Alameda County Water District

Financial Workshop

August 27, 2020

Introduction

- Introduction
- Consultant Presentation (Raftelis)
  - Cost of Service Overview
  - Fixed vs. Variable Revenue Discussion
  - Dedicated Fire Service Lines
- Financial Plan Update and Scenarios
- Next Steps

Introduction

- Board Guidance Requested
  - Potential revisions to the fixed/variable revenue allocation
  - Updates to dedicated fire service line rates
  - Update the Cost of Service Analysis
  - Potential rate adjustment

Transition to Consultant Presentation

Financial Plan Update and Scenarios

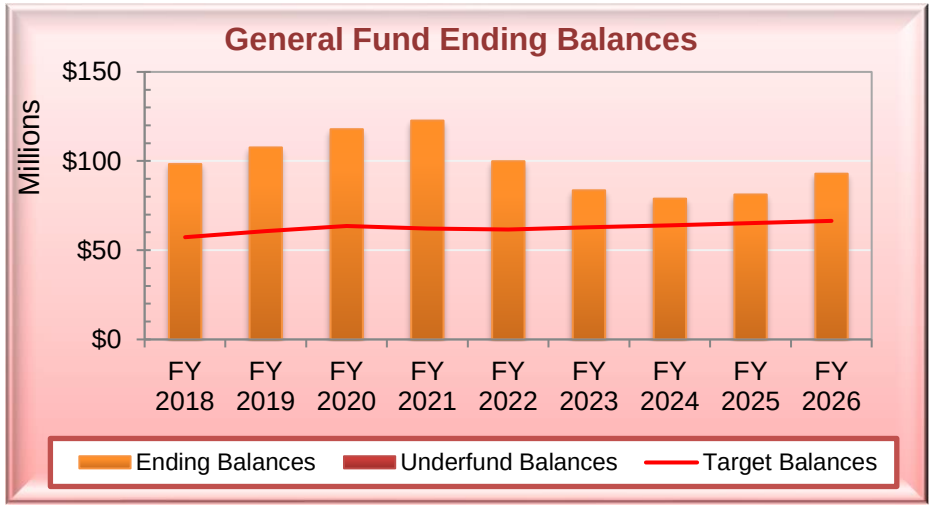
- Review of updates to the Financial Planning Model since the budget
- Presentation of financial scenarios:
  - COVID-19 revenue considerations
  - N3 Ranch options
  - Pension/OPEB funding
- Economic indicators and past-due balances

Key Changes to Financial Planning Model Since Budget Adoption

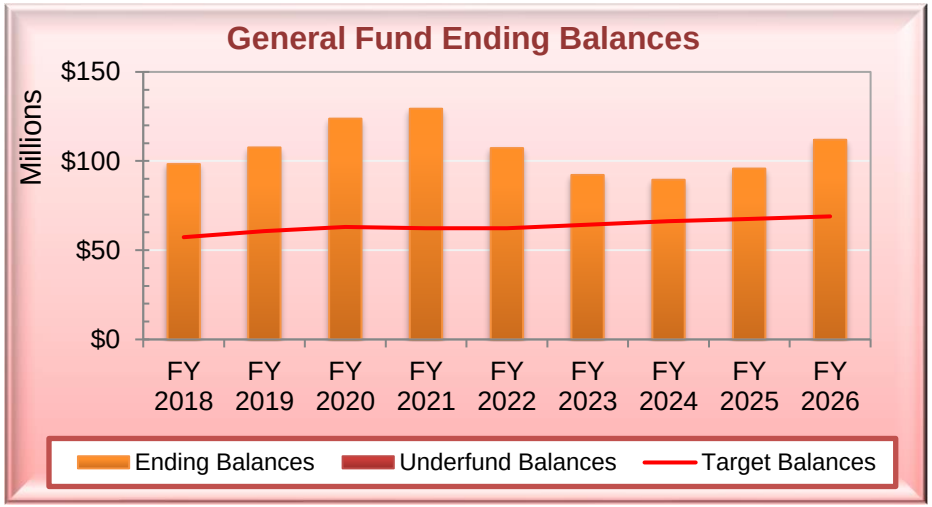
- Received $1.0 million in grants from Oliver De Silva, Inc. for fish passage projects in lower Alameda Creek
- Updated medical cost estimates based on flex dollar allowance capped at 2017 dollars
- Preliminary actual General Fund ending cash balance for FY 2019/20 is $5.7 million higher than estimate presented at budget adoption
- Higher accuracy in metering consumption due to meter replacements in the Advanced Metering Infrastructure (AMI) project. Staff estimates this will provide a revenue increase similar to a rate adjustment

General Fund Ending Balances

Amended Budget



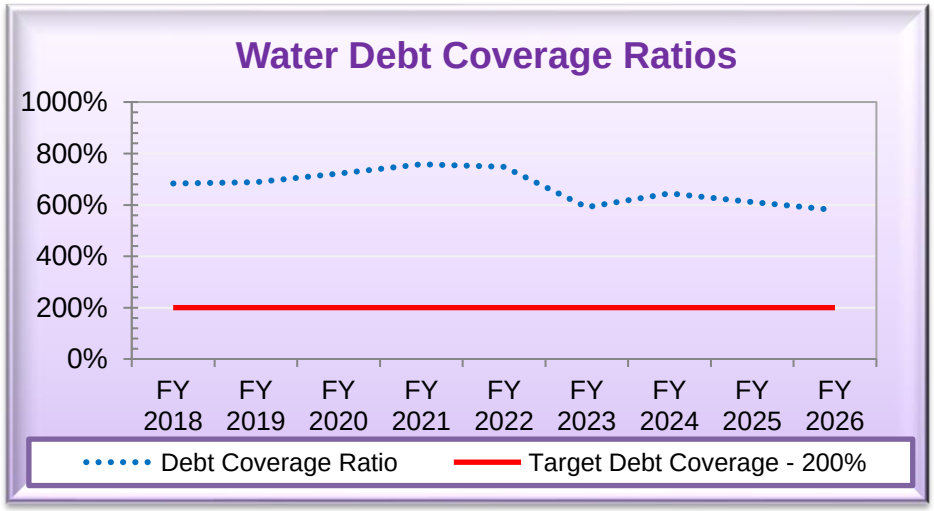
Updated for FY 2019/20 Actual Activity



- The District continues to maintain ending balances for the General Fund above the target levels
  - Low balance of $78.8 million in FY 2023/24 at budget adoption
  - Low balance of $89.4 million in FY 2023/24 after updated for actual activity

Water Debt Coverage Ratios

Amended Budget



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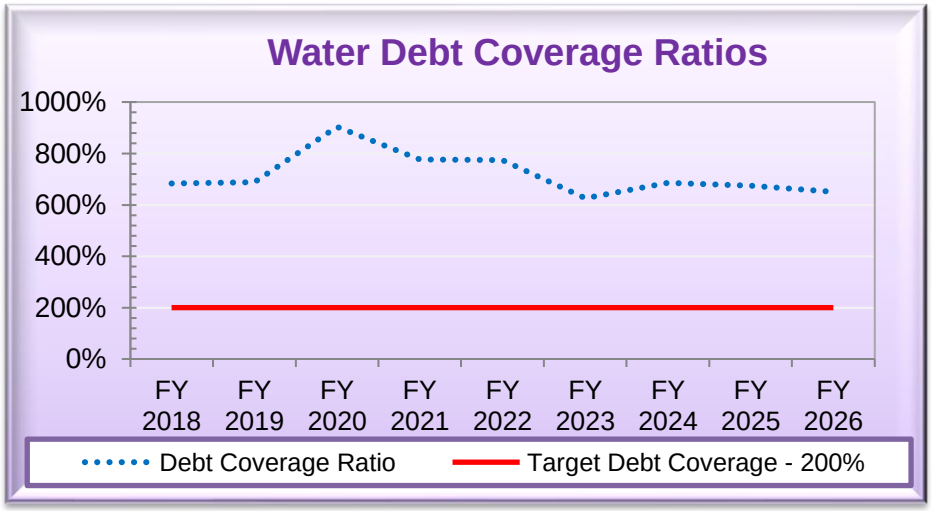
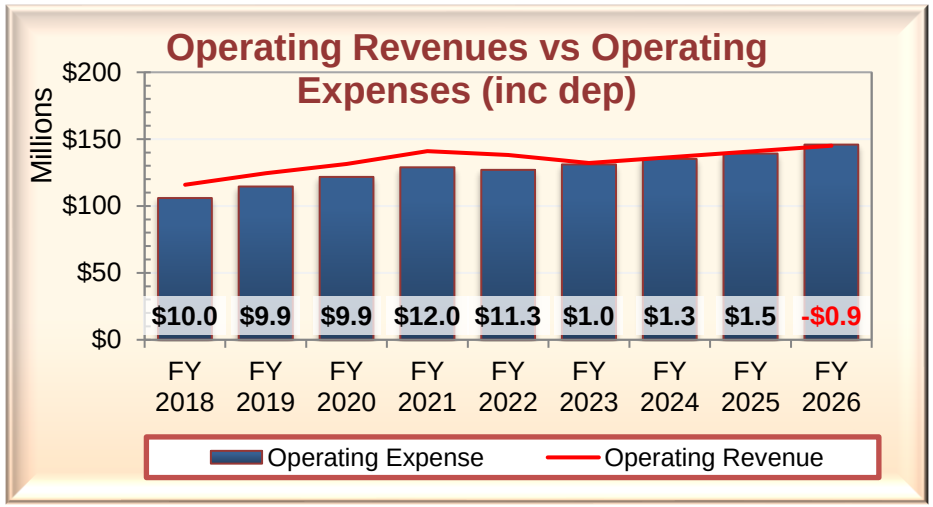


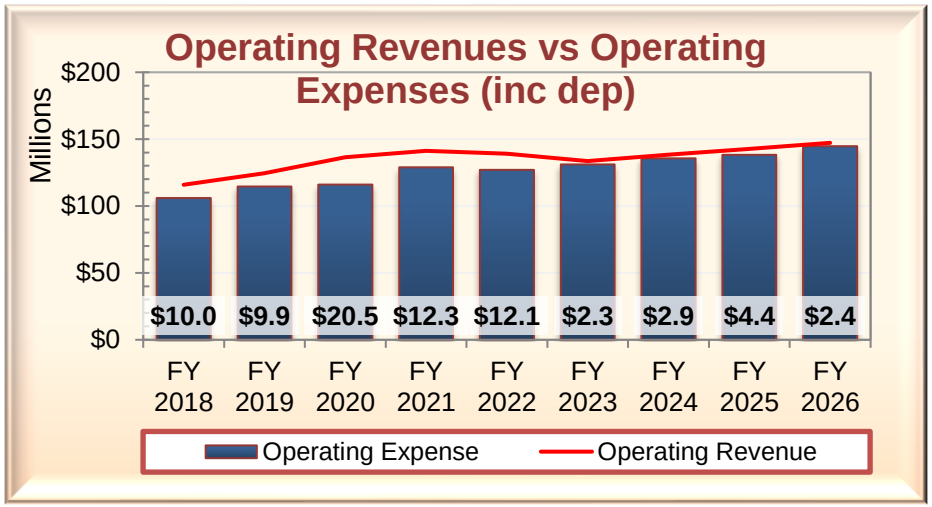
- The District continues to maintain strong annual debt coverage ratios
- The District maintains extremely strong ratings
  - 'AAA' by S&P and 'Aa1' by Moody's

Revenues vs Expenses

Amended Budget



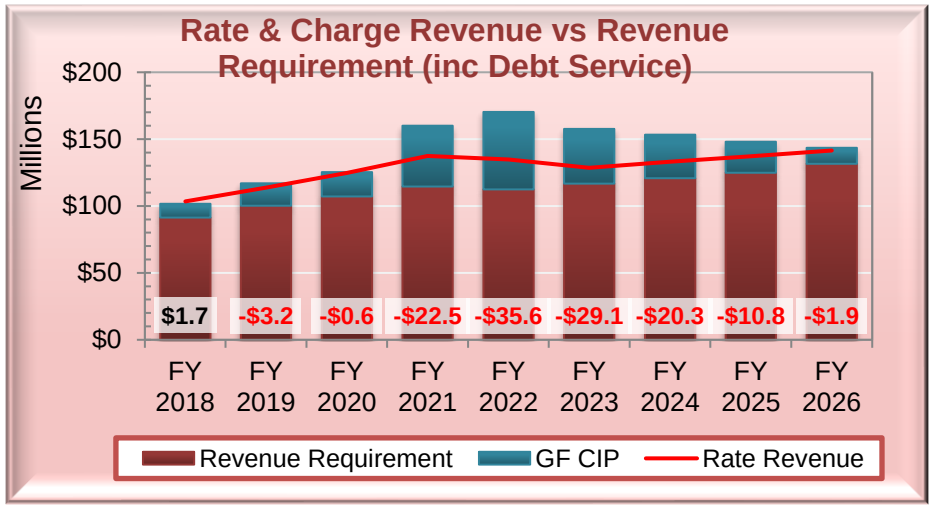
Updated for FY 2019/20 Actual Activity



- The District's annual operating revenues are sufficient to cover operating expenses including depreciation

Rate Revenue vs Revenue Requirement

Amended Budget



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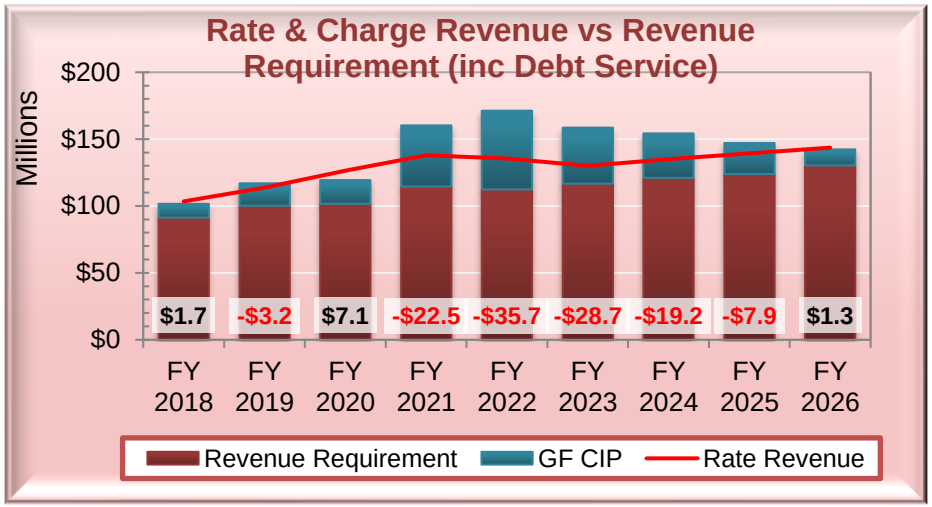
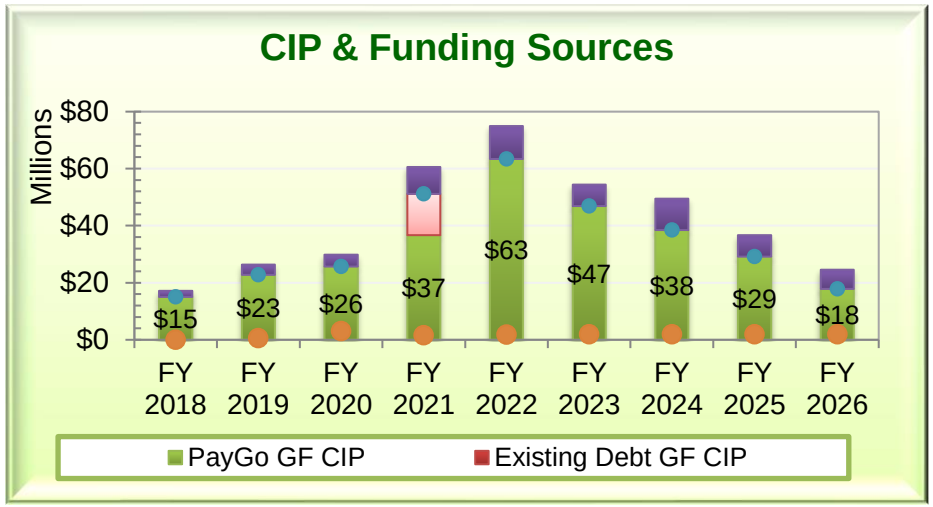


- The District relies on other revenue sources (such as property tax, grants, interest income, etc.) in addition to water rate and charge revenue to fully fund its annual operations, debt service payments, and capital program

Capital Improvement Program

Amended Budget



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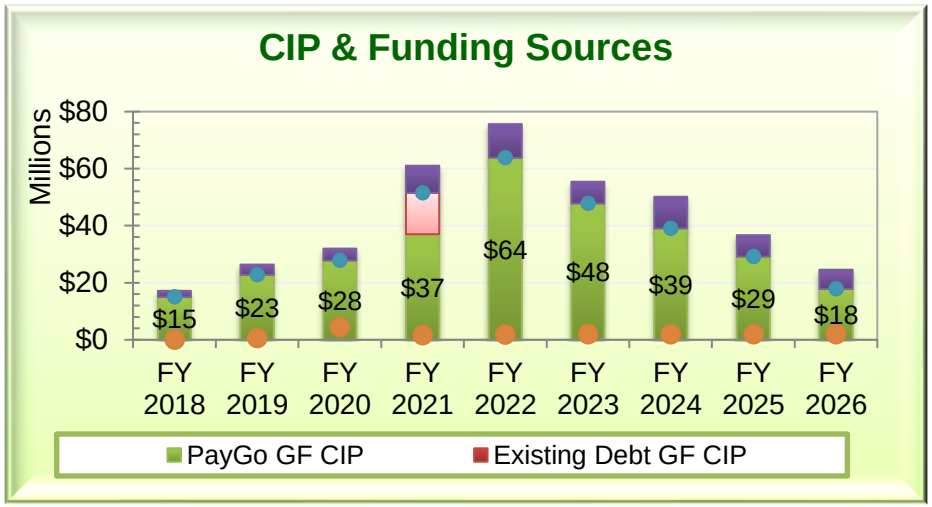


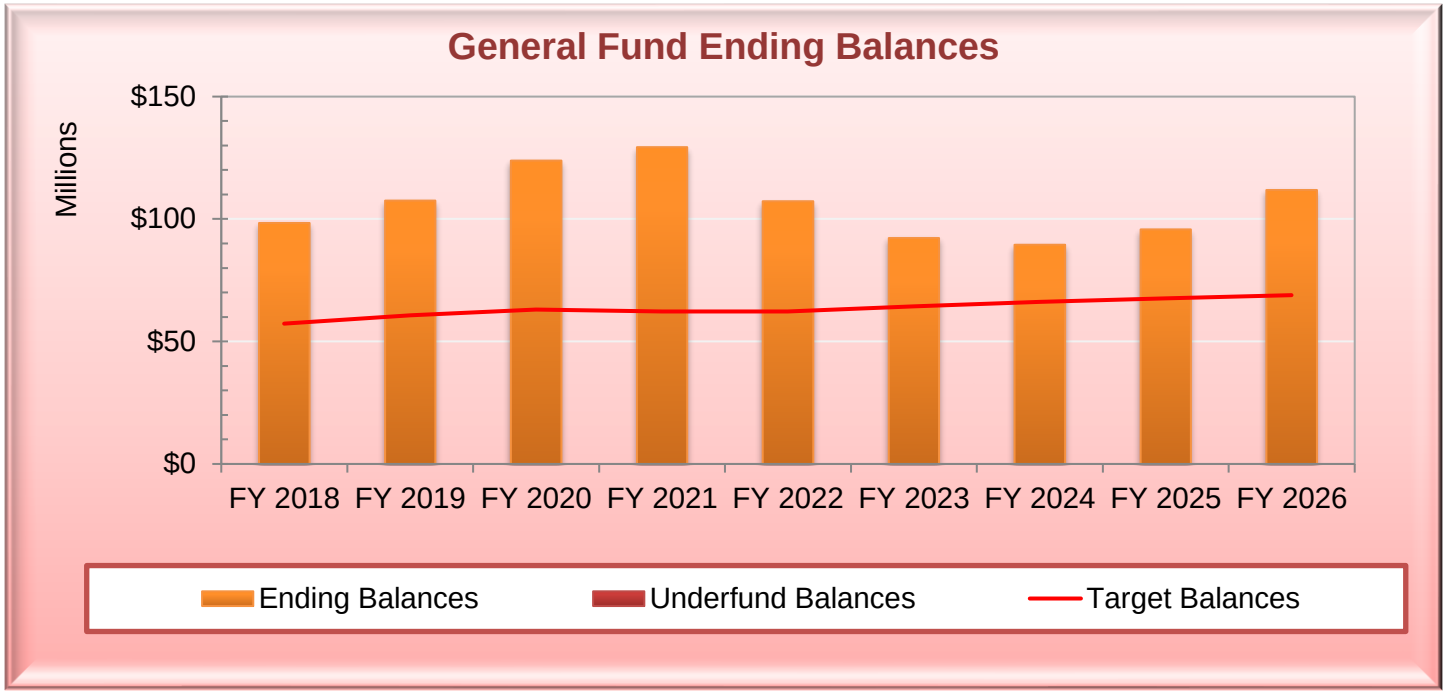
- FY 2019/20 actual expenditures were $2 million higher than the year-end estimate at budget adoption

Financial Planning Model Scenarios
Status Quo – Maintain Reserves Above Target

- Key Assumptions:
  1. 3% rate increase effective March 1, 2021 and each year thereafter
  2. No pandemic-related decline in commercial water consumption
  3. Maintain current Capital Improvement Program, inclusive of AMI change order, and planned water supply investments
  4. Pension/OPEB funding @ 6.5% discount rate (level $) + market status annual payment – full funding by 2032
  5. $14.5 million financing for Advanced Metering Infrastructure
  6. Includes Financial Planning Model updates since budget adoption – most significantly billed demand eventually increases from 34 MGD to 35.15 MGD due to enhanced accuracy from meter replacements

Financial Planning Model Scenarios

Status Quo – Maintain Reserves Above Target



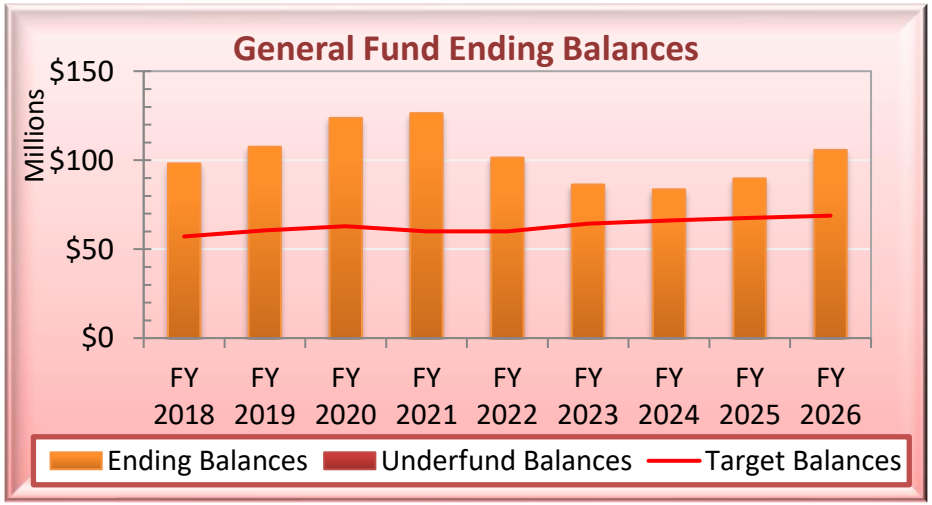
- Status Quo low balance of $89.4 million in FY 2023/24

Financial Planning Model Scenarios
COVID-19 Impacts

- Potential COVID-19 revenue adjustments:
  1. 20% decline in commercial water use FY2020/21 – FY2021/22
  2. Forgo FY 2020/21 rate increase
     a. Many water agencies are considering rate deferrals because of COVID-19
  3. Both 1 & 2 above

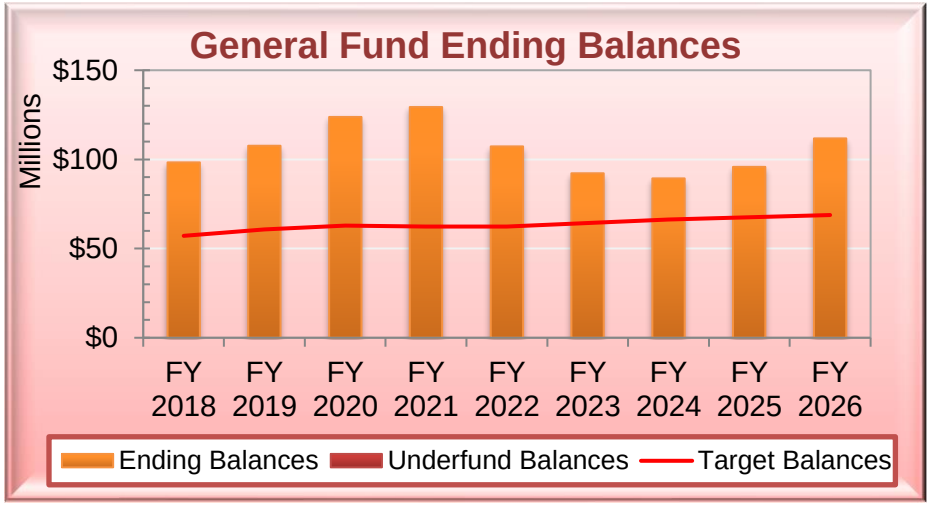
Financial Planning Model Scenarios
20% decline in Commercial Water Consumption FY2020/21 & FY2021/22

20% Decline Commercial Water Consumption



- Low balance of $83.7 million in FY 2023/24

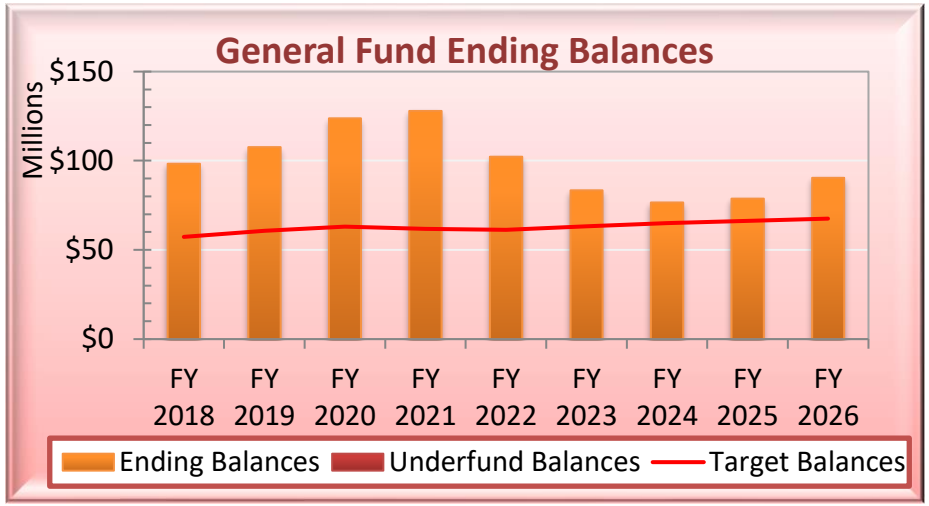
Status Quo



- Status Quo low balance of $89.4 million in FY 2023/24

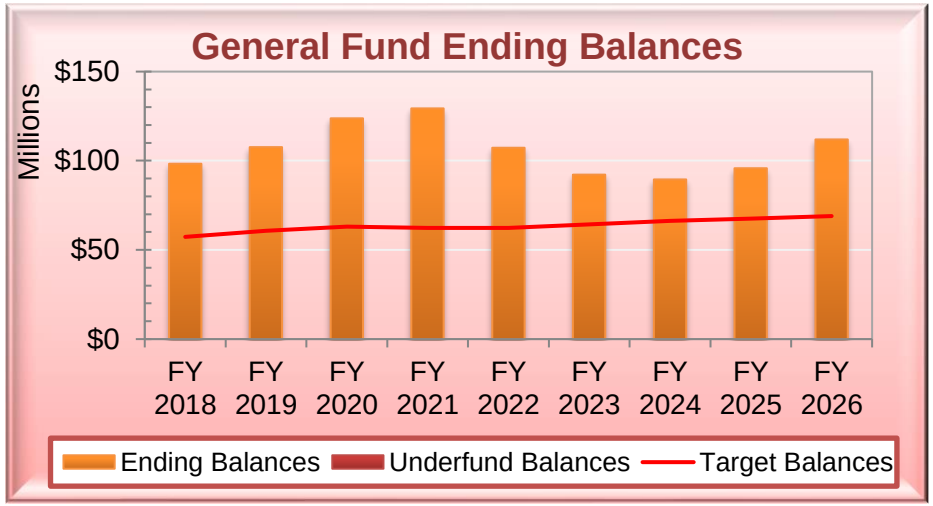
Financial Planning Model Scenarios
0% Rate Increase March 1, 2021

Forgo
FY 2020/21 Rate Increase



- Low balance of $76.6 million in FY 2023/24

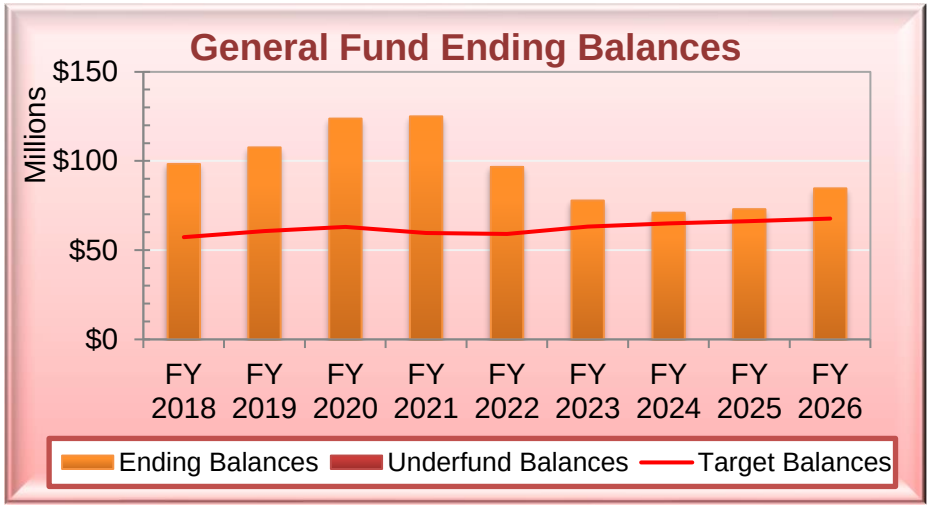
Status Quo



- Status Quo balance of $89.4 million in FY 2023/24

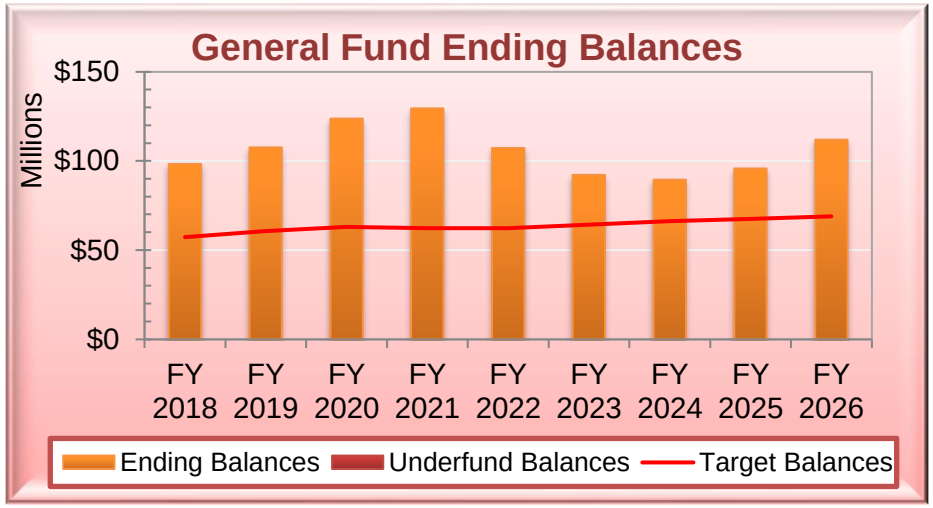
Financial Planning Model Scenarios
Revenue Declines + 0% Rate Increase FY2020/21

20% Decline
Commercial Consumption
+
Forgo
FY 2020/21 Rate Increase



- Low balance of $71.0 million in FY 2023/24

Status Quo



- Status Quo low balance of $89.4 million in FY 2023/24

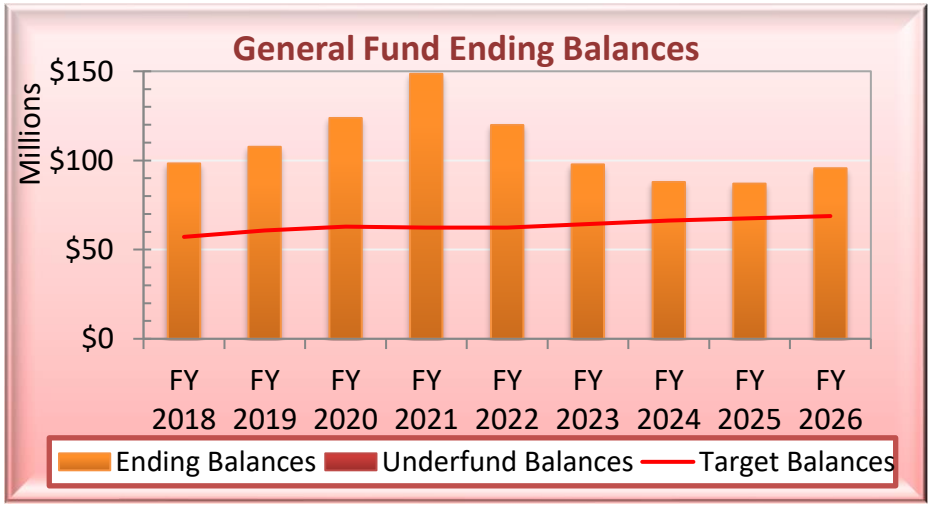
Financial Planning Model Scenarios
Real Estate Purchase

- N3 Ranch
  1. $68 million list price (100% bonds) + $2 million annual O&M expenses
     - AMI funded 100% SRF Loan $39.5 million 20yrs @ 2% to help manage near-term cash flow
  2. $5 million (cash) contribution towards Partnership purchase + $1 million annual O&M expenses
  3. Full N3 Ranch purchase and O&M costs + commercial revenue decline + forgoing a FY 2020/21 rate increase

* For illustrative purposes only. Final purchase price or contribution would be subject to negotiation.

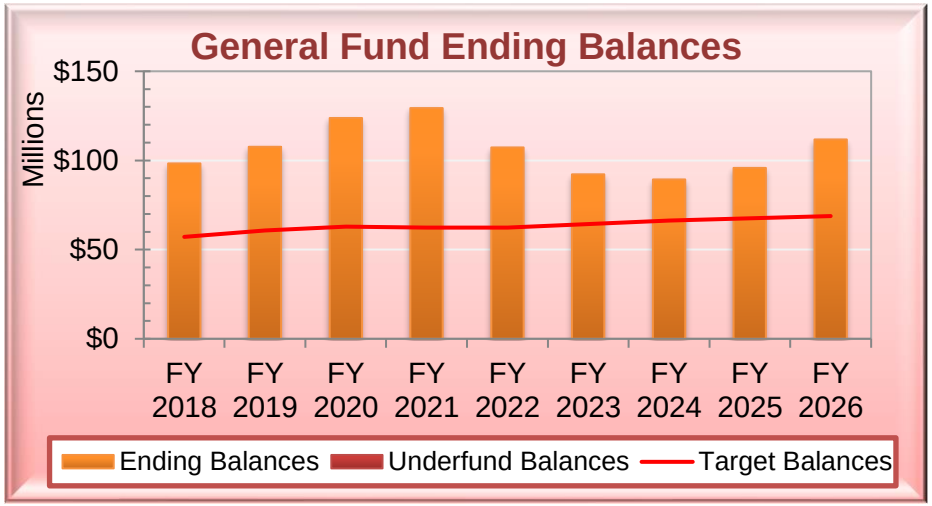
Financial Planning Model Scenarios
N3 Ranch List Price + $2M annual O&M

N3 Ranch List Price + $2M Annual O&M



- Low balance of $87.0 million in FY 2024/25
- Assumes True Interest Cost of 2.92% with debt service at approximately $3.4 million

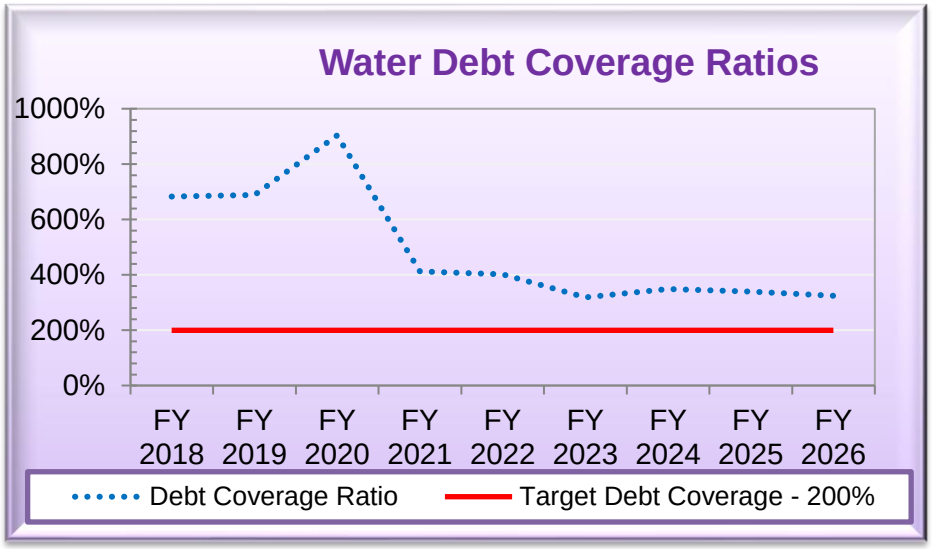
Status Quo



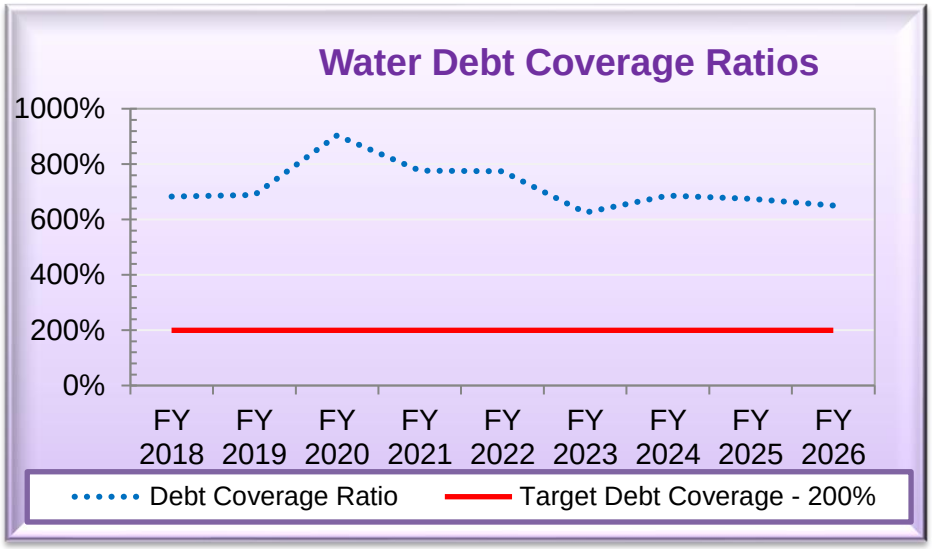
- Status Quo low balance of $89.4 million in FY 2023/24

Financial Planning Model Scenarios
N3 Ranch List Price + $2M annual O&M

N3 Ranch List Price + $2M Annual O&M



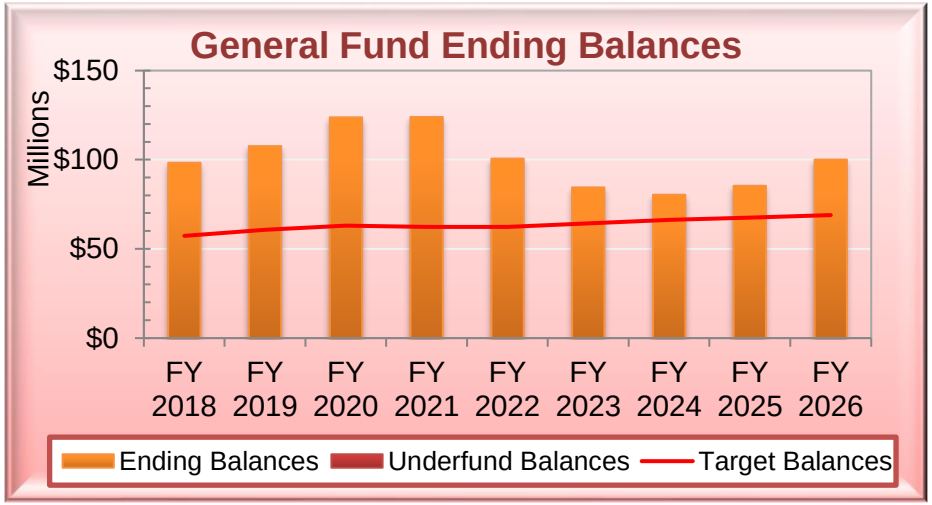
Status Quo



- Debt coverage ratio drops from peak 904% in FY 2019/20 to 325% by FY 2025/26

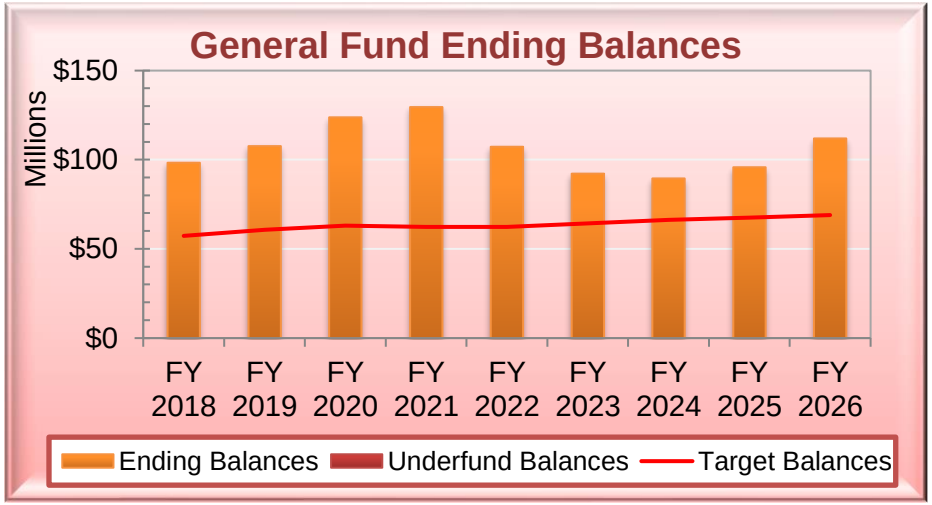
Financial Planning Model Scenarios
N3 Ranch Partnership $5M + $1M annual O&M

N3 Ranch Partnership + $1M Annual O&M



- Low balance of $80.3 million in FY 2023/24

Status Quo

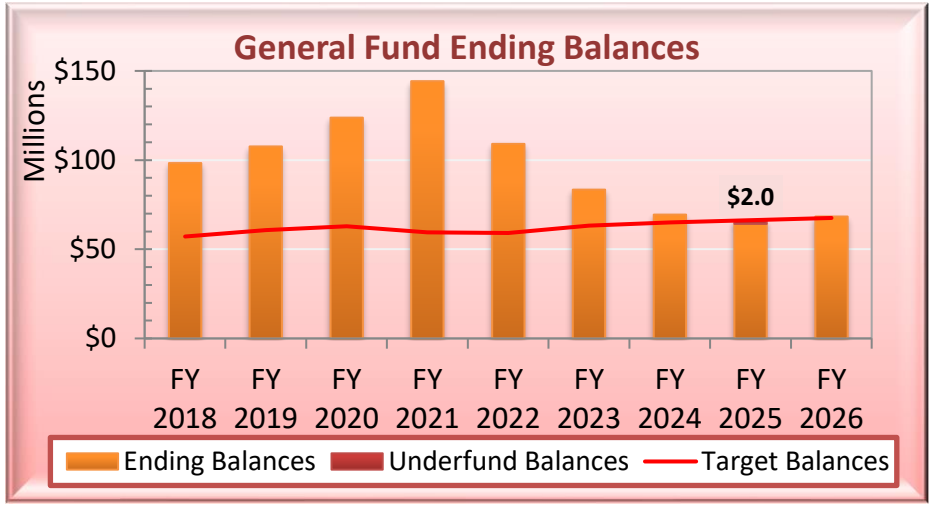


- Status Quo low balance of $89.4 million in FY 2023/24

Financial Planning Model Scenarios

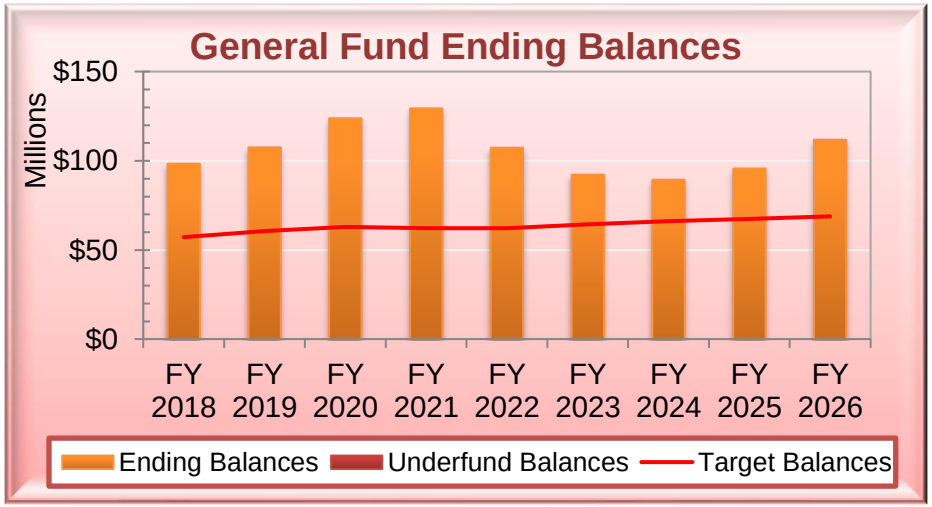
N3 Ranch Purchase + 20% Decline Commercial Water Consumption + Forgo FY 2020/21 Rate Increase

N3 Ranch Purchase
+
20% Decline Commercial Water Consumption
+
Forgo FY 2020/21 Rate Increase



- Low balance of $64.3 million in FY 2024/25, $2.0 million below reserve target

Status Quo

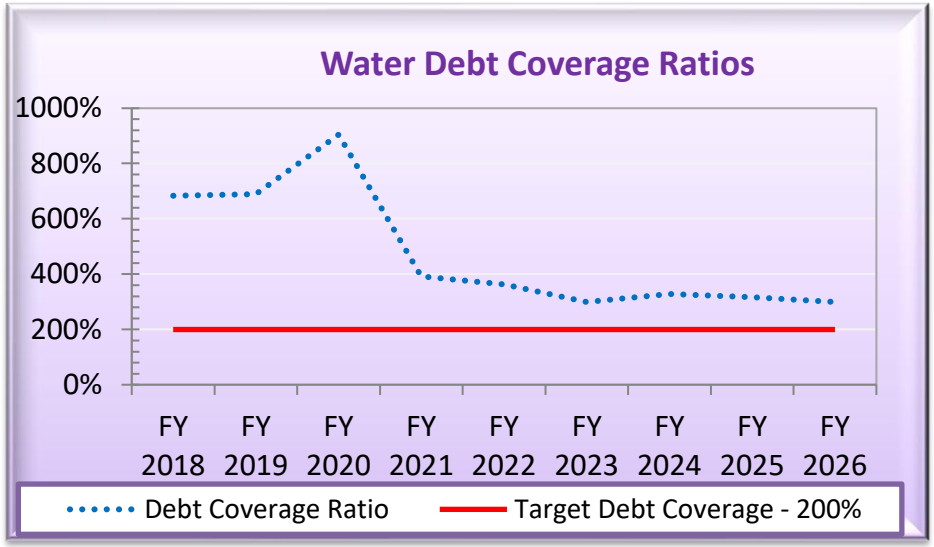


- Status Quo low balance of $89.4 million in FY 2023/24

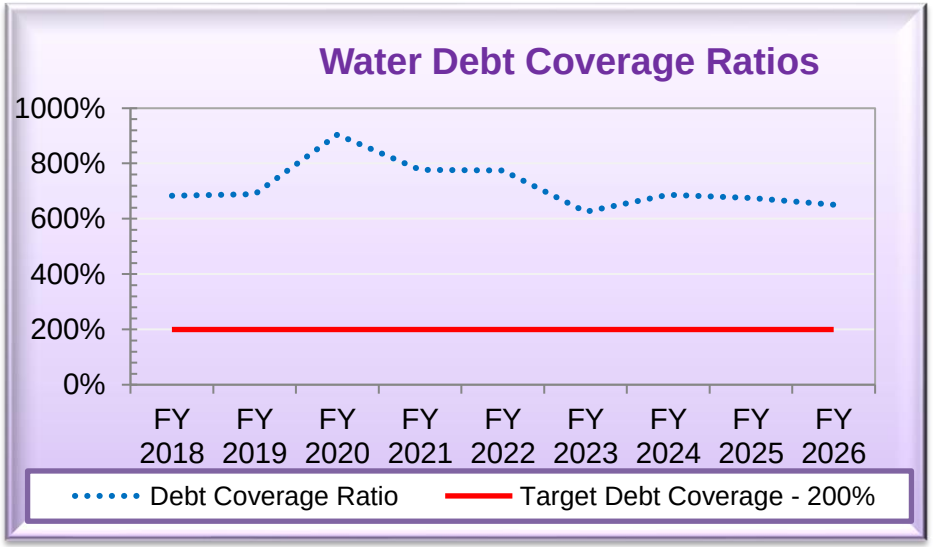
Financial Planning Model Scenarios

N3 Ranch Purchase + 20% Decline Commercial Water Consumption + Forgo FY 2020/21 Rate Increase

N3 Ranch Purchase
+
20% Decline Commercial Water Consumption
+
Forgo FY 2020/21 Rate Increase



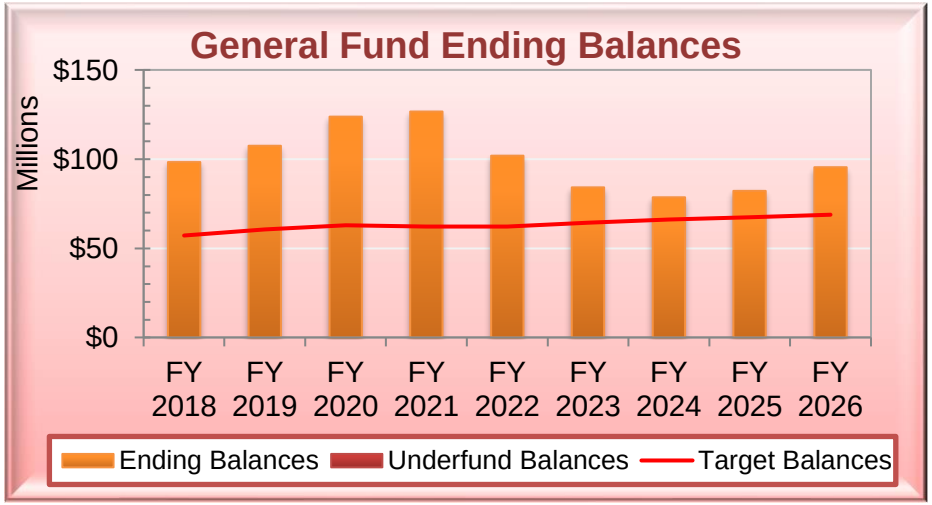
Status Quo



- Debt coverage ratio drops from peak 904% in FY 2019/20 to 299% by FY 2025/26

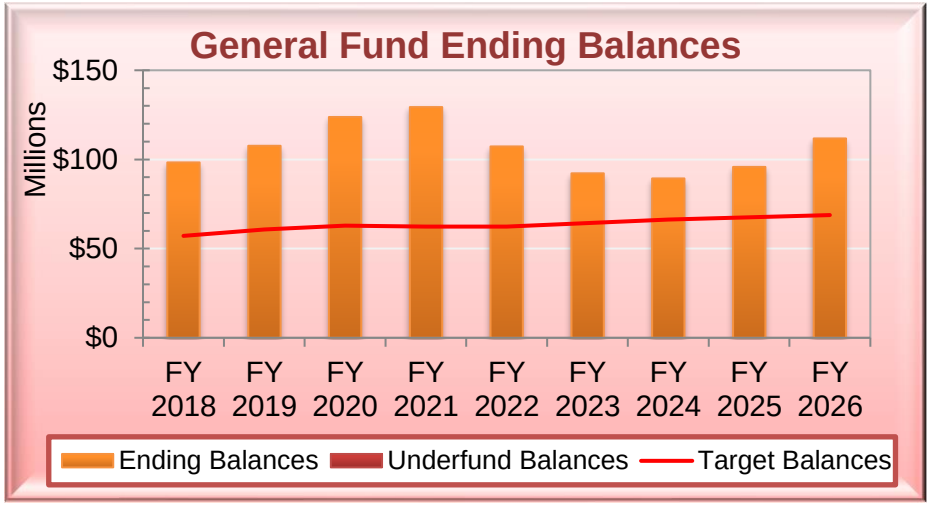
Financial Planning Model Scenarios
Pension/OPEB
(12 yr) 6.0%/6.0% (level $)

6.0% Level $
Ending June 30, 2032



- Low balance of $78.7 million in FY 2023/24

Status Quo



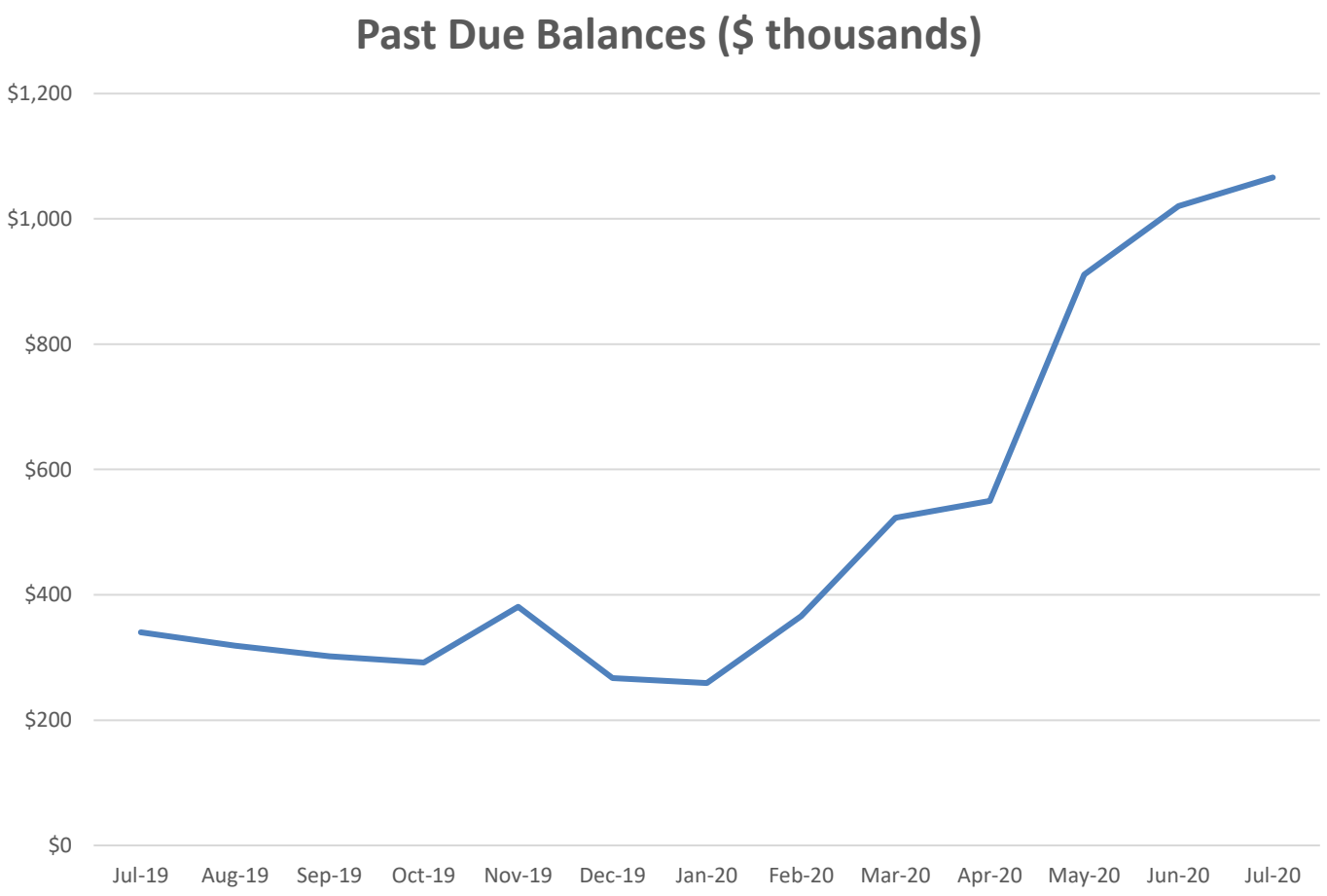
- Status Quo low balance of $89.4 million in FY 2023/24

Indicators

Economy	Feb 2020	Mar 2020	Apr 2020	May 2020	Jun 2020	Jul 2020
Unemployment - U.S.	3.5%	4.4%	14.7%	13.3%	11.1%	10.2%
Unemployment - CA	3.9%	5.5%	16.4%	16.4%	14.9%	N/A
Unemployment - Alameda County	3.0%	3.8%	14.1%	13.7%	13.4%	N/A
CPI-U - U.S.	0.1%	-0.4%	-0.8%	-0.1%	0.6%	0.6%
CPI-U - Oakland, Hayward, Berkeley	2.9%	N/A	1.1%	N/A	1.6%	N/A
GDP (Qrtly data. 4Q19 +2.1%)	N/A	-5.0%	N/A	N/A	-32.9%	N/A
Total Water Production % Change	15.1%	5.4%	1.8%	22.3%	16.5%	4.4%
Comm/Ind Water Consumption % Change	-22.4%	-2.5%	-5.8%	-8.6%	30.5%	45.8%
Res Water Consumption % Change	-17.6%	-9.0%	5.1%	24.2%	33.8%	45.0%
Past Due Balance: Water Revenue	$366,000	$523,000	$550,000	$911,000	$1,020,000	$1,066,000

Due to the District's meter reading cycle, water consumption changes for commercial and residential customers are based on data from two months prior

Indicators


Past Due Balances ($ thousands)
$1,200
$1,000
$800
$600
$400
$200
$0
Jul-19
Aug-19
Sep-19
Oct-19
Nov-19
Dec-19
Jan-20
Feb-20
Mar-20
Apr-20
May-20
Jun-20
Jul-20

Conclusion

- Staff Recommendations
  - Update the Cost of Service Analysis and subsequently determine if revisions to dedicated fire line rates are appropriate
  - Maintain the current fixed/variable allocation
  - Consider forgoing a rate increase
    - AMI related meter replacements improve the accuracy of metering consumption, providing a similar revenue increase

Conclusion

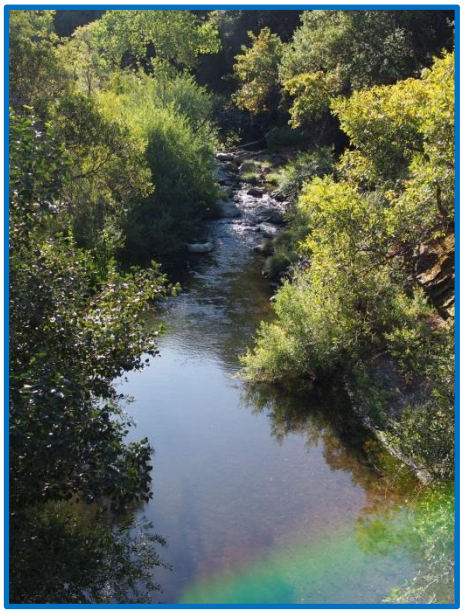
- Board Guidance Recap
  - Revisions to the fixed/variable revenue allocation
  - Updates to dedicated fire service line rates
  - Update the Cost of Service Analysis
  - Rate adjustment

Conclusion

- Next Steps
  - Depending on Board guidance:
    - A second financial workshop October 22 if there is an interest in revising the fixed/variable allocation and/or further considering a rate adjustment
    - If there is interest only in updating the Cost of Service Analysis and/or evaluating dedicated fire line rates, this would return to the Board at the regular December Board meeting
    - Otherwise, this workshop may conclude the process

Stay Connected to the District

- www.acwd.org
- ACWD Aqueduct Newsletter
- Facebook & Twitter @AlamedaCountyWD



Alameda County Water District
43885 S. Grimmer Blvd.
Fremont, CA 94538
510.668.4200

Thank you

Alameda County Water District

Rate Discussion

August 27, 2020

RAFTELIS

ACWD
ALAMEDA COUNTY WATER DISTRICT

Agenda

1. Cost of Service
2. Fixed and Variable Revenue Discussion
3. Public / Private Fire

Cost of Service Analysis

Key Legislation in California Affecting Water Rates

- **Cost of Service Requirements**
  - Proposition 218 (Article XIIIC and XIIID of California Constitution)
  - Proposition 26
  - California Government Code 54999
- **Water Conservation**
  - Article X of California Constitution
  - SB 606 + AB 1668: calculated efficiency and reporting
  - SWRCB Self Certification: three years of adequate supplies

CASE STUDY

City of San Juan Capistrano

CTA vs. City of SJC

- Rate payers (Capistrano Taxpayer Association, CTA) sued the City of San Juan Capistrano over its water budget rate structure
- The Orange County Appellate Court ruled that the rates did not meet the proportionality requirement in August 2013

Key Factors

- Lack of administrative record (report)
- City used multipliers to justify the tiered rates without any record of an underlying cost rationale

San Juan Capistrano Ruling

- There must be a nexus between the cost of providing service and the rates charged to customers
- This nexus needs to be clearly shown in the administrative record (report)
- Show your work!

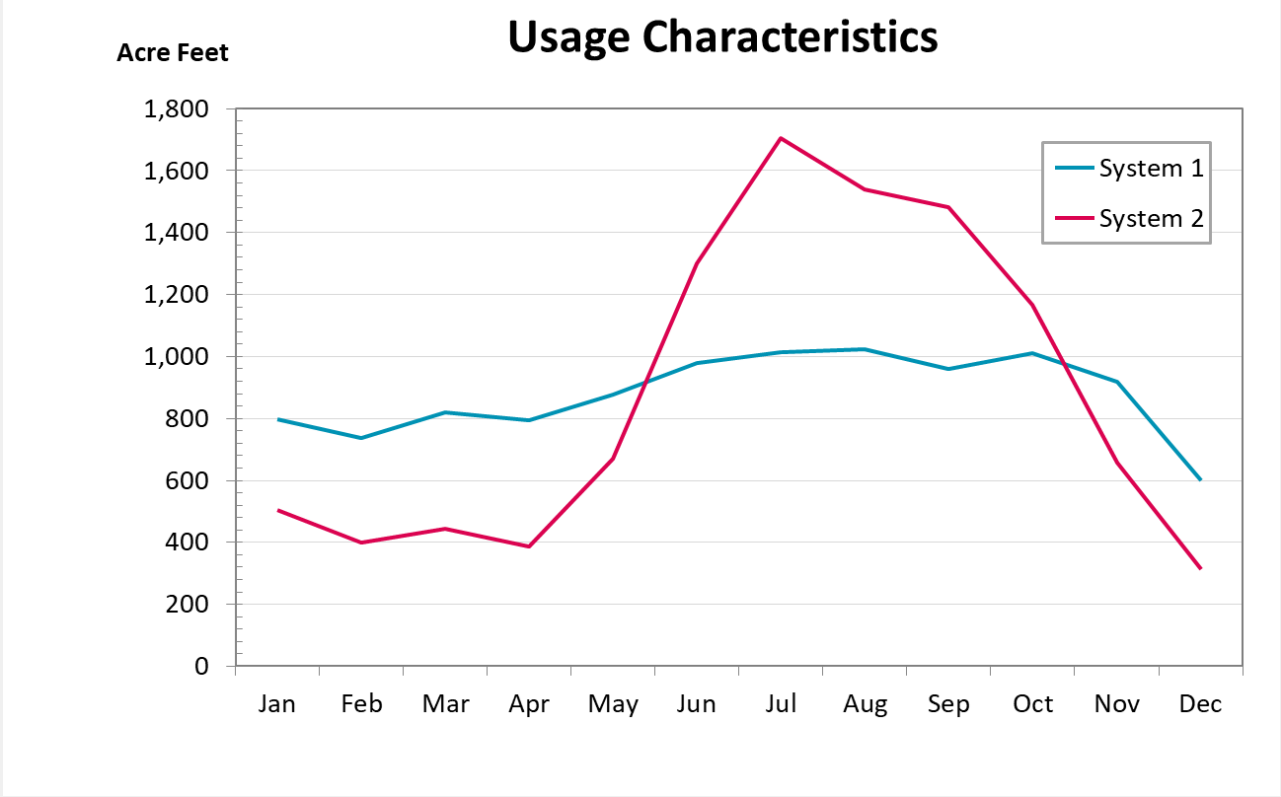
What is Cost of Service?

- Different types of customers generate different costs because their patterns of use or characteristics are different
- Cost of service allows the matching of rates charged with the costs of serving each group
- Each group will “pay its own way” – no subsidies

Water Systems and Costs

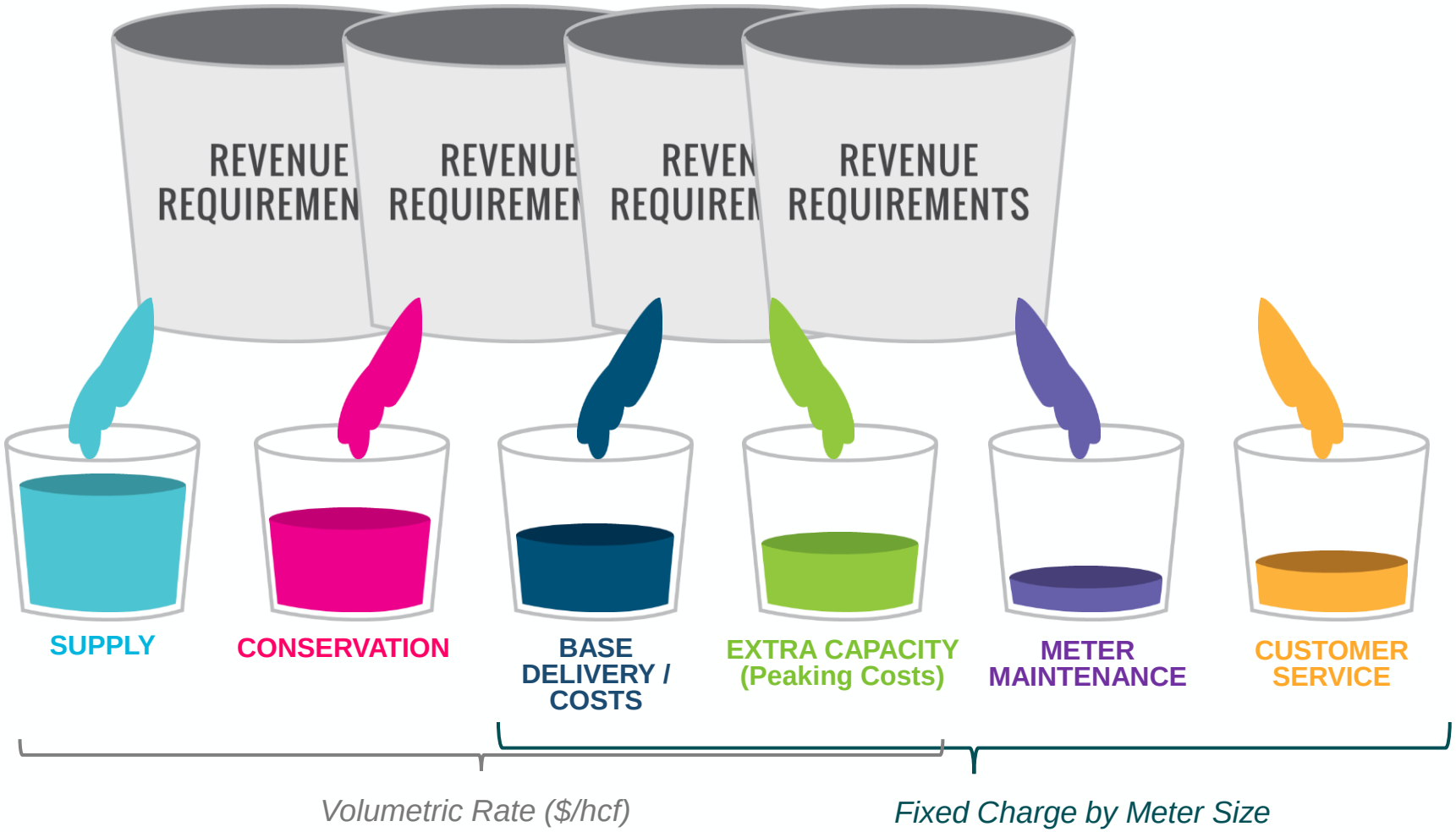
Both water systems shown on the right have an annual demand of approximately 10,500 AF per year

Which system costs more to operate, repair, or replace?

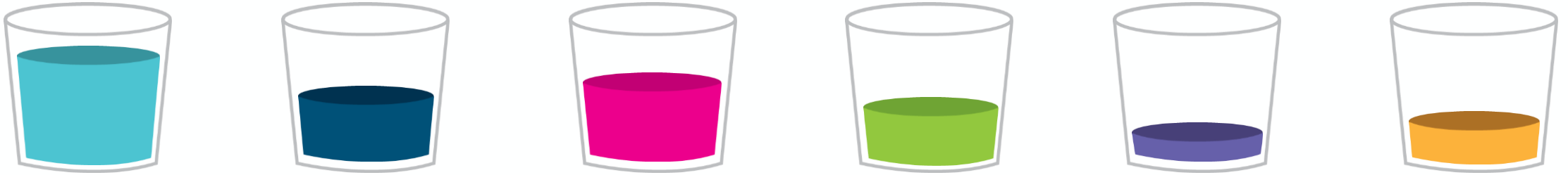


Cost of Service

Allocation to Cost Components



Distribute Costs to Customer Classes



SUPPLY
Use

DELIVERY COSTS
Use: Same for All Classes

CONSERVATION
Distributed to High Vol Users

EXTRA CAPACITY (PEAKING)
Peaking Factors or Meter Cap Ratios

METER MAINTENANCE
Meter Size

CUSTOMER SERVICE
# of Cust Bills

Distribute Costs to Each Class

CUSTOMER CLASSES
Cost to Serve Each Class
(Single Family, Multi-family, Commercial etc.)

Rate Design
Commodity Rate Derivation

To calculate commodity rates, we combine the unit ($/CCF) costs of water supply, water delivery, peaking/capacity costs and conservation costs

SUPPLY
Water supply rate ($ /CCF)

DELIVERY
Delivery rate ($ /CCF)

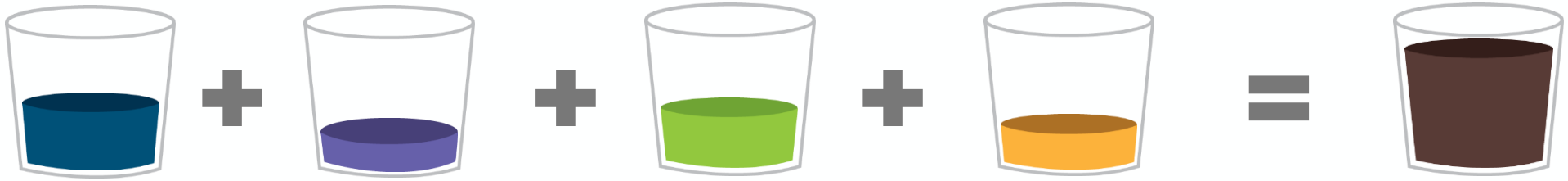
EXTRA CAPACITY (Peaking Costs)
Peaking rate ($ /CCF)

CONSERVATION
Conservation program rate ($ /CCF)

TOTAL VOLUMETRIC RATE FOR EACH TIER
($ /CCF)

Rate Design
Service Meter Charge Derivation

To calculate service meter charges, we combine the costs of base delivery, meter maintenance, extra capacity and customer service



BASE DELIVERY
Delivery rate ($/Meter-size)

METER MAINTENANCE
AWWA Capacity Ratio ($/Meter-size)

EXTRA CAPACITY (Peaking Costs)
AWWA Capacity Ratio ($/Meter-size)

CUSTOMER SERVICE
($/Account)

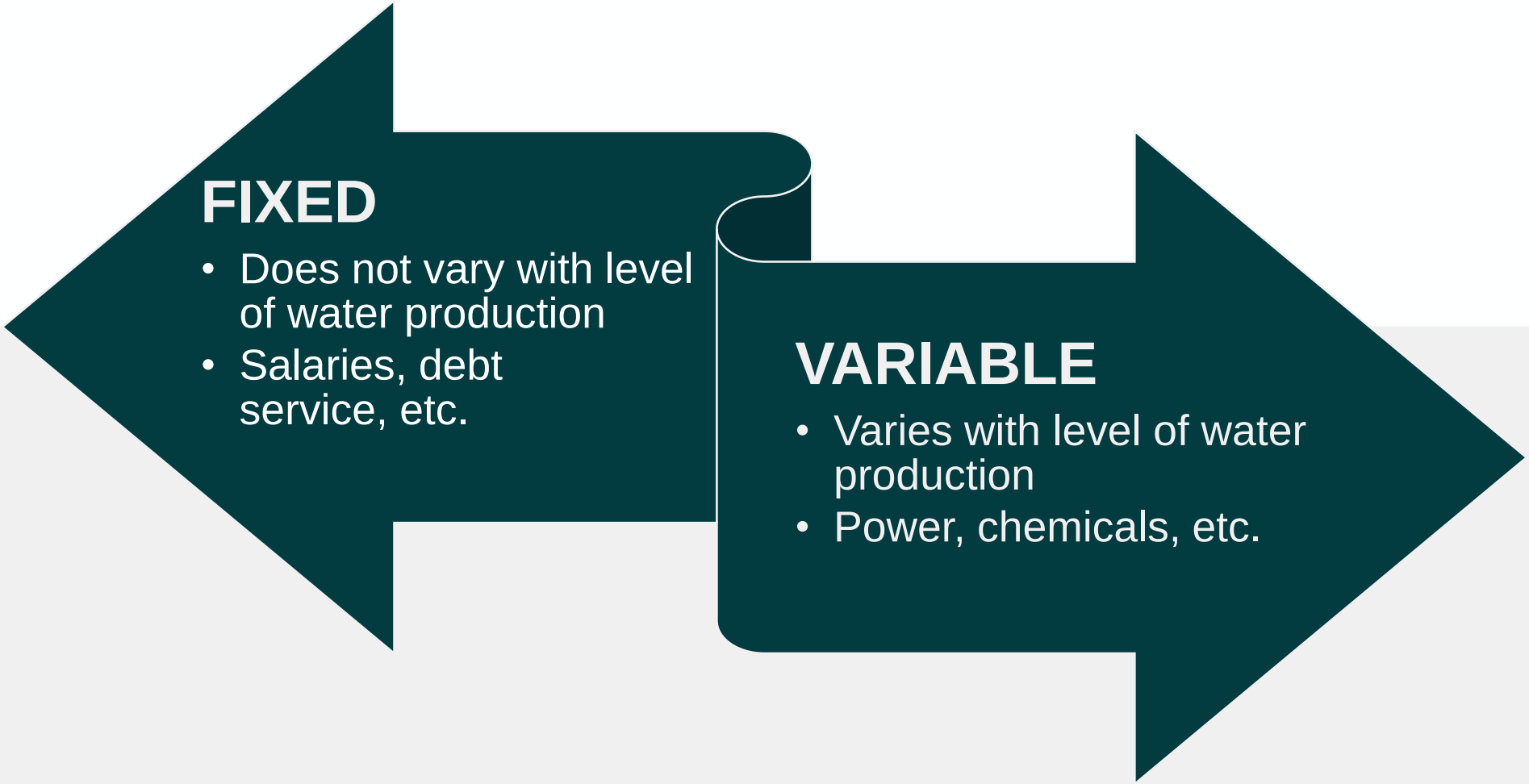
TOTAL SERVICE METER CHARGE
($/Meter-size)

Where Do We Recover Our Cost?
2015 Cost of Service Results

Cost Components	Fixed or Variable	How to allocate cost	% of Cost of Service
Customer Service	Fixed	Number of Accounts	2.0%
Meter Maintenance	Fixed	Meter cost ratio	4.4%
Base Delivery	**Fixed** **Variable**	Meter capacity ratio Uniform rate	54.5%
Peaking	**Fixed** **Variable**	Meter capacity ratio Peaking ratio	24.4%
Supply	Variable	Allocate to customer class and then by tier	13.5%

Fixed and Variable Revenue Discussion

Water System Cost Structure



Water System Cost Structure
Based on 2020 Expenditure

Fixed Costs are High

74%

of total annual costs

Variable Costs are Low

26%

of total annual costs

Financial Nature of Fixed Cost / Variable Revenue Business Model

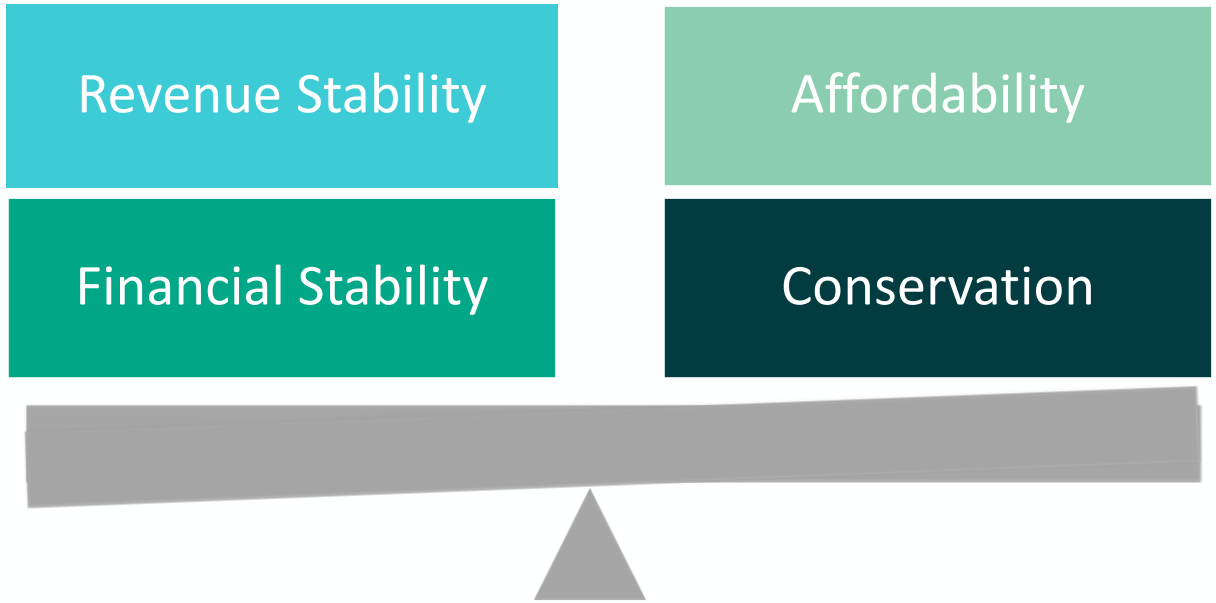
- During periods of increasing water sales, costs are spread over more water molecules
  - Lower pressure on rates
  - “Behind the Curtain Era”: 1960’s to 1980’s

- The reciprocal is true: Periods of decreasing water sales create pressure to increase rates
  - “In the Spotlight Era”: 1990’s to present

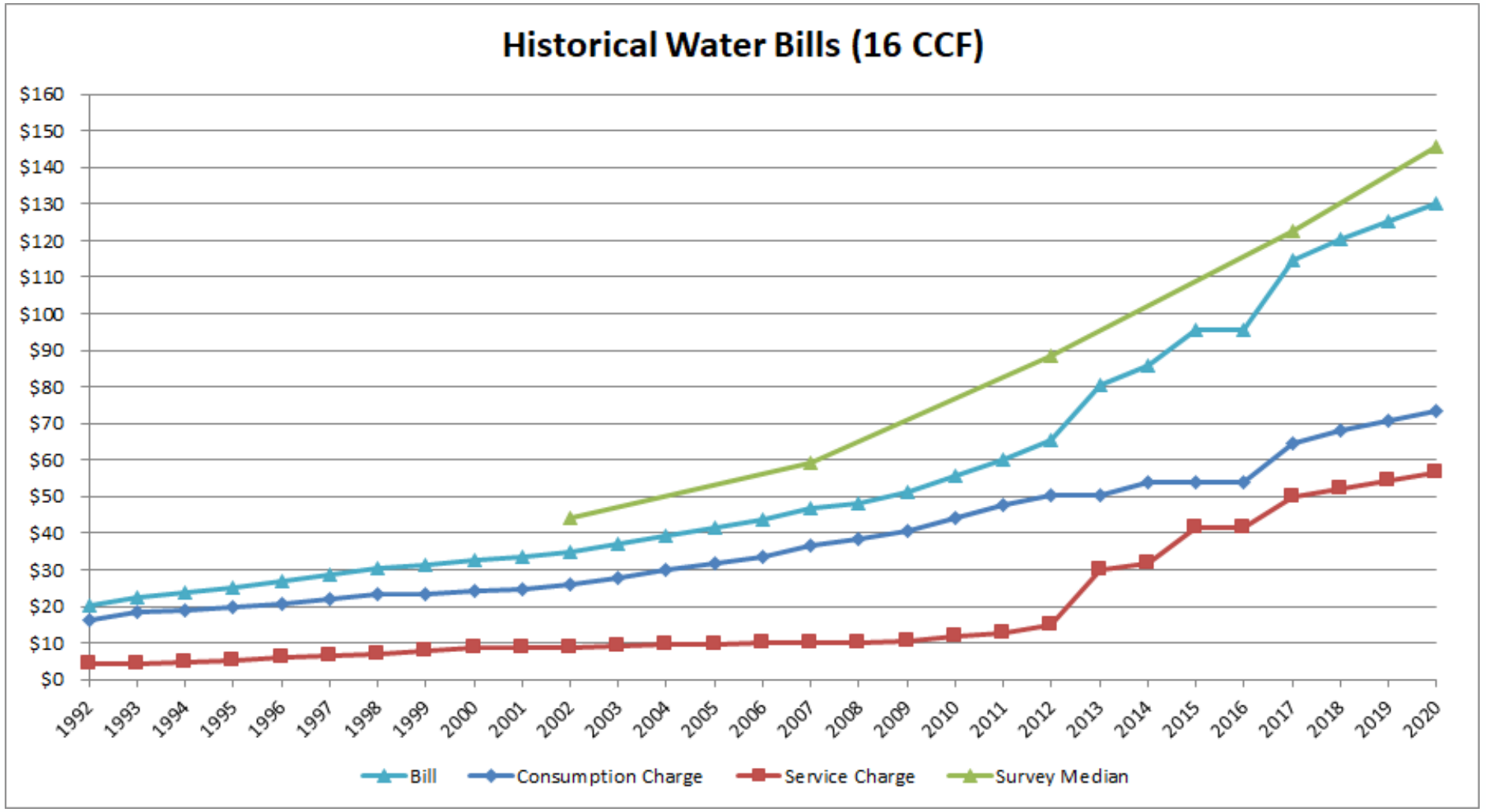
Challenges with Fixed Cost / Variable Revenue Business Model

- California's population has grown, but water demand has not increased
  - Higher public awareness of water scarcity
    - Periodical droughts / conservation message
  - Change in lifestyle
    - Having a green lawn at home is not the norm
  - End-use appliances use less and less water
  - Increased regulatory demand for efficient water use

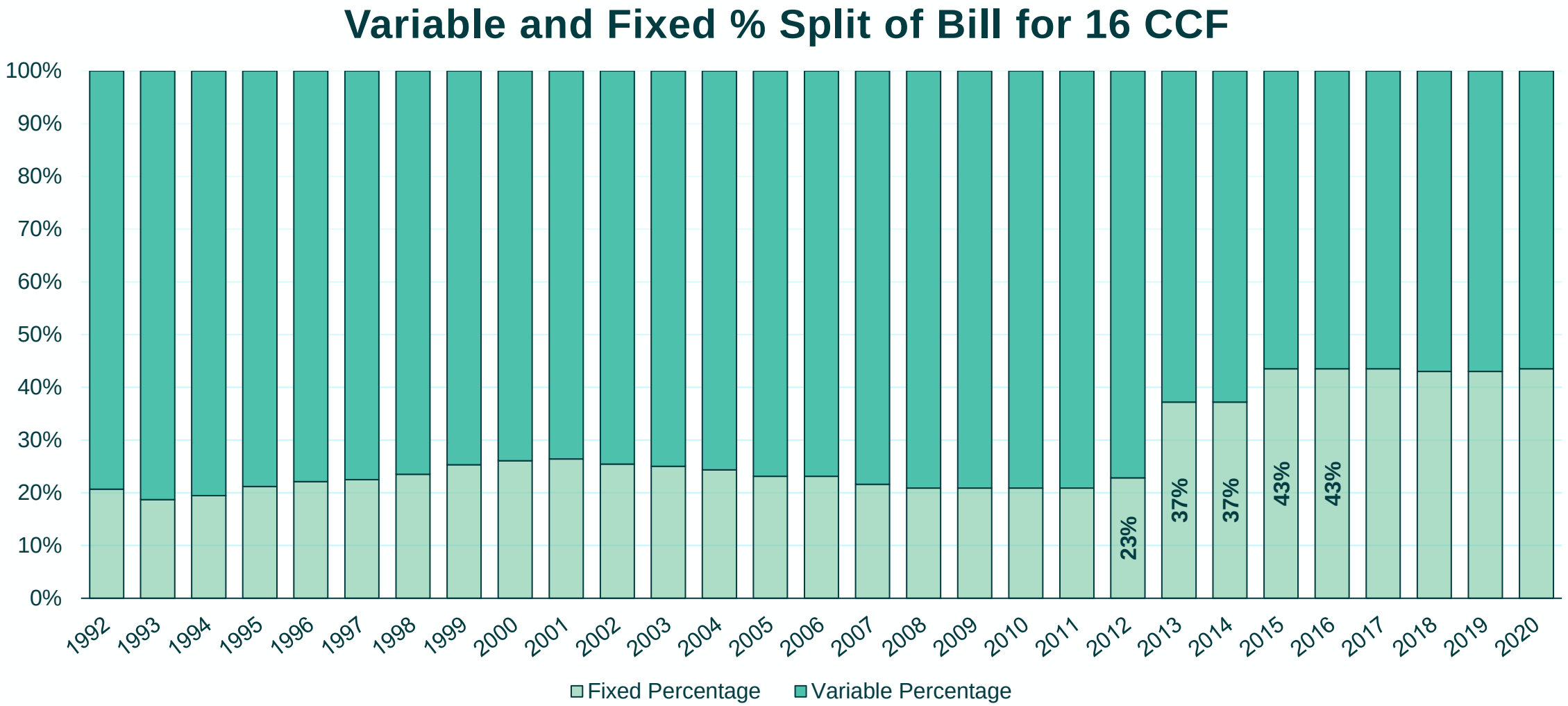
Balancing Act In Increasing Fixed Charge



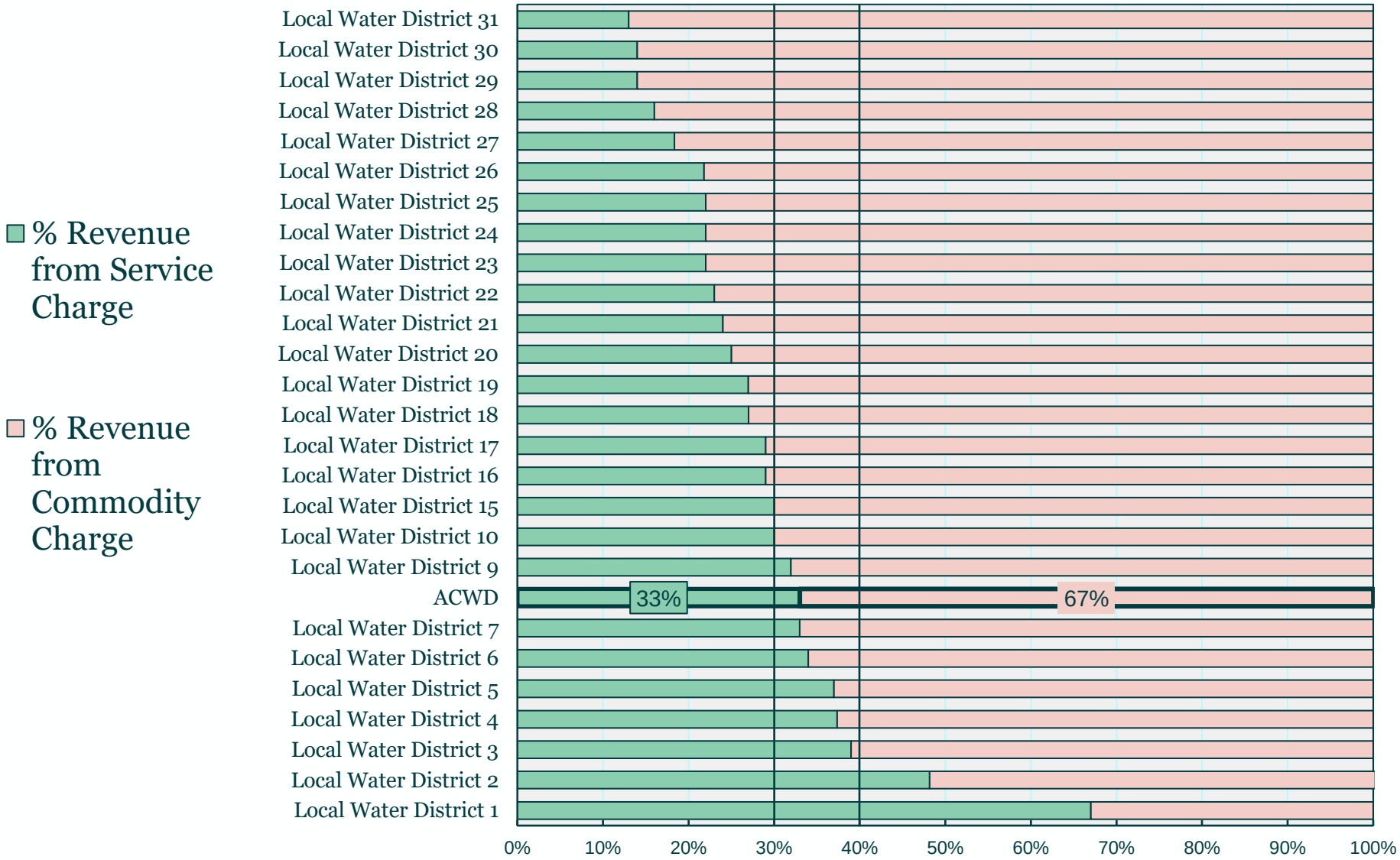
Change in Service Charge from 1992



Service Charge Percentage of Bill



Percentage of Service Charge and Commodity Charge by Water District



How Should We View Water?

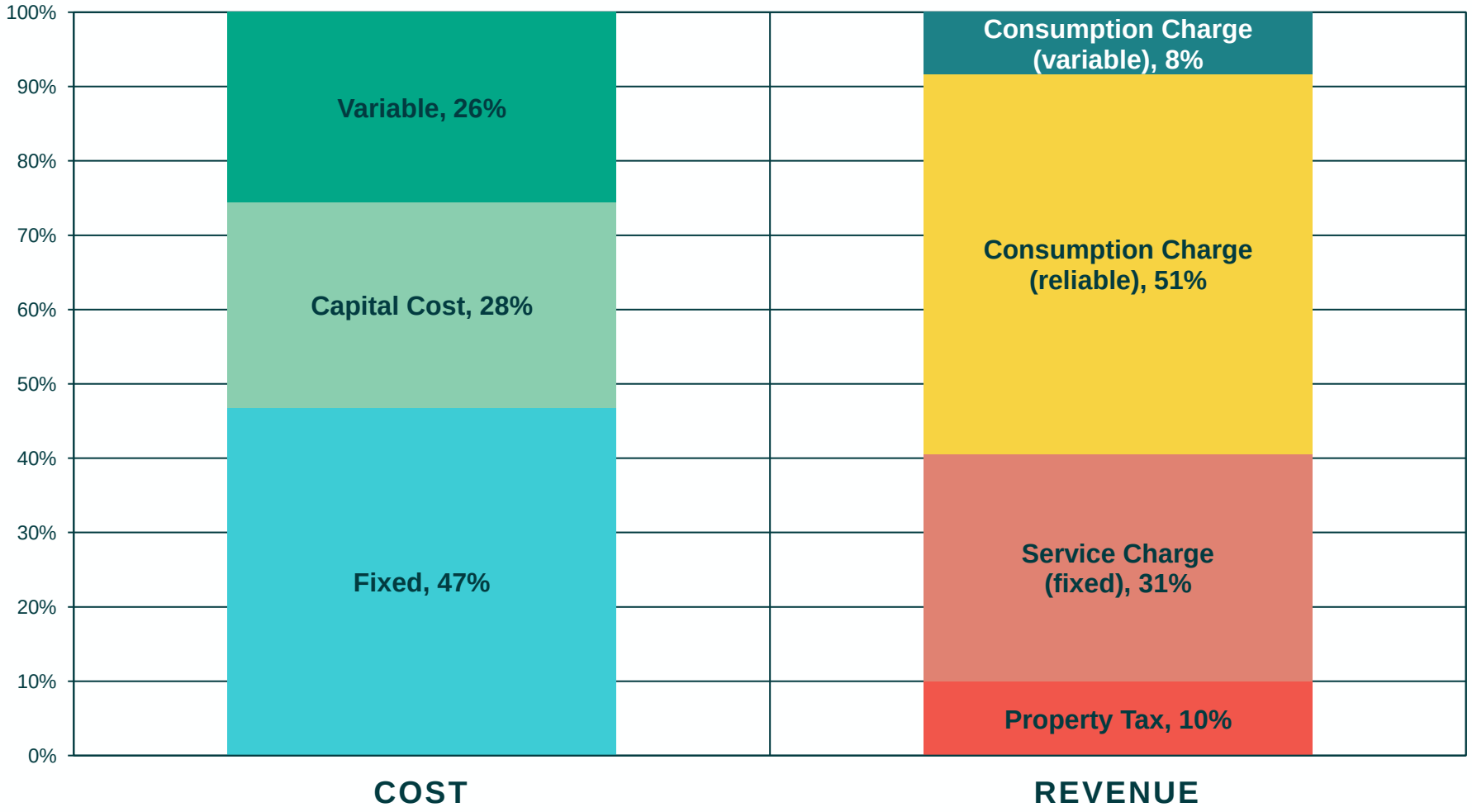
Water as a Commodity

- Water is a limited resource
- The unit rate of water should be high
- Revenues are dependent on sales
- Promote conservation
- Assist with affordability for health and safety
- Financial risk during drought conditions

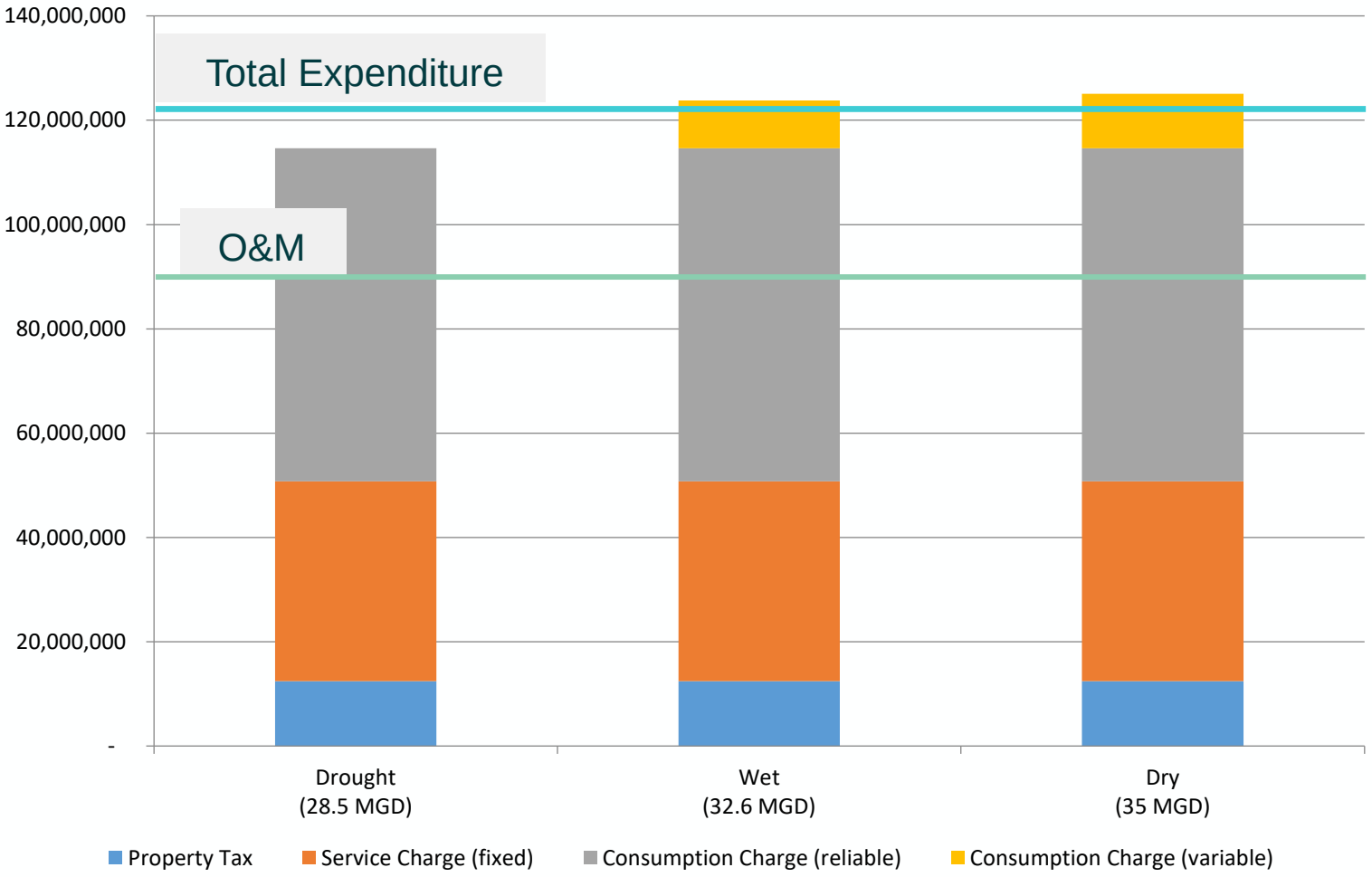
Water as a Service

- Water is one of the most capital-intensive products
- 75 to 90% of the cost of a water agency is fixed, regardless of usage
- We pay for the ability to use water – 24 hours, 7 days a week
- High fixed cost to reflect the nature of the water utility
- Assist with revenue stability during drought conditions
- Does not promote conservation or affordability for health and safety

Cost and Revenue Structure FY 2020



Fixed vs. Variable Revenue Under Different Hydrological Conditions



- 2020 Expenditure: $123M
  - O&M: $90.6M
  - Capital: $34.2M
- If a drought occurred, a $9M shortfall would occur
  - Does not take into account savings from reduction in water sales or revenue from stage rates
  - Reserves are healthy and can absorb this shortfall temporarily

Observation

- The District has significantly increased the Service Charge since 2011
  - This has assisted the District in providing revenue stability during the historical drought in 2014/2015
- The District has other sources of revenue that assist with revenue stability
  - ~41% is fixed revenue without any water sales (Service Charge + Property Taxes)
- Given the reduction in demand that has occurred in the past 10 years, most water use is considered reliable
  - ~51% of total revenue is considered reliable (water sales up to drought demand level)
- Only 8% of total revenue is considered variable
- Given its reserve levels, the District is in good financial condition
- Water demands have actually increased for the District during the pandemic

Public / Private Fire

Fire Service Overview

- The District has about 2,400 private dedicated fire service lines primarily for commercial or multi-family residential customers
- The main service line for these connections usually has a meter from 2” – 10”. There is also a ‘bypass’ line with a 5/8” or 3/4” meter
- These accounts are billed a private fire service rate for the meter on the main service line plus the regular service charge for the bypass meter.
  - Annual revenues are ~$1.1 million.
- The District’s most recent Cost of Service Analysis did not specifically address charges for dedicated fire service lines.
  - These charges should be reevaluated.
- The previous Cost of Service is five years old

Terms

- **Fire Protection**: Includes public fire protection (fire hydrants) and private fire protection (private fire standpipes for connections and sprinklers)
- **Direct Fire Protection Costs:** known costs such as yearly cost to fix/maintain fire hydrants or water costs. Ideally identified in a utility budget.
- **Indirect Fire Protection Costs:** Estimated costs of maintaining the infrastructure capacity to instantaneously meet fire flow demands. These capacity-related costs must be estimated as part of the cost of service process.
- **Base Extra Capacity Method:**
  - **Base**: the costs or flow associated with serving water at average flow
  - **Extra Capacity**: the costs or flow associated with serving water above average demand/flows
    - Other names for extra capacity include:
      - **Max Day and Max Hour**
      - Peaking
      - Demand
      - Capacity

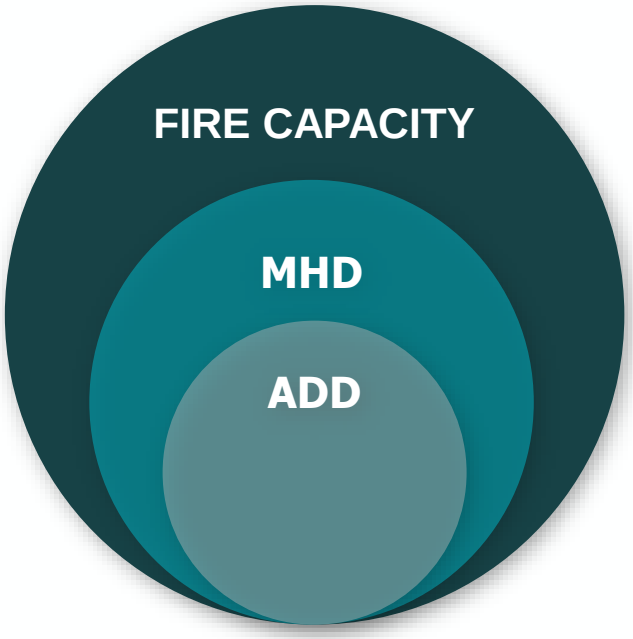
Estimating Fire Protection Costs

- Fire Protection Costs are mainly for the capacity to fight a fire, not just the water to fight a fire
  - Determine the appropriate duration of fire activity
  - Allocate this cost between direct and indirect fire protection based on the number of hydrants (public) and private fire lines / meters

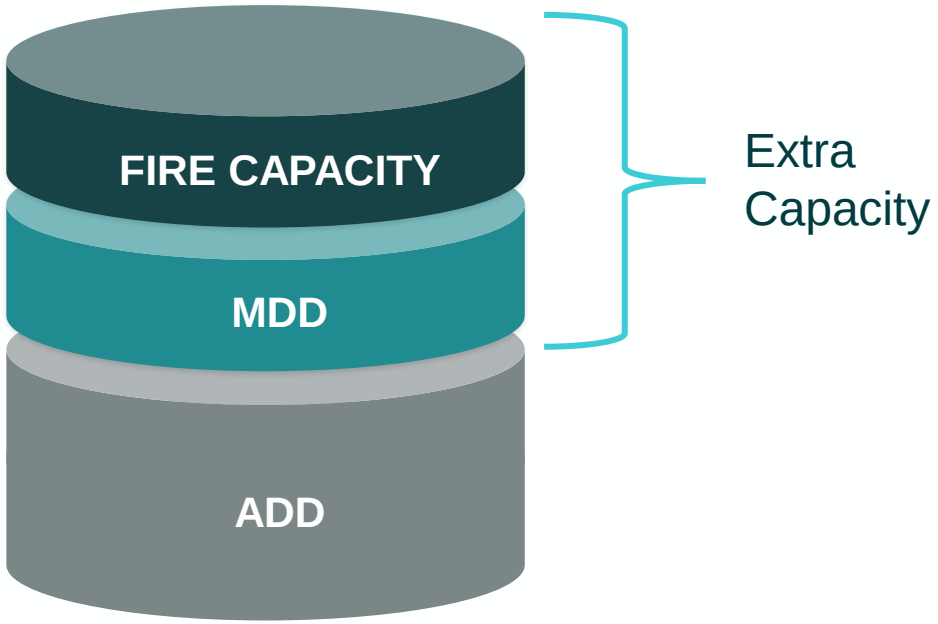
Max Day (MDD) and Max Hour Demand (MHD)

Water system design accounts for fire fighting capacity

Distribution System Design (Pipeline Diameter)



Distribution Storage System Design (Tanks)



Estimating Indirect Fire Protection Costs

- Estimate the maximum day and maximum hour costs of fire events as defined by:
  - Duration and intensity of each fire event
  - Could have multiple fires at once
- Requires professional judgement
  - Ideally a water system master plan can provide guidance on fire flow requirements

Next Steps

Next Steps

1. Conduct Cost of Service Analysis
2. Present findings and receive input
3. Develop administrative record for the Cost of Service Analysis


Q&A

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Thank you!

Contact:
Sanjay Gaur
213-262-9304 / sgaur@raftelis.com