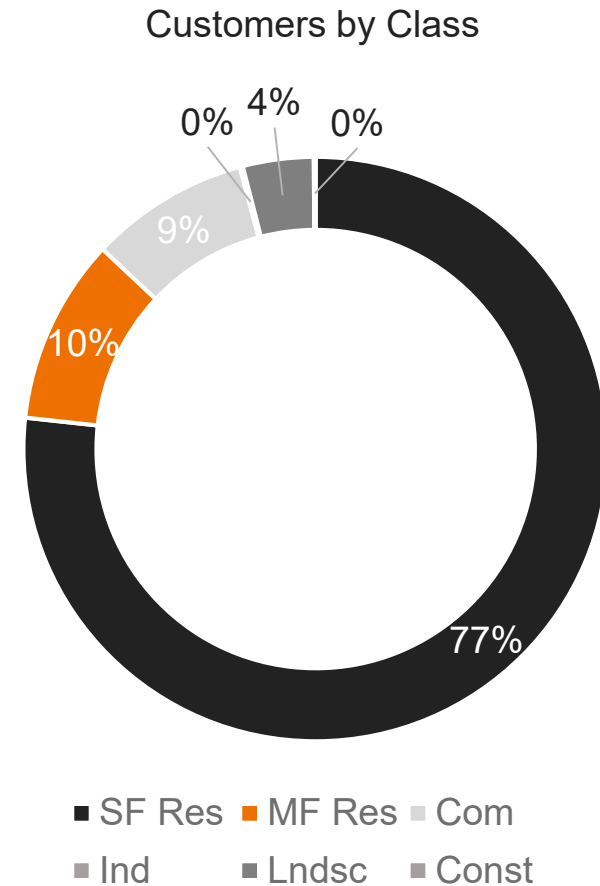
5-year CIP

42K

Active accounts

How Many Customers We Have (FY 2019)

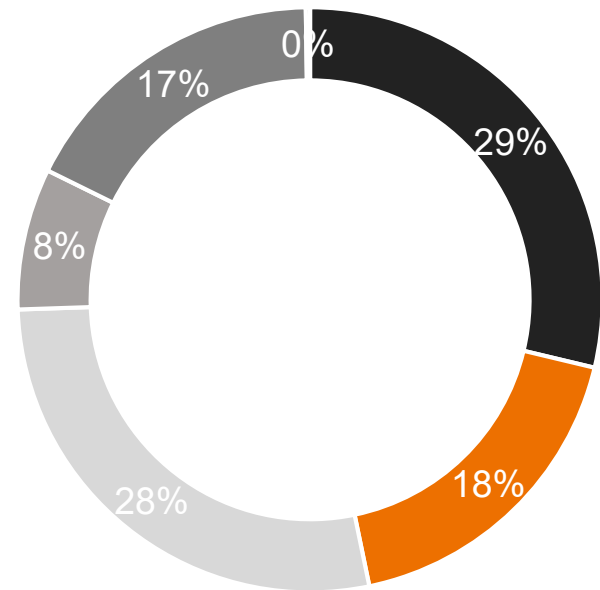
	Single Family	Multi-Family	Commercial	Industrial	Landscape	Construction
5/8"	25,600	2,484	266	1	111	0
3/4"	4,681	350	240	1	149	0
1"	1,618	400	951	11	503	1
1.5"	22	152	870	19	298	0
2"	1	832	1,181	22	543	0
3"	0	16	79	2	14	41
4"	0	13	57	6	8	0
6"	0	29	31	6	5	0
8"	0	12	4	3	0	0
10"	0	0	0	0	0	0
Sprinkler	0	0	0	0	3	0
Total	32,000	4,287	3,679	70	1,634	42



How Much Water We Use (FY 2019)

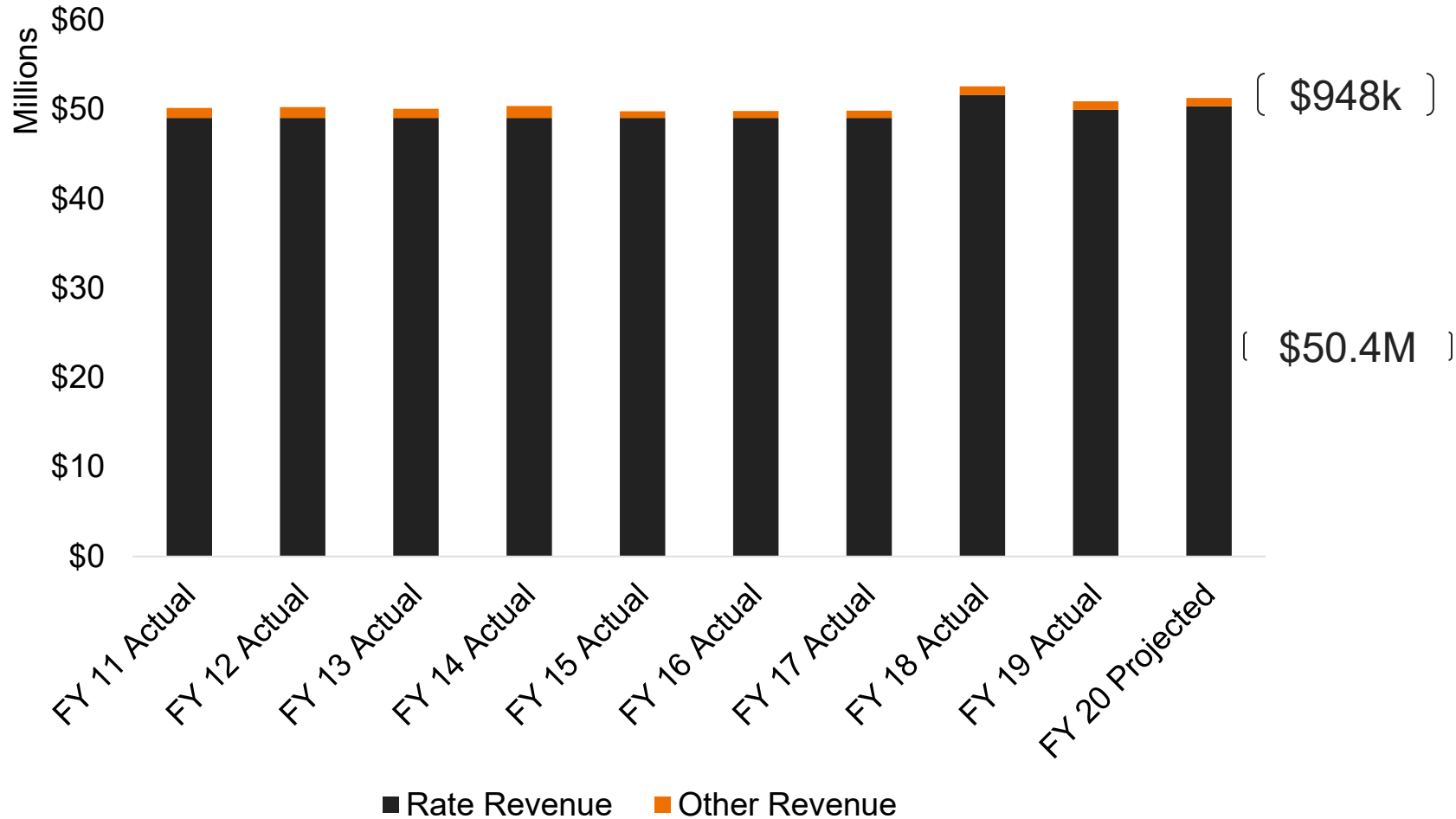
	Total Volume (kgal)
Single Family	4,279,482
Multi-Family	2,684,298
Commercial	4,129,097
Industrial	1,163,977
Landscape	2,603,769
Construction	34,713
Total	14,895,336

Volume by Class

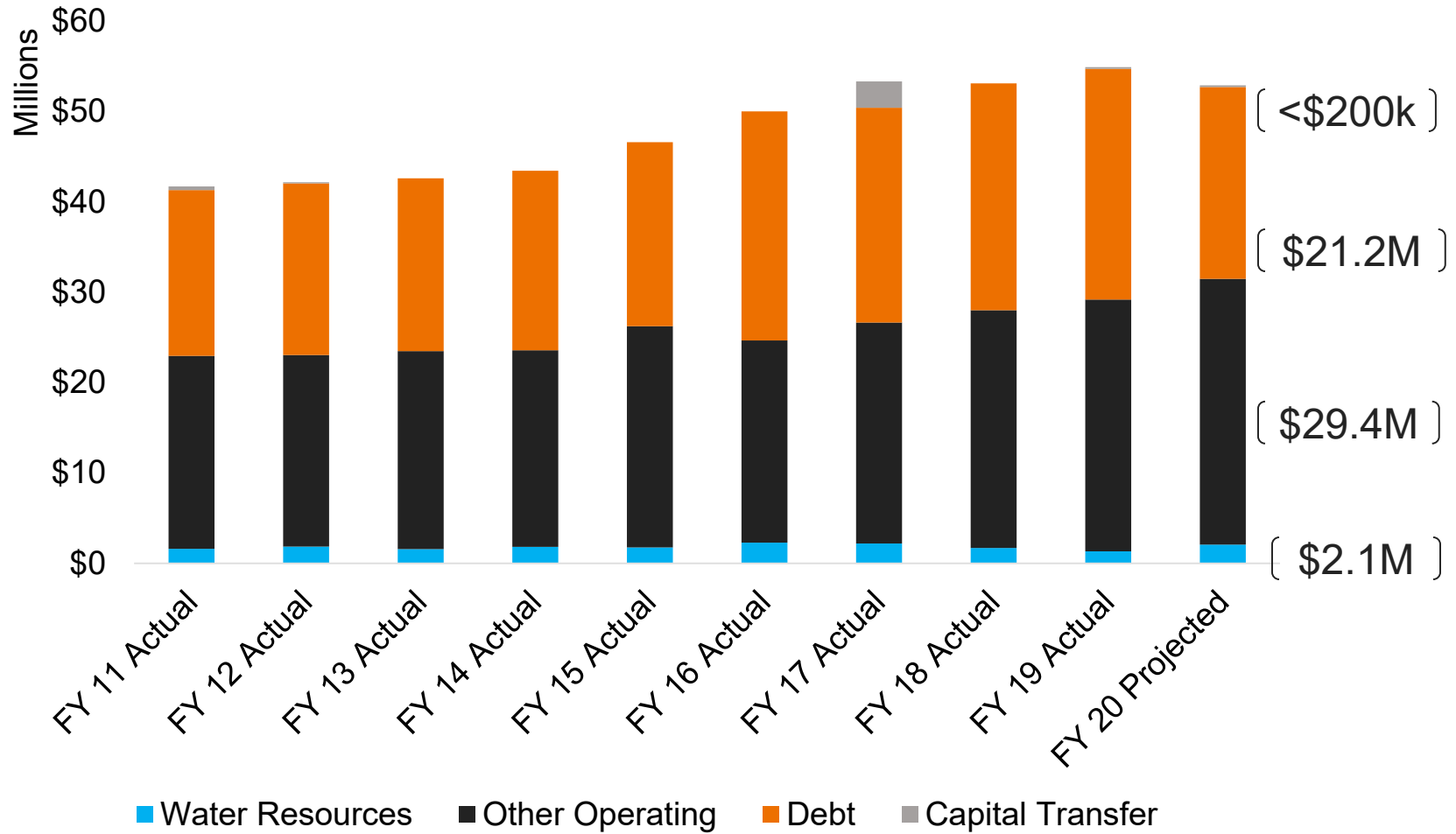


- SF Res ■ MF Res ■ Com
- Ind ■ Lndsc ■ Const

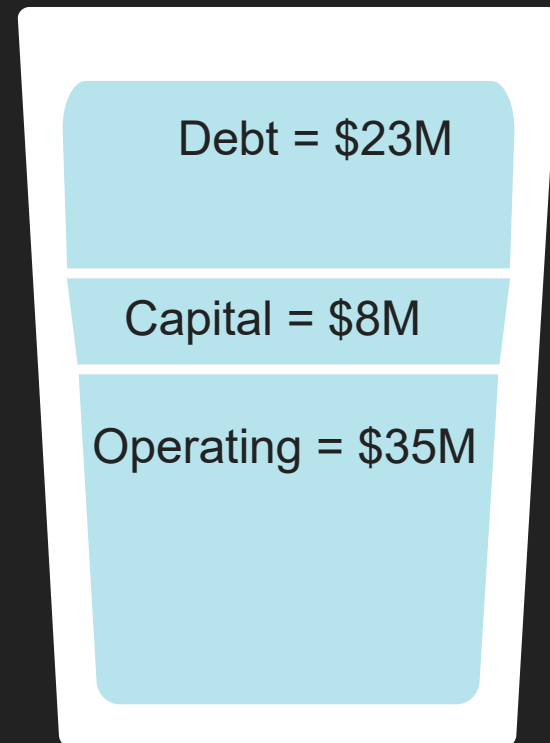
Total Annual Revenue (\$ in Millions)



Total Annual Expenditures (\$ in Millions)

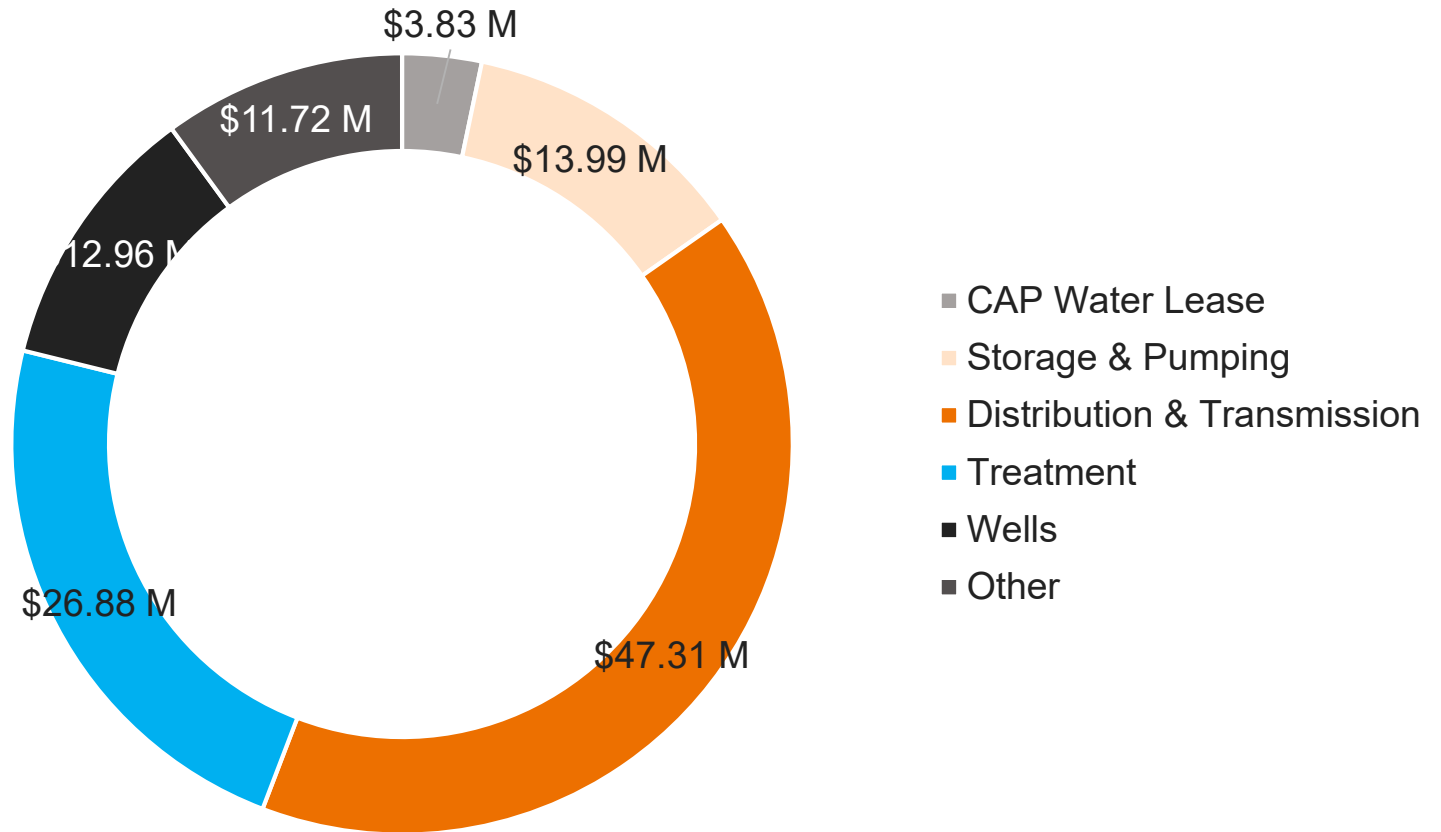


THE COST TO FILL A GLASS OF WATER

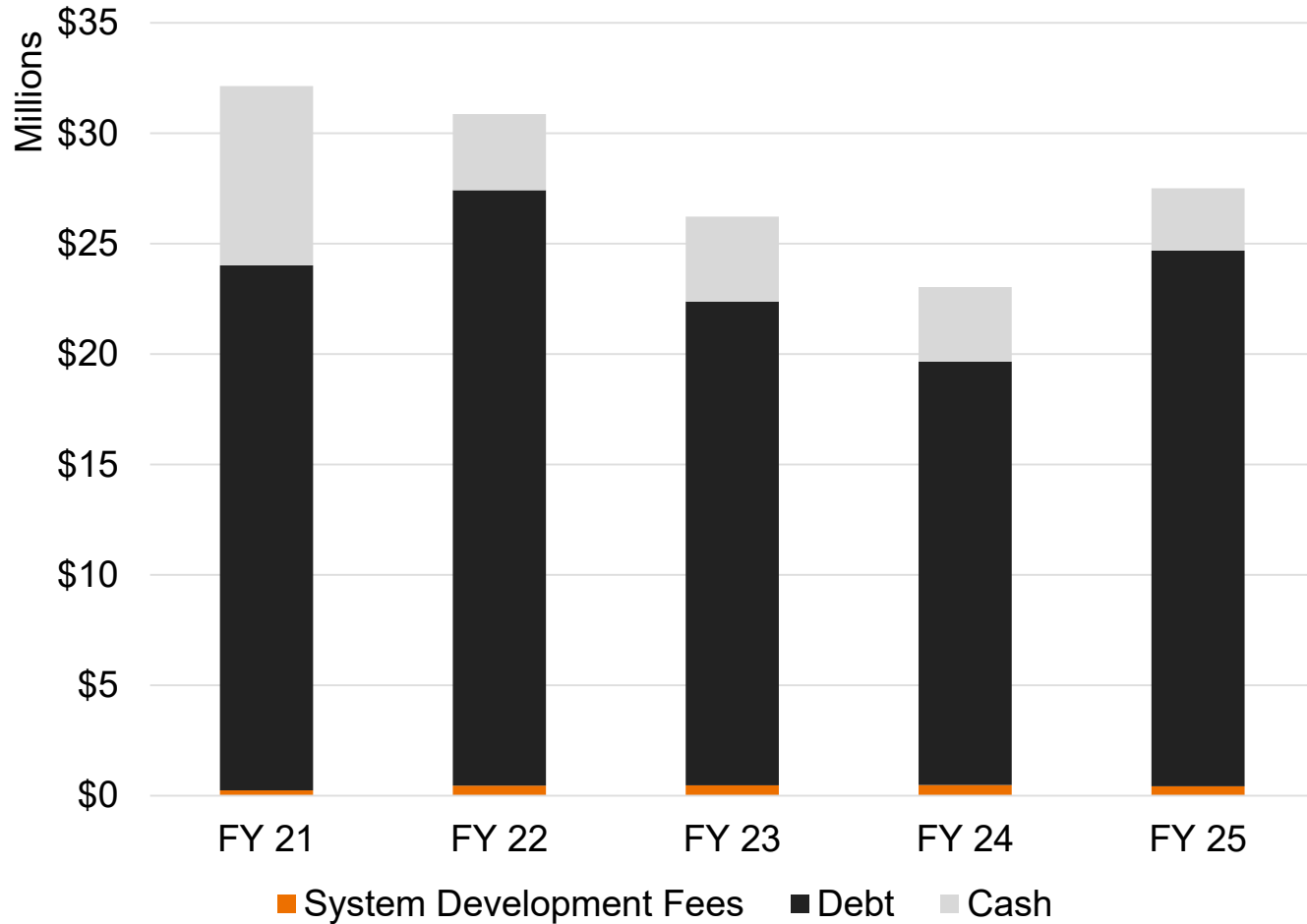


Represents current projections for FY 2021

Future Capital Projects by Type (FY 21-25)



Future Capital Funding Sources





Water Status Quo Financial Summary

\$52M

2020 revenue estimate

\$66M

2021 expenditures



\$326M

10-year capital plan

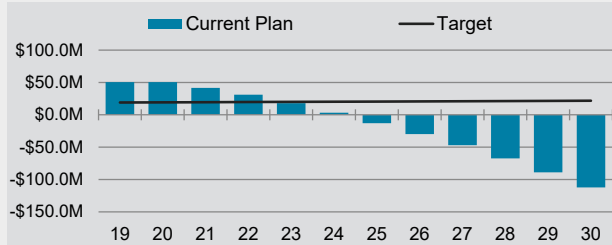
-\$176M

Projected 2030 funding deficit

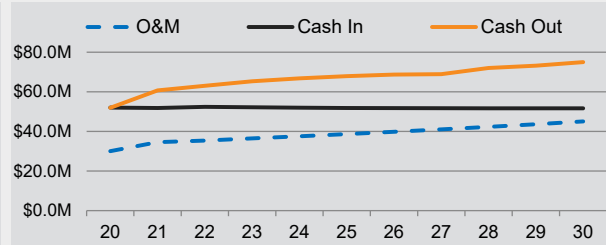
Scenario 1: Status Quo – Do Nothing

	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2025	FY 2030
Water Rate Increases	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%
Single Family Water Bill	\$32.26	\$32.26	\$32.26	\$32.26	\$32.26	\$32.26	\$32.26	\$32.26	\$32.26	\$32.26	\$32.26		

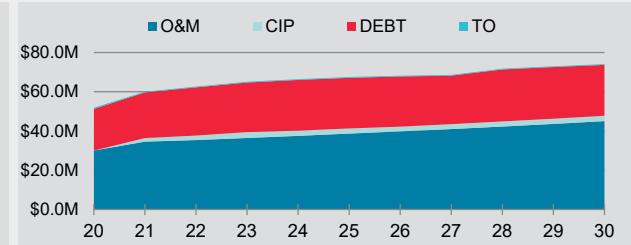
Operating Fund



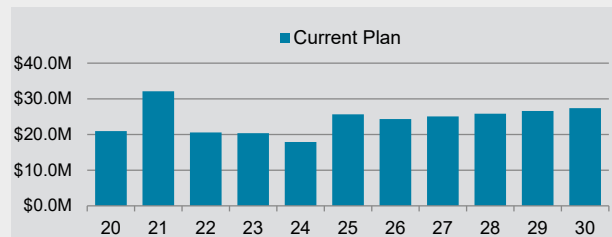
Revenues vs. Expenses



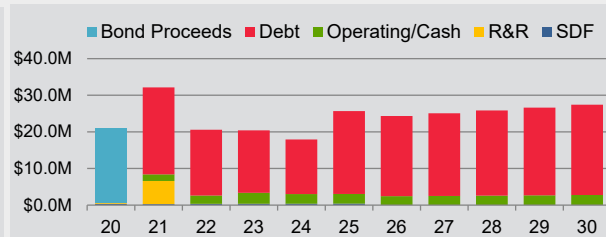
Expenses by Type



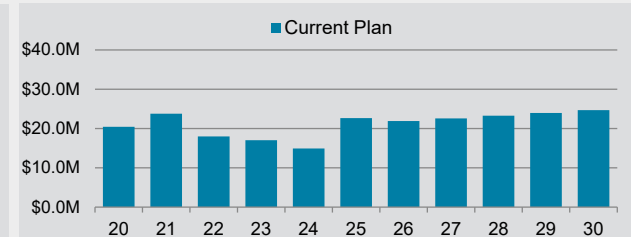
CIP Spending



CIP Funding



Borrowing



Scenario 2: "Just-in-Time" Adjustments

Water System



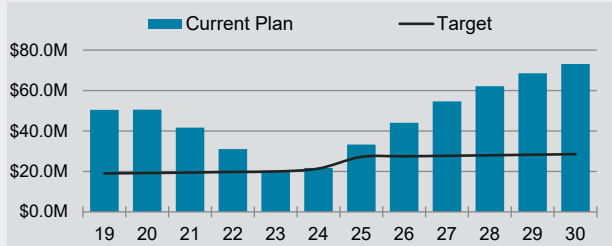
CITY OF TEMPE, AZ - WATER



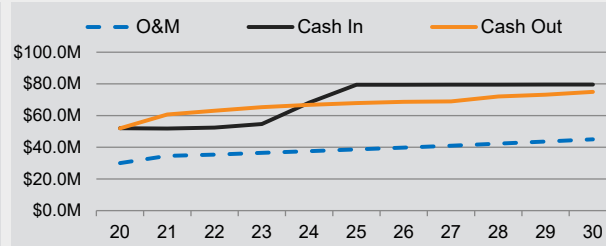
CALC SAVE CTRL LAST OVR

	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2025	FY 2030
Water Rate Increases	0.00%	0.00%	0.00%	10.40%	43.62%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	58.61%	58.61%
Single Family Water Bill	\$32.26	\$32.26	\$32.26	\$33.46	\$39.00	\$39.00	\$39.00	\$39.00	\$39.00	\$39.00	\$39.00		

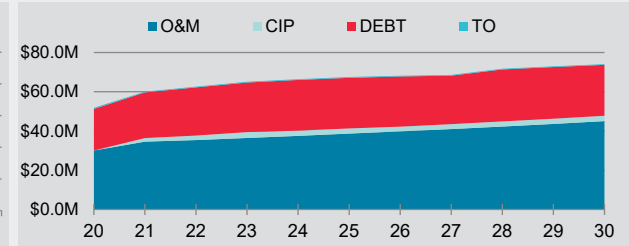
Operating Fund



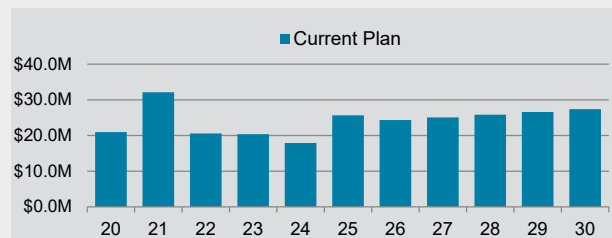
Revenues vs. Expenses



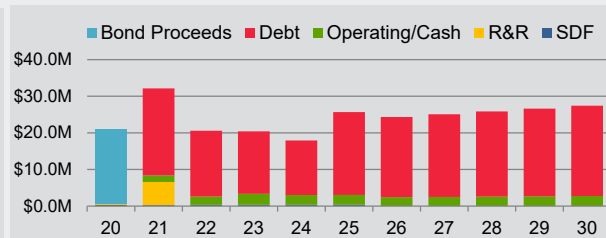
Expenses by Type



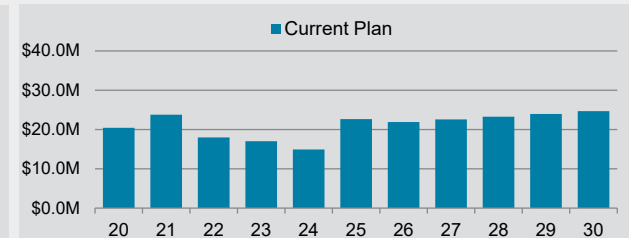
CIP Spending



CIP Funding



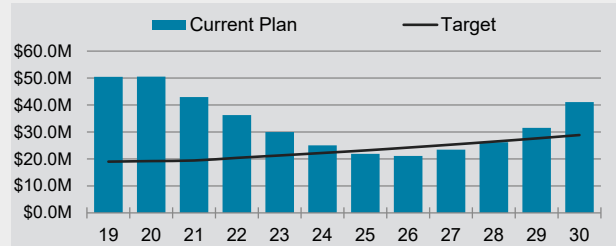
Borrowing



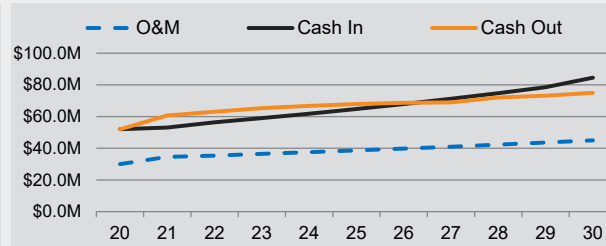
Scenario 3: "Levelized" Adjustments

	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2025	FY 2030
Water Rate Increases	0.00%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	37.83%	70.70%
Single Family Water Bill	\$32.26	\$34.05	\$35.88	\$37.84	\$39.94	\$42.12	\$44.45	\$46.92	\$49.48	\$52.19	\$55.05		

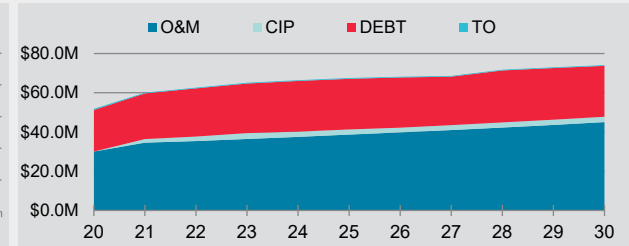
Operating Fund



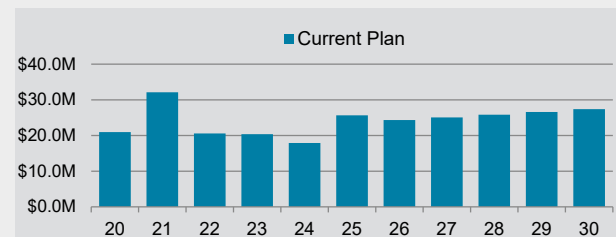
Revenues vs. Expenses



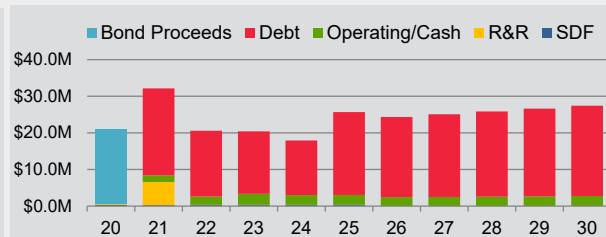
Expenses by Type



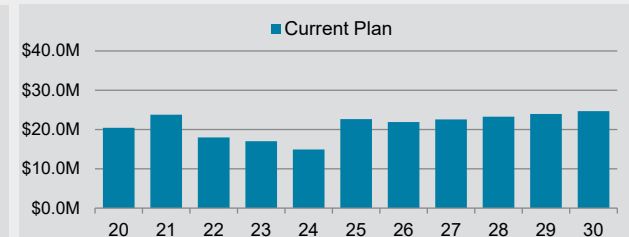
CIP Spending



CIP Funding

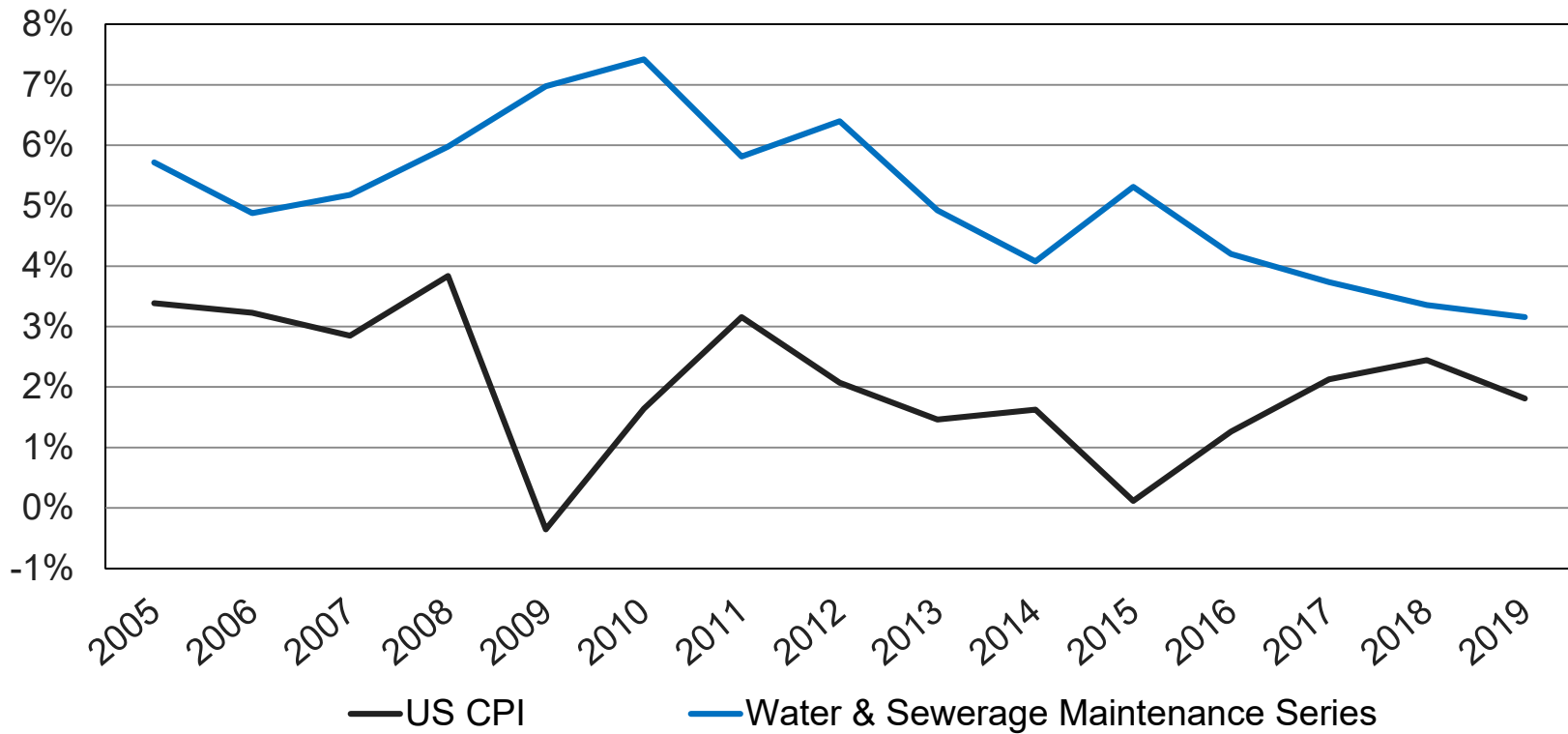


Borrowing



Utilities Face Steeper Increases in Costs Than We See in Overall Inflation

**US CPI v. Water & Sewer Maintenance Series:
Annual Percentage Change**



Sewer Utility System Overview



Sewer System

29 MGD

Wastewater treated flow

495

Miles of sewer lines

\$145M

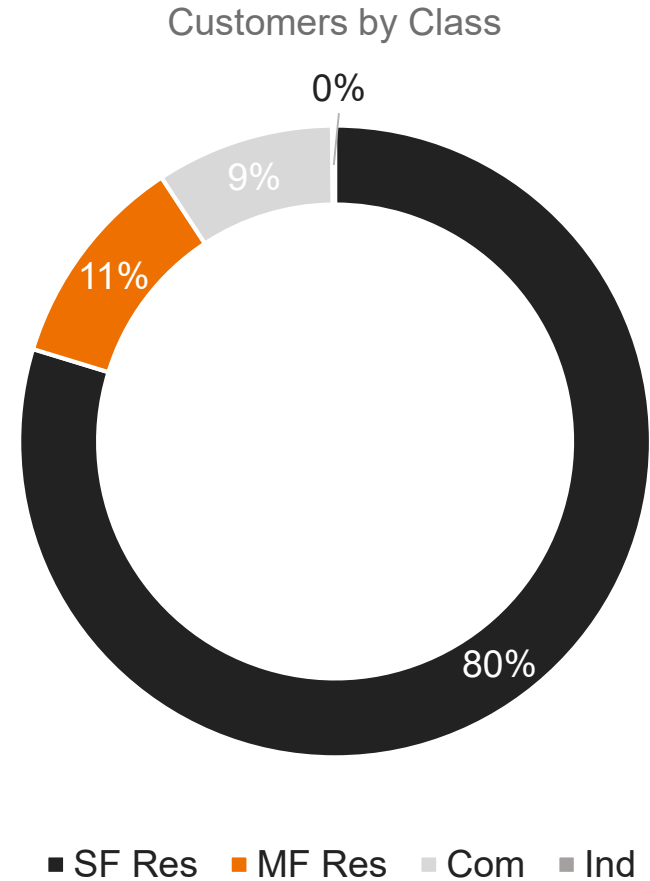
5-year CIP

40K

Active accounts

How Many Customers We Have (FY 2019)

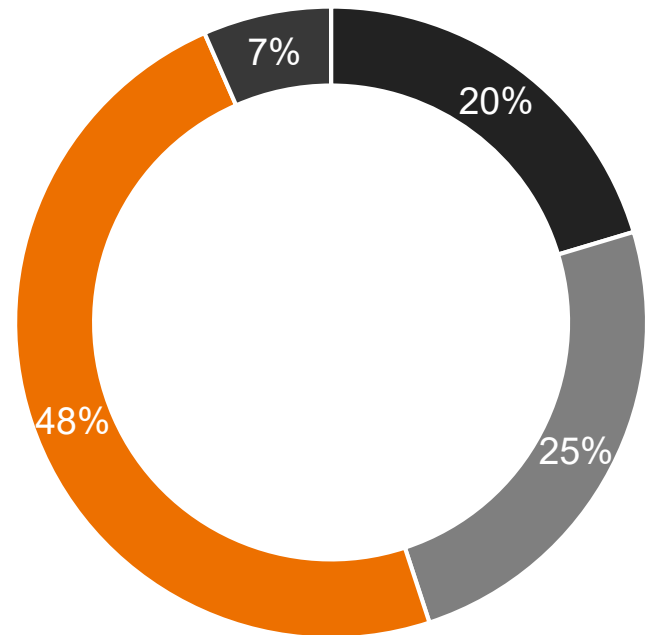
	Single Family	Multi-Family	Commercial	Industrial
5/8"	25,605	2,522	252	1
3/4"	4,676	357	226	1
1"	1,618	425	932	9
1.5"	22	162	860	17
2"	2	884	1,157	21
3"	0	16	102	2
4"	0	12	78	6
6"	0	32	44	4
8"	0	12	3	2
10"	0	0	0	0
Sprinkler	79	0	0	0
Total	32,002	4,423	3,654	63



How Much Water We Use for Sewer (FY 2019)

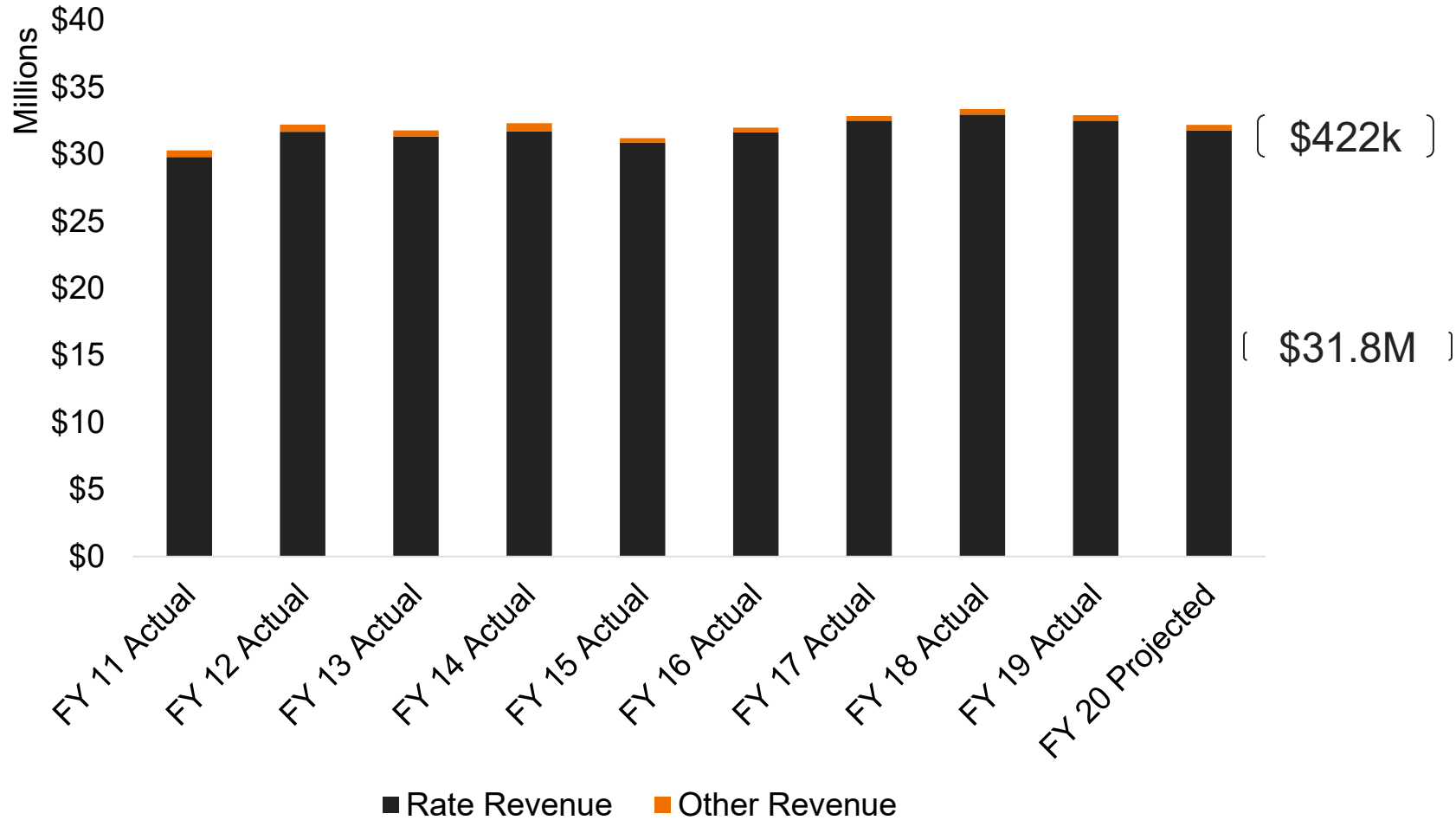
	Total Volume (kgal)
Single Family	2,220,237
Multi-Family	2,679,412
Commercial	5,283,483
Industrial	715,087
Total	10,898,219

Volume by Class

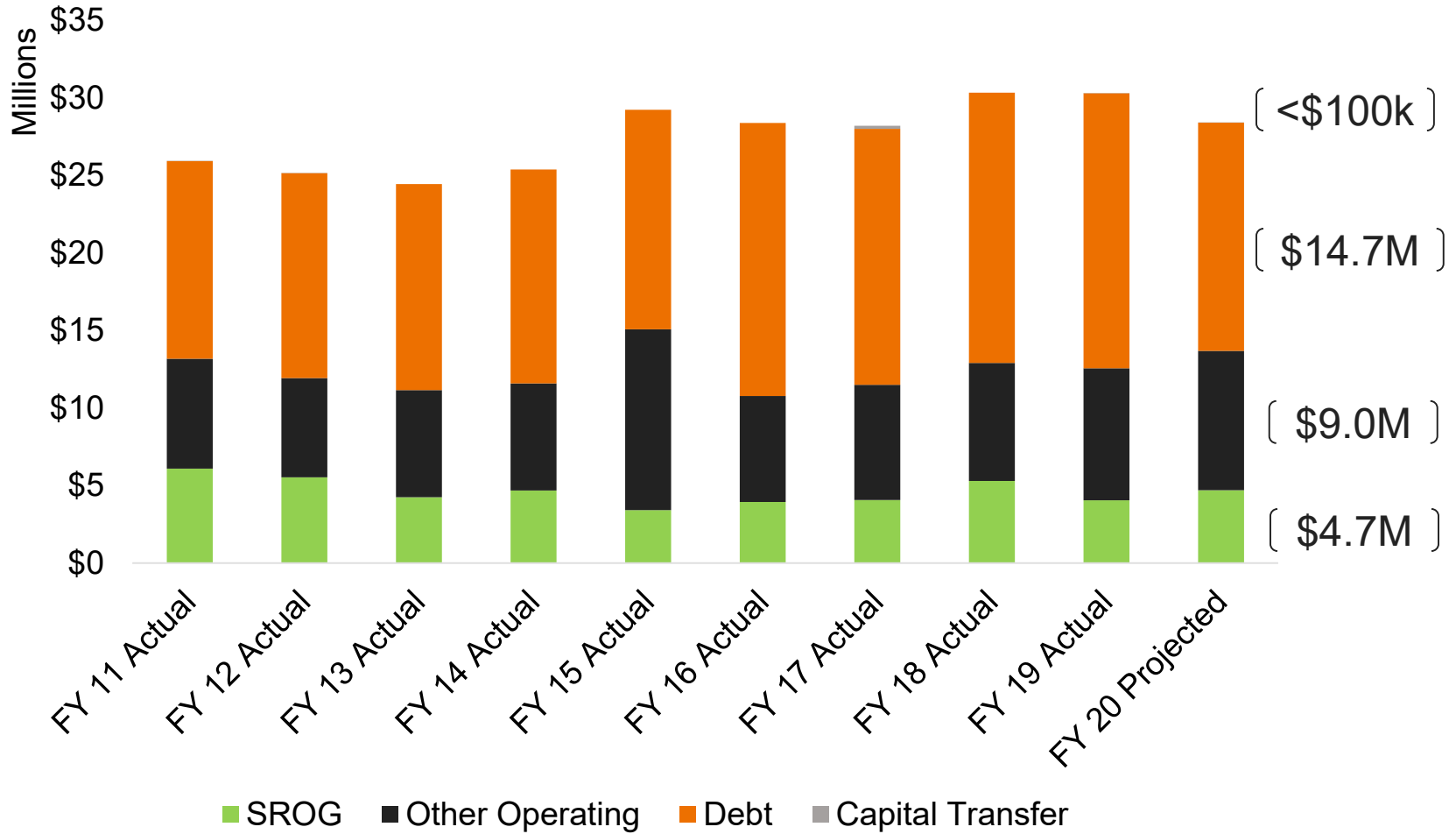


■ SF Res ■ MF Res ■ Com ■ Ind

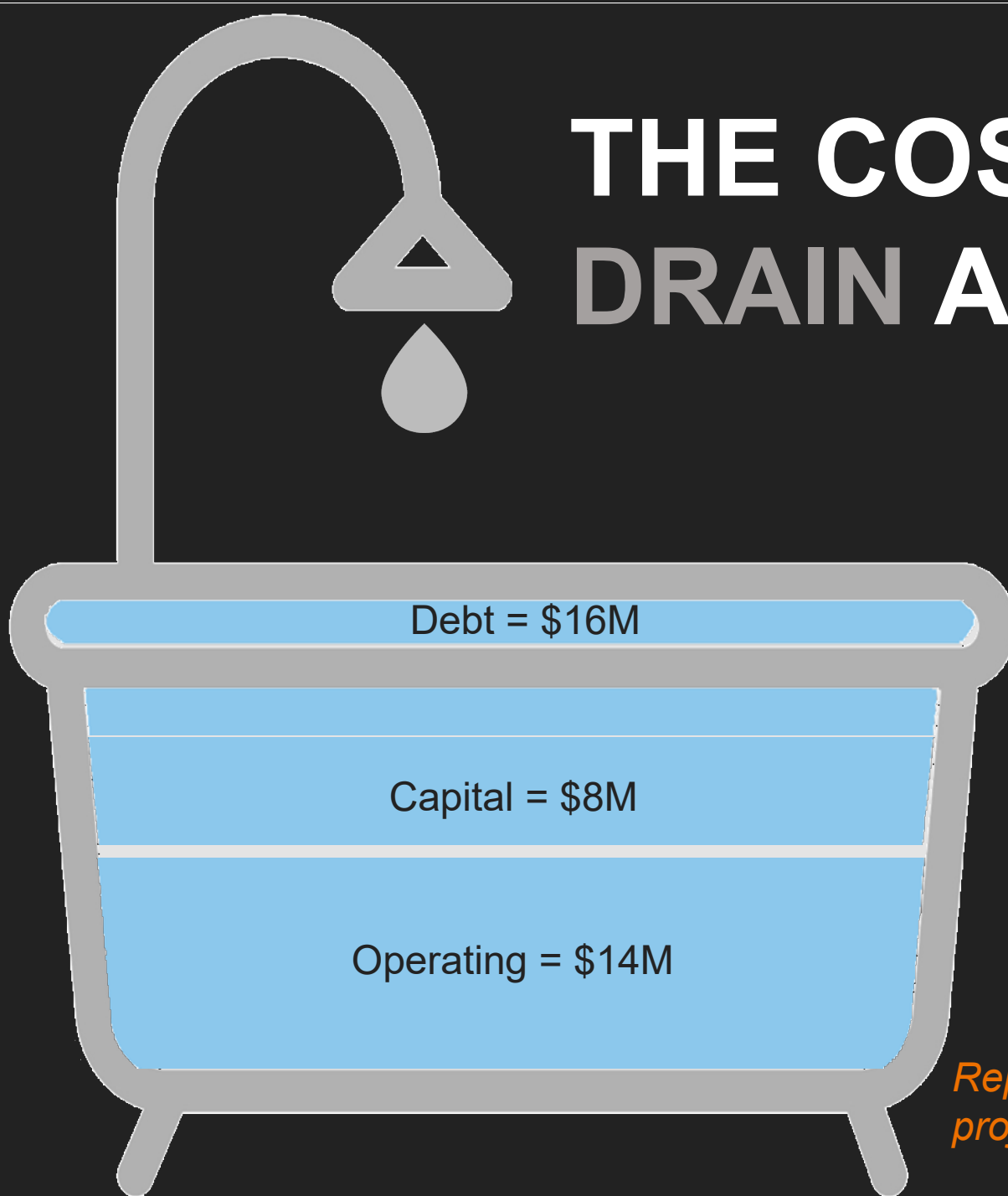
Total Annual Revenue (\$ in Millions)



Total Annual Expenditures (\$ in Millions)

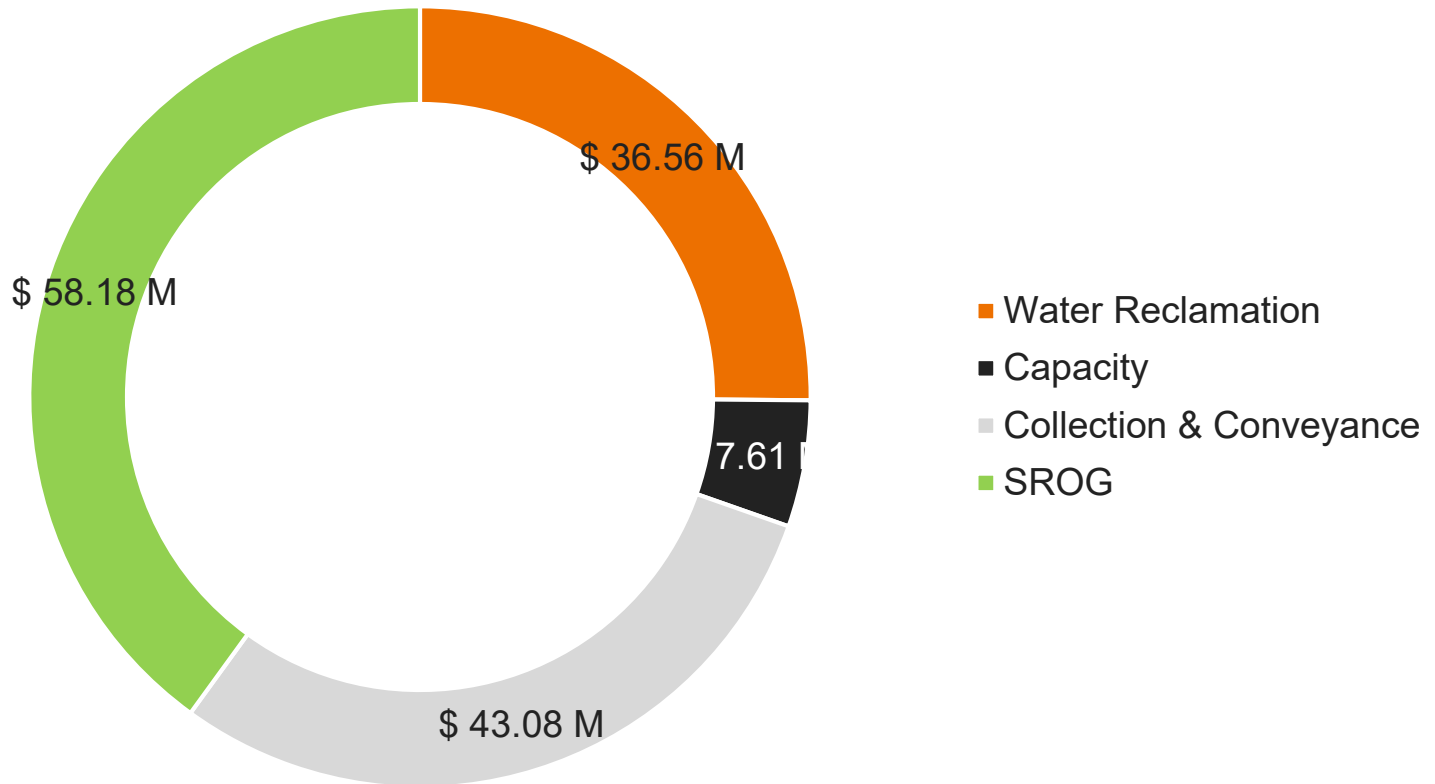


THE COST TO DRAIN A TUB

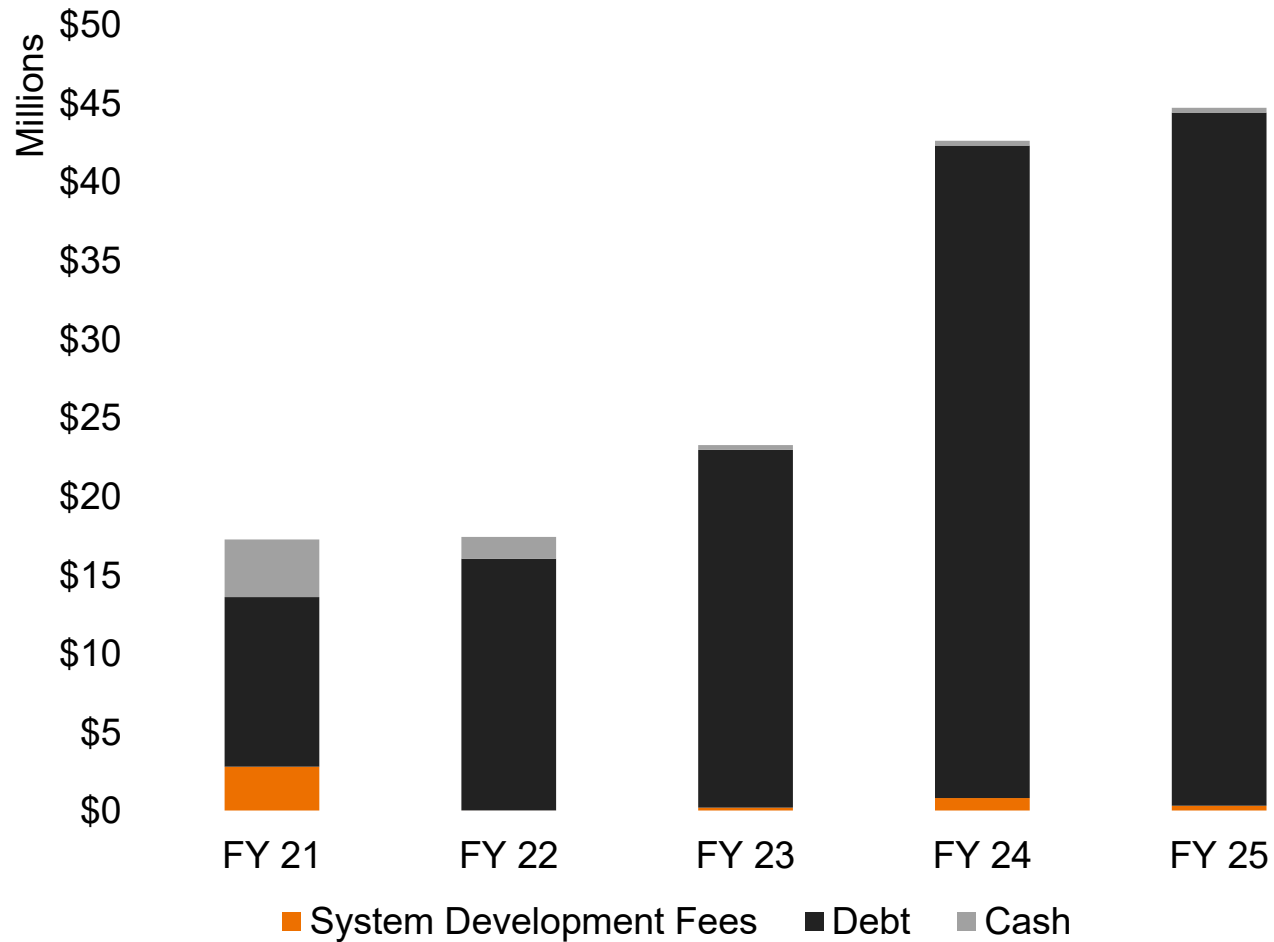


*Represents current
projections for FY 2021*

Future Capital Projects by Type (FY 21-25)



Future Capital Funding Sources





Sewer Status Quo Financial Summary

\$33M

2020 revenue estimate

\$38M

2021 expenditures



\$231M

10-year capital plan

-\$12M

Projected 2030 funding deficit

Scenario 1: Status Quo – Do Nothing

Sewer System



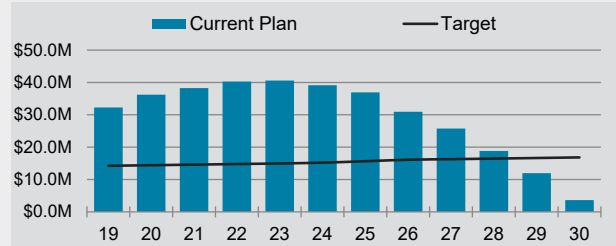
CITY OF TEMPE, AZ - SEWER



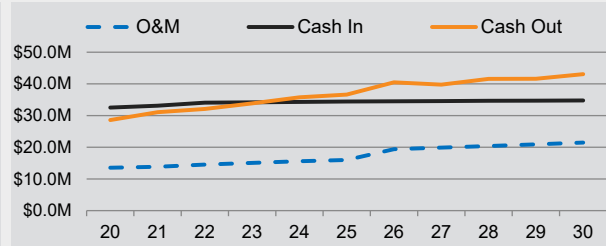
CALC SAVE CTRL LAST OVR

	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2025	FY 2030
Sewer Rate Increases	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%
Single Family Water Bill	\$23.18	\$23.18	\$23.18	\$23.18	\$23.18	\$23.18	\$23.18	\$23.18	\$23.18	\$23.18	\$23.18		

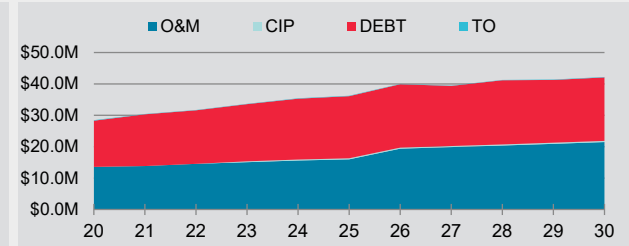
Operating Fund



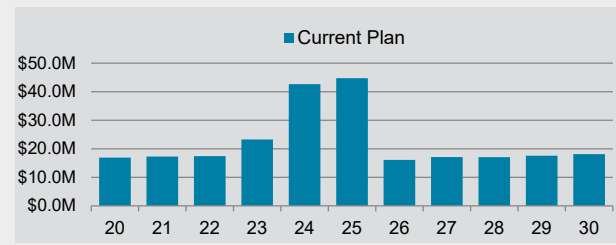
Revenues vs. Expenses



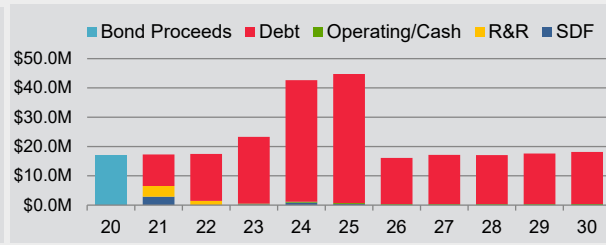
Expenses by Type



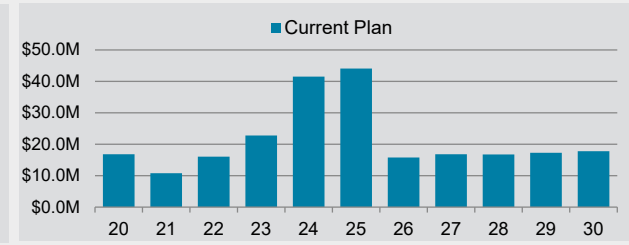
CIP Spending



CIP Funding



Borrowing



Scenario 2: "Just-in-Time" Adjustments

Sewer System



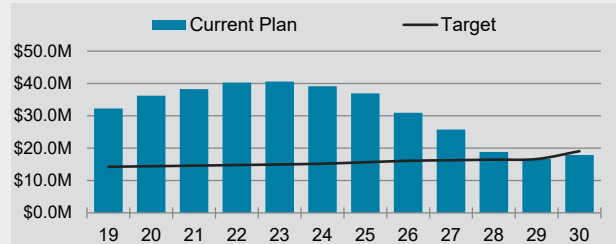
CITY OF TEMPE, AZ - SEWER



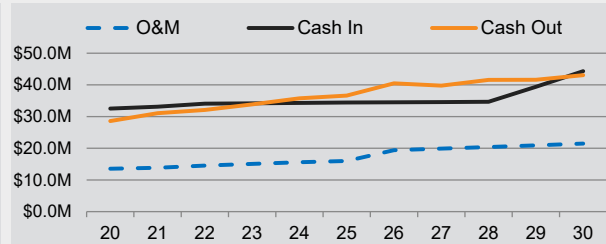
CALC SAVE CTRL LAST OVR

	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2025	FY 2030
Sewer Rate Increases	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	29.95%	0.00%	0.00%	29.90%
Single Family Water Bill	\$23.18	\$23.18	\$23.18	\$23.18	\$23.18	\$23.18	\$23.18	\$23.18	\$23.18	\$30.11	\$30.11		

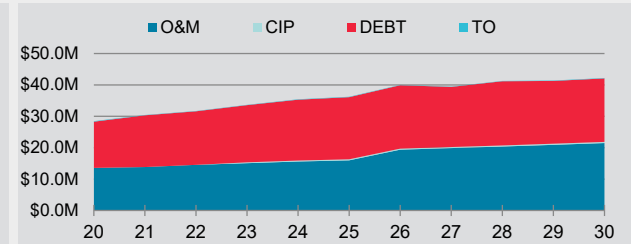
Operating Fund



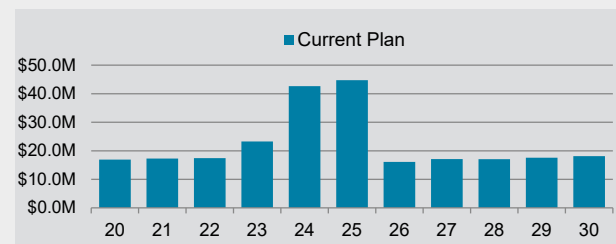
Revenues vs. Expenses



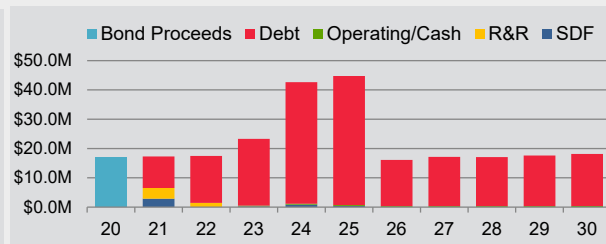
Expenses by Type



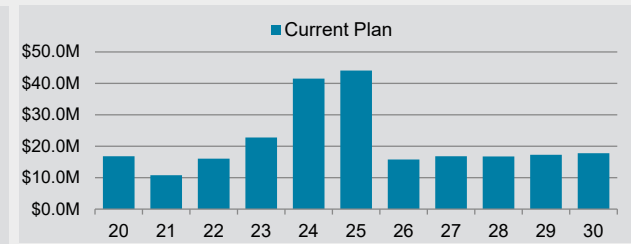
CIP Spending



CIP Funding



Borrowing



Scenario 3: "Levelized" Adjustments

Sewer System



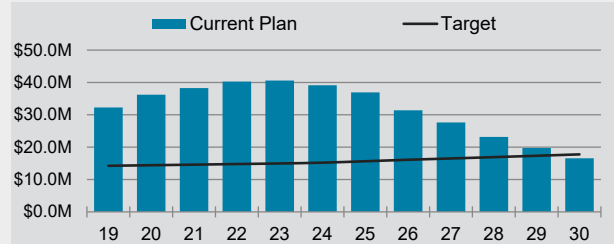
CITY OF TEMPE, AZ - SEWER



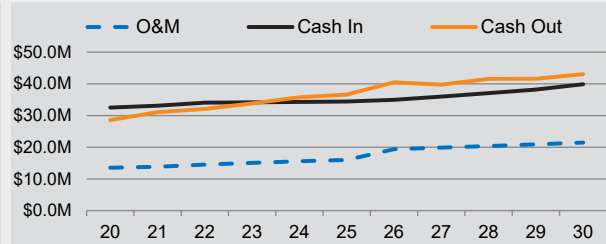
CALC SAVE CTRL LAST OVR

	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2025	FY 2030
Sewer Rate Increases	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.01%	16.02%
Single Family Water Bill	\$23.18	\$23.18	\$23.18	\$23.18	\$23.18	\$23.18	\$23.91	\$24.65	\$25.40	\$26.16	\$26.93		

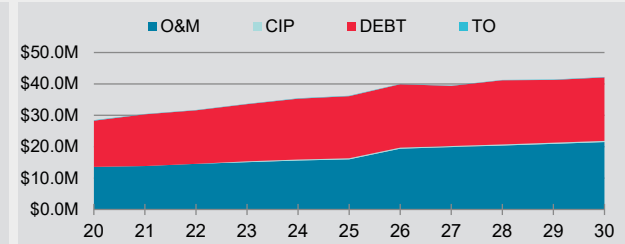
Operating Fund



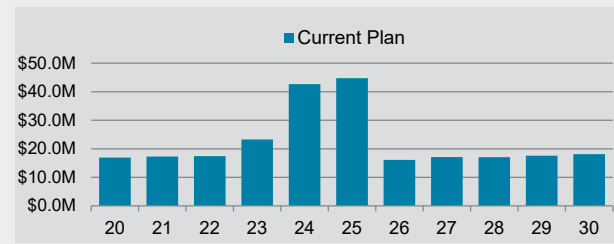
Revenues vs. Expenses



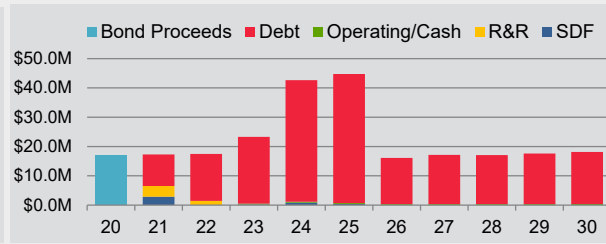
Expenses by Type



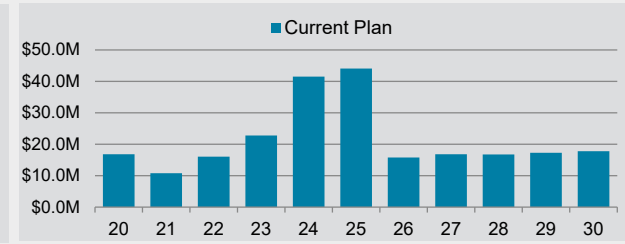
CIP Spending



CIP Funding

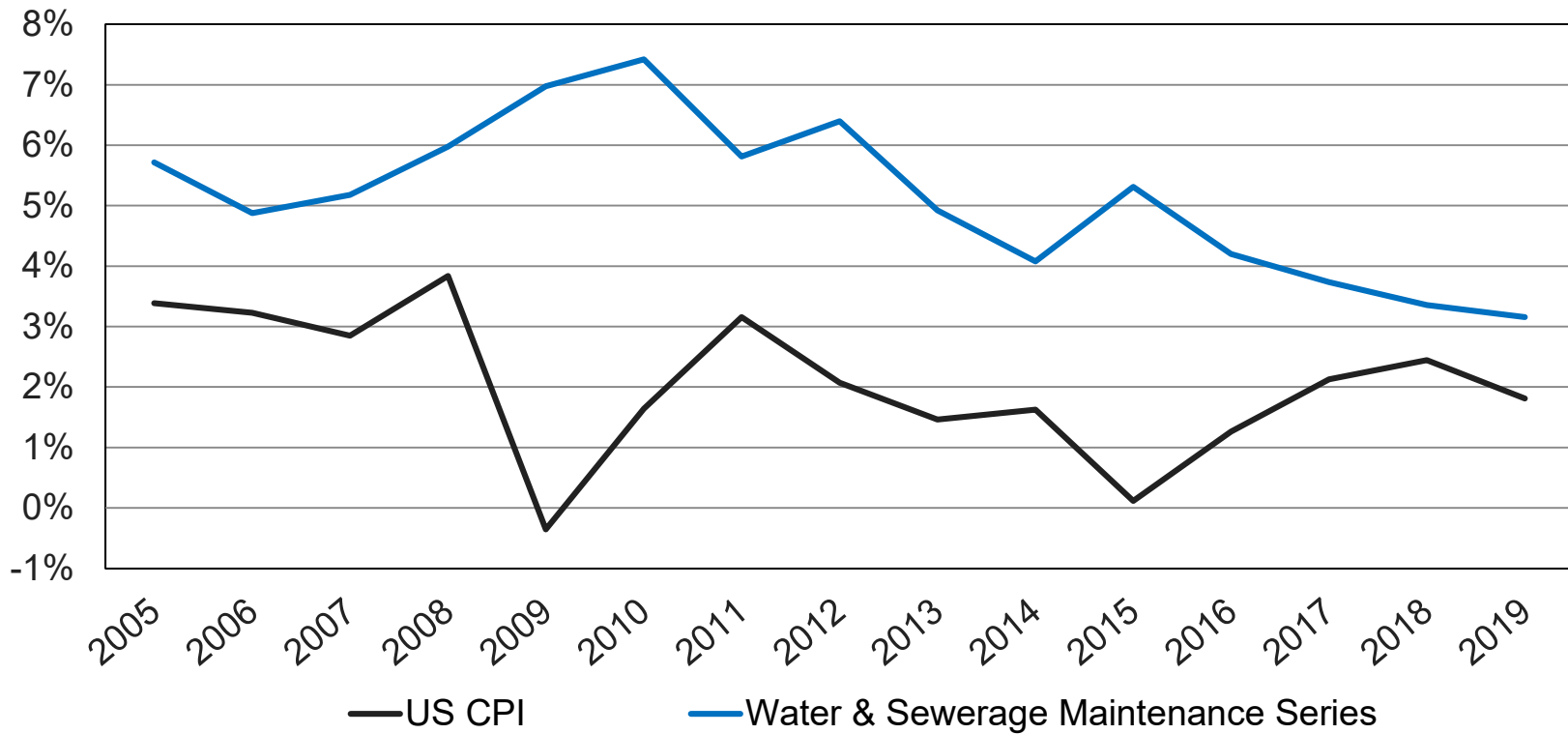


Borrowing



Utilities Face Steeper Increases in Costs Than We See in Overall Inflation

**US CPI v. Water & Sewer Maintenance Series:
Annual Percentage Change**



Bringing it Together & Remaining Schedule

Typical FY 20 Residential Utility Bill Calculation

(Based on a 5/8" meter, 10 kgal of monthly water use,
and 7 kgal of monthly sewer use)

Service	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25
Water	\$32.26	\$34.05	\$35.88	\$37.84	\$39.94	\$42.12
Sewer	\$23.18	\$23.18	\$23.18	\$23.18	\$23.18	\$23.18
Total	\$55.44	\$57.23	\$59.06	\$61.02	\$63.12	\$65.30
\$ Change	N/A	\$1.79	\$1.83	\$1.96	\$2.10	\$2.18
% Change	N/A	3.2%	3.2%	3.3%	3.4%	3.5%

Consider these indicative results! Final rates will vary based upon data updates and completion of additional analysis.

Typical FY 20 Residential Utility Bill Calculation

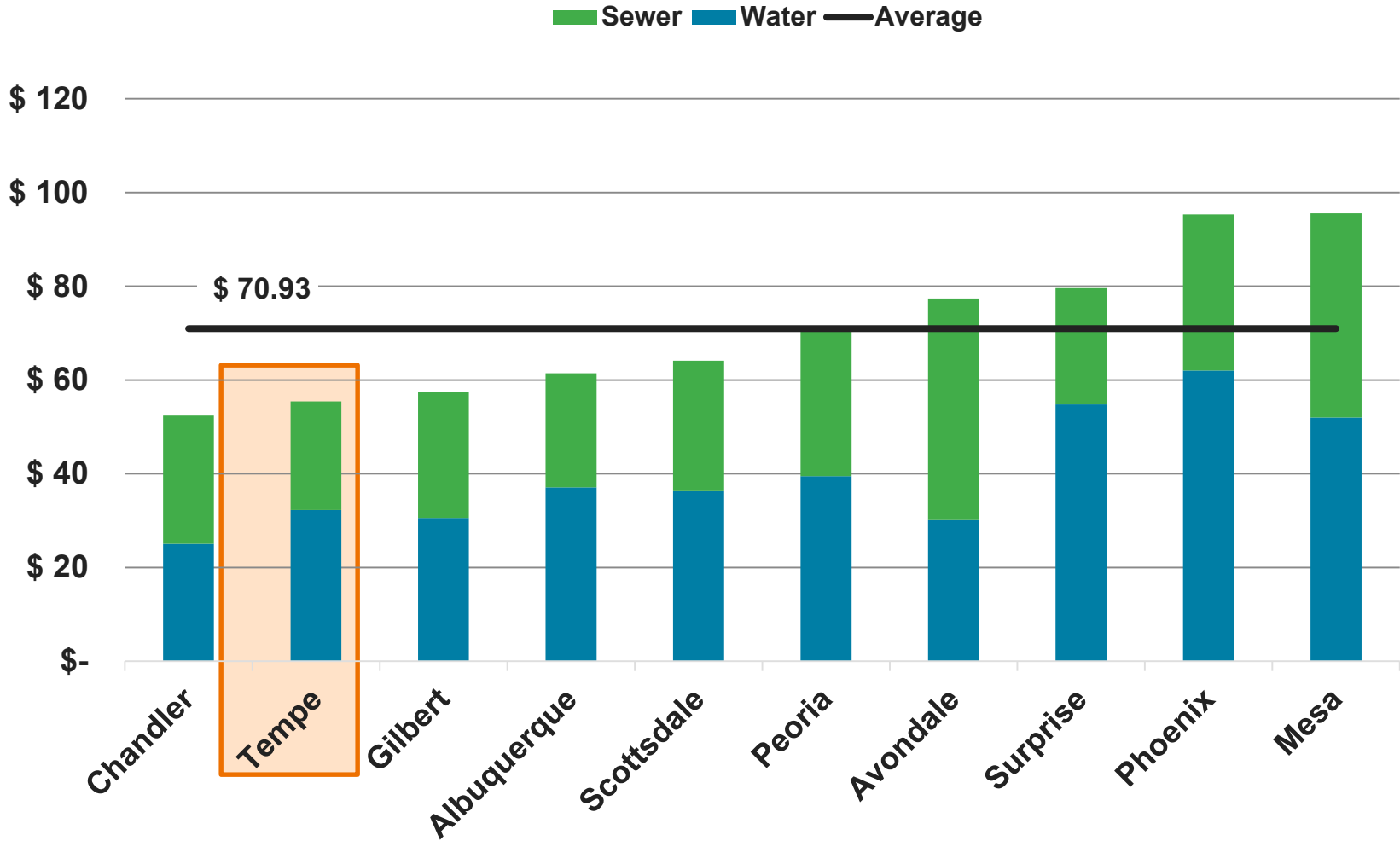
(Based on a 5/8" meter, 70 kgal of monthly water use, and 12 kgal of monthly sewer use)

Service	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25
Water	\$311.64	\$328.78	\$346.86	\$365.94	\$386.07	\$407.30
Sewer	\$32.20	\$32.20	\$32.20	\$32.20	\$32.20	\$32.20
Total	\$343.84	\$360.98	\$379.06	\$398.14	\$418.27	\$439.50
\$ Change	N/A	\$17.14	\$18.08	\$19.08	\$20.13	\$21.23
% Change	N/A	5.0%	5.0%	5.0%	5.1%	5.1%

Consider these indicative results! Final rates will vary based upon data updates and completion of additional analysis.

Bill Comparison
10k Monthly
Water Use

Typical Residential Utility Bill Comparison (Based on a 5/8" meter & 10 kgal of monthly water use)

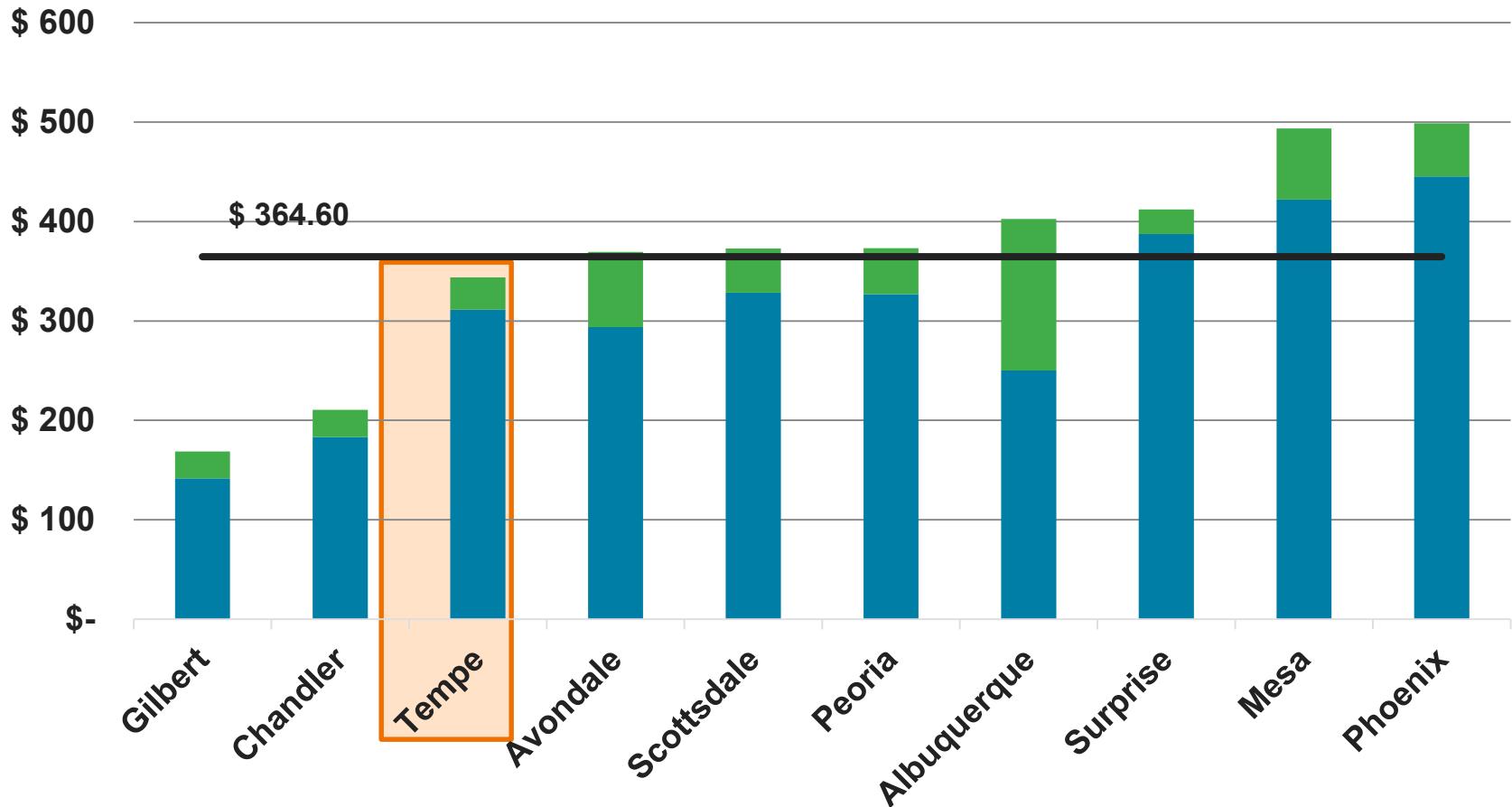


Bill Comparison
10k Monthly
Water Use

Typical Residential Utility Bill Comparison

(Based on a 5/8" meter & 70 kgal of monthly water use and 12k of monthly sewer use)

Sewer Water Average



Remaining Activities

- ✓ “Rates 101” (6/2/2020)
 - Rate Study process, group role, desired outcomes
- ✓ Revenue Sufficiency Workshop (6/9/2020)
 - Annual O&M, debt service, and capital needs of water and sewer funds
- Cost of Service Workshop (7/7/2020)
 - Allocation of revenue requirements to customer classes
- Rate Structure Workshop (8/11/2020)
 - Customer class-specific rate structure enhancements

Additional Questions and Answers