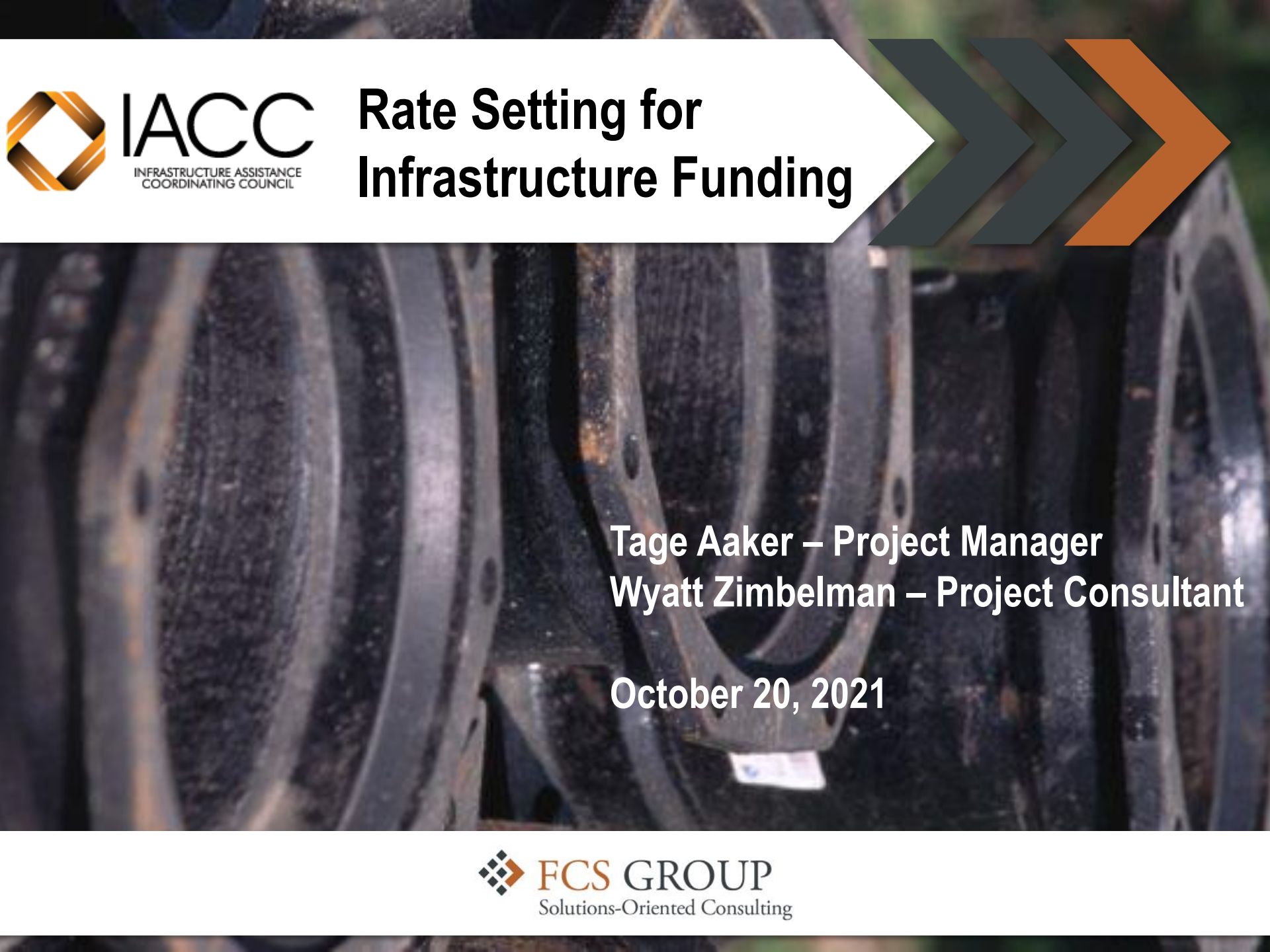

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INFRASTRUCTURE ASSISTANCE COORDINATING COUNCIL

# Rate Setting for Infrastructure Funding

Tage Aaker – Project Manager
Wyatt Zimbelman – Project Consultant

October 20, 2021

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# About FCS Group




- Utility rate and fee consulting
- Utility management consulting
- Financial planning and analysis
- Economic services

# Why Are Rate Studies Important?

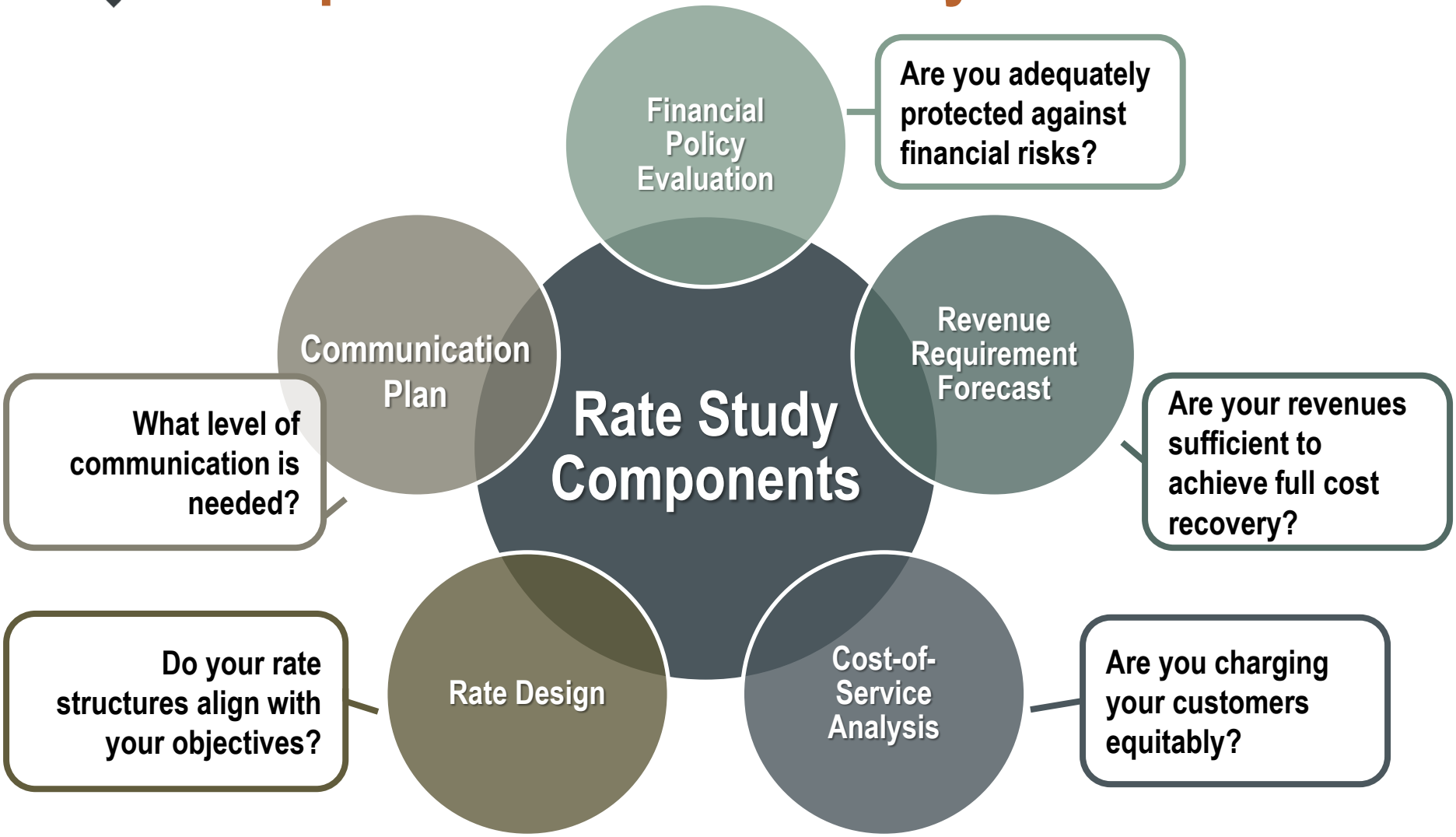
## Your Utility Is A Business

- Revenues need to cover utility costs
- Quantifies policies, priorities, and initiatives
- Tells the "true" cost of providing service

## Public Accountability

- Communicates impact of financial decisions
- Public meetings

# Comprehensive Rate Study: Start to Finish



# The Infrastructure Funding Challenge

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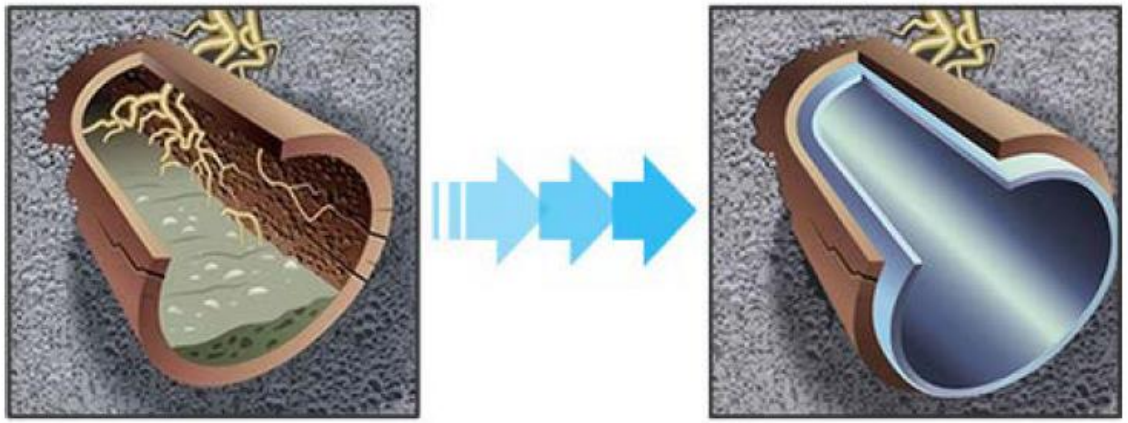
# Utilities Are Capital Intensive

- **Utilities must build, maintain, and replace infrastructure**
- **Long lived assets require long-term management**
  - » Operational management: Condition assessments & maintenance
  - » Financial management: Saving money for repair and replacement




Source: T.Webber Plumbing

# External and Internal Sources Insufficient

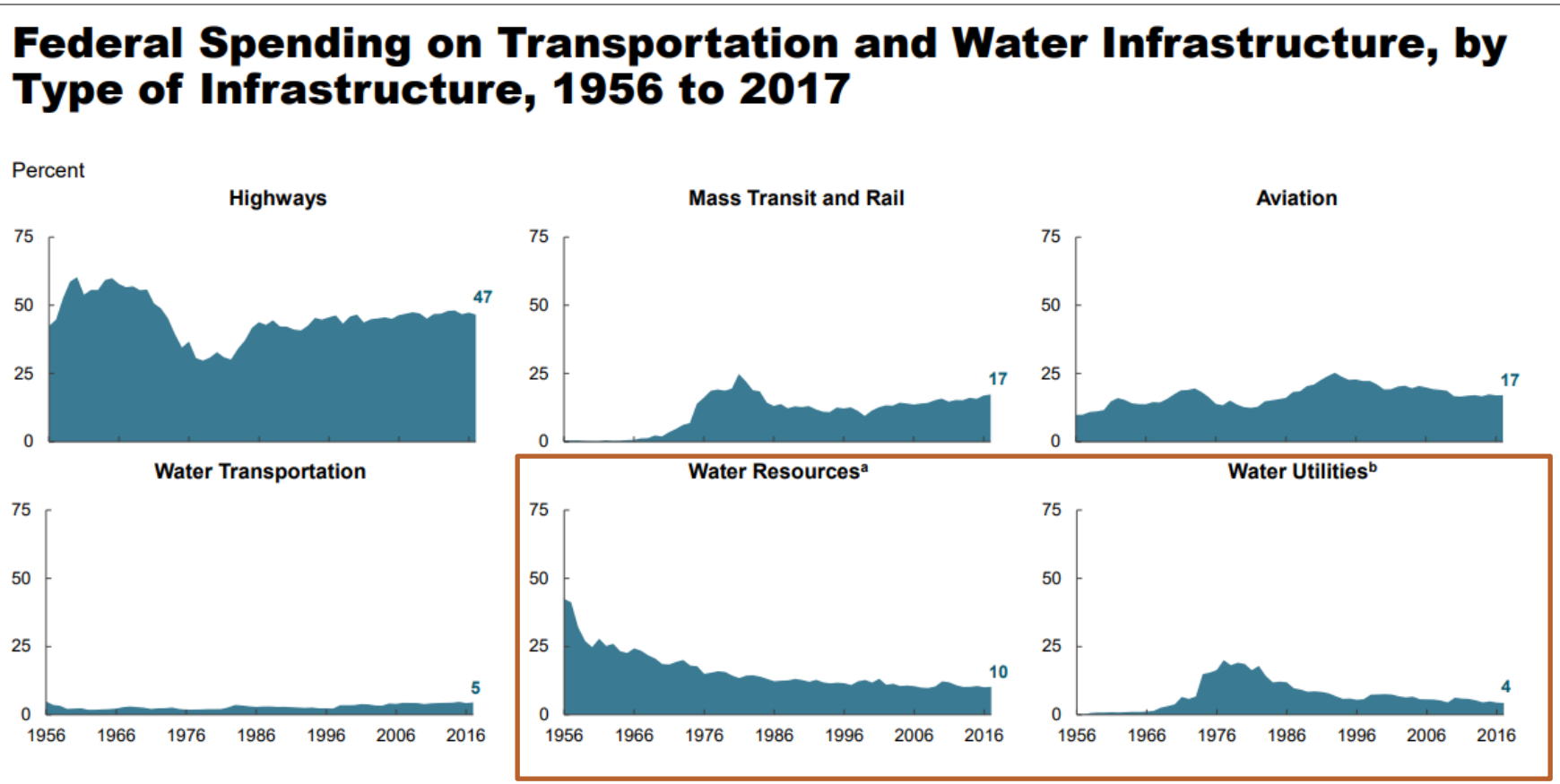
- **CSI: Northwest Vision for 2040 Water Infrastructure**
  - » State and federal funding sources are shrinking
  - » Budgets are under serious strain as systems age, costs escalate
  - » Agencies not setting aside enough funds to replace aging assets
  - » Proactive asset management encouraged

*"Asset Management revamps the system-wide investment strategy **looking years ahead**. It is aimed at prioritizing the most **cost-effective investments** to **maintain** and **operate infrastructure**, and **manage risk**, to serve everyone in the community for the **long-term**. The practice offers a **comprehensive perspective to strategically target operations, maintenance, and capital spending**; it **requires knowledge of the actual conditions of pipes, pumps, and other facilities**…"*

CSI Center for Sustainable Infrastructure

*A Northwest Vision for 2040 Water Infrastructure: Innovative Pathways, Smarter Spending, Better Outcomes (2017)*
*Infrastructure Crisis, Sustainable Solutions: The Evergreen State College, Center for sustainable infrastructure (2014)*

# Decline in Federal Spending for Utilities

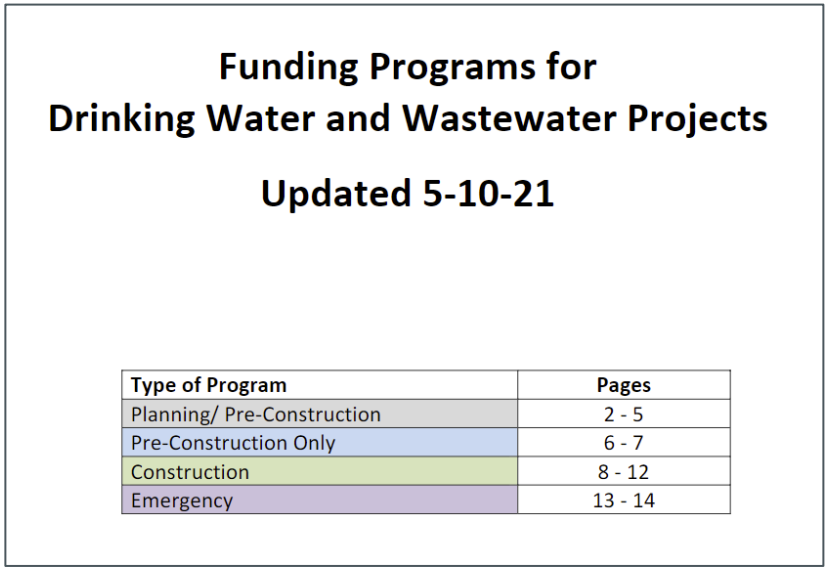



Public Spending on Transportation and Water Infrastructure, 1956 to 2017; October 2018: *https://www.cbo.gov/system/files/2018-10/54539-Infrastructure.pdf*

# What State-Level Options Exist?

- **Funding available**
  - Grants
  - Loans

- **'Summary' document**
  - Eligible projects / applicants
  - How to apply
  - Contact email and phone



**Funding Programs for**
**Drinking Water and Wastewater Projects**

**Updated 5-10-21**

| Type of Program | Pages |
|---|---|
| Planning/ Pre-Construction | 2 - 5 |
| Pre-Construction Only | 6 - 7 |
| Construction | 8 - 12 |
| Emergency | 13 - 14 |

*Document provided by Cathi Read at the* ***Department of Commerce***

# Infrastructure Funding Approach

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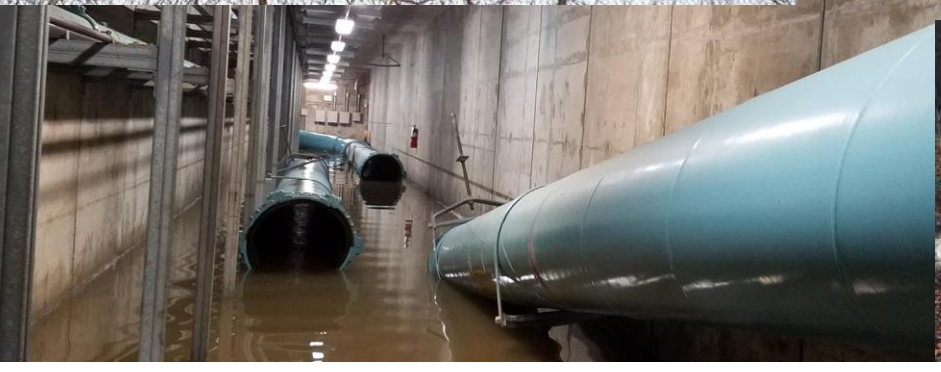


# System R&R – Consistently #1 Issue

**American Water Works Association (AWWA) State of the Water Industry Report 2021**

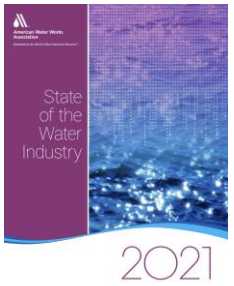


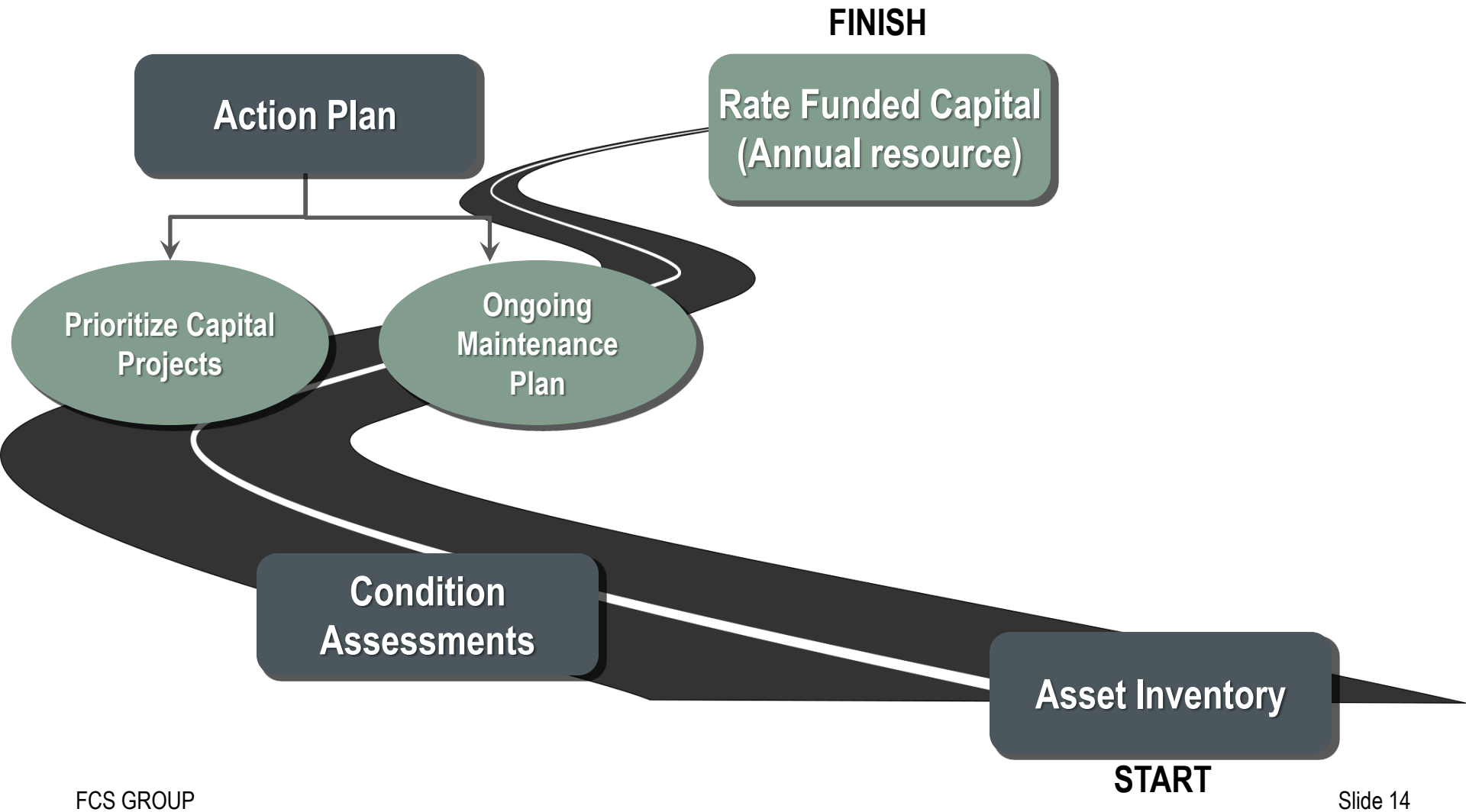

***Table 2. Top 10 issues facing the water sector as ranked by all respondents, 2017–2021***

| 2021 | Change | 2020 | 2019 | 2018 | 2017 |
|---|---|---|---|---|---|
| Renewal and replacement of aging water and wastewater | ↔ | Renewal and replacement of aging water and wastewater | Renewal and replacement of aging water and wastewater | Renewal and replacement of aging water and wastewater | Renewal and replacement of aging water and wastewater |
| Financing for capital improvements | ↔ | Financing for capital improvements | Financing for capital improvements | Financing for capital improvements | Financing for capital improvements |
| Long-term water supply availability | ↔ | Long-term water supply availability | Long-term water supply availability | Public understanding of the value of water systems and services | Long-term water supply availability |
| Emergency preparedness | ↑ | Public understanding of the value of water systems and services | Public understanding of the value of water systems and services | Long-term water supply availability | Public understanding of the value of water systems and services |
| Public understanding of the value of water systems and services | ↓ | Watershed/source water protection | Watershed/source water protection | Public understanding of the value of water resources | Public understanding of the value of water resources |
| Watershed/source water protection | ↓ | Public understanding of the value of water resources | Public understanding of the value of water resources | Watershed/source water protection | Watershed/source water protection |
| Public understanding of the value of water resources | ↓ | Aging workforce/ anticipated retirements | Groundwater management and overuse | Aging workforce/ anticipated retirements | Emergency preparedness |
| Aging workforce/ anticipated retirements | ↓ | Emergency preparedness | Aging workforce/ anticipated retirements | Public acceptance of future W/WW rate increases | Cost recovery (pricing water to accurately reflect the cost of service) |

# Need for Replacement Funding Planning

- Strain on existing revenue sources
- Operating costs increasing
- Additional regulatory burdens
- Little to no revenue “left over” after O&M & debt service
- Reserves being drawn down for operating deficit

# Asset Mgmt. From a Financial Perspective



# What Information Do You Have?

- **Questions to get started:**
  - What do we own?
  - Where is it?
  - What did it cost to acquire?
  - What will it cost to replace it?
  - What condition is it in?
  - How long will the asset last?

- **Why do we need this information?**
  - Understanding replacement funding needs
  - Setting system connection charges (SDCs, GFCs, etc.)
  - 'Cost of Service Analysis' / equity analysis

# Proactive Capital Funding Plan Needed

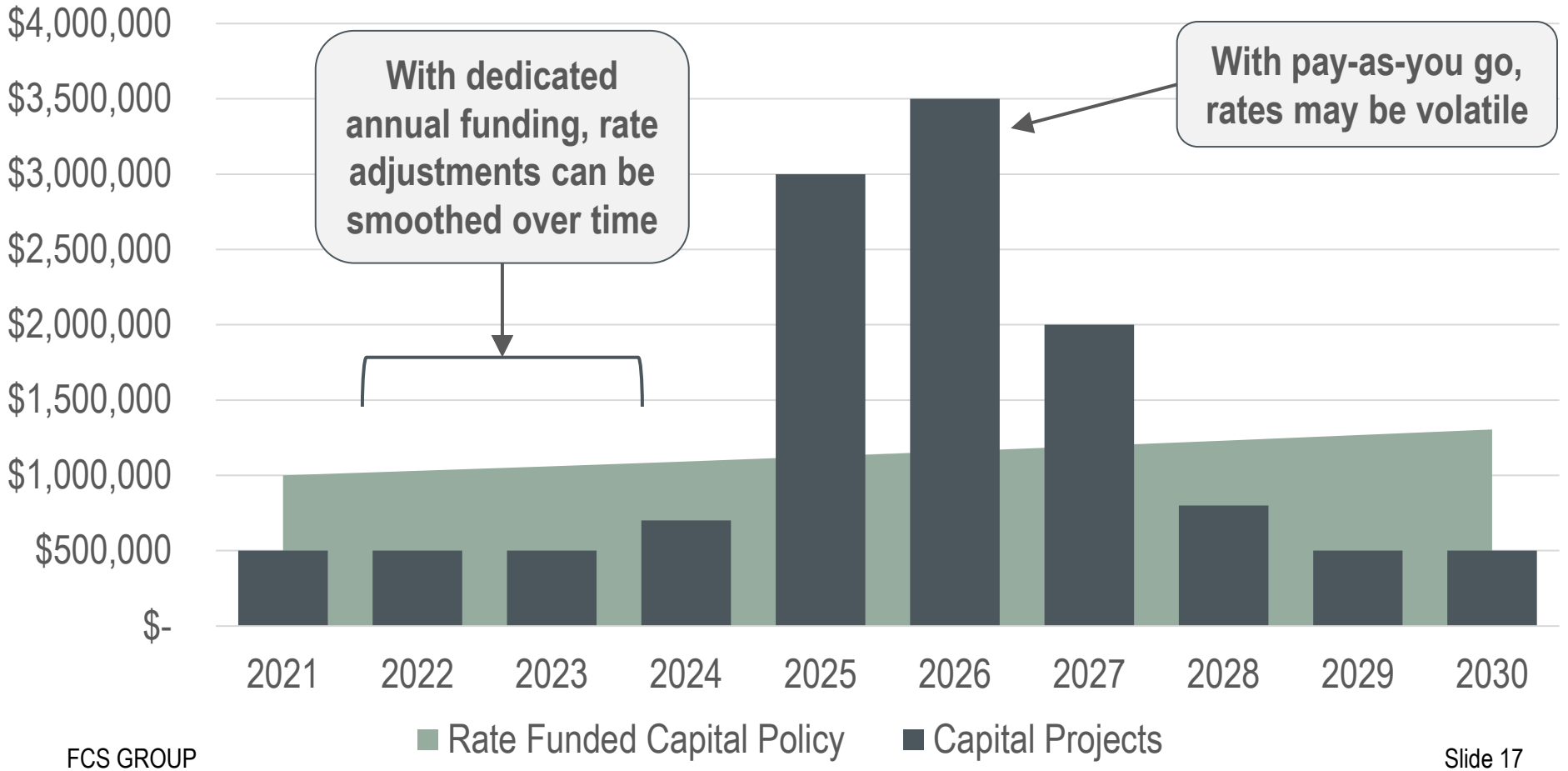
- **Rate Funded Capital Policy – what is it?**
  - An annual cash contribution from current rate revenue
  - Pays for same-year repair & replacement projects… or
  - Saved for future capital projects

- **Policy Targets – how much do we need?**
  - Original or replacement cost annual depreciation
  - Average annual repair & replacement projects
  - Asset management plan

**Build 'Rate Funded Capital' into annual revenue needs**

# Rate Funded Capital Example

- Annual capital spending may not be uniform
- May need to supplement with reserves, connection charges, and debt



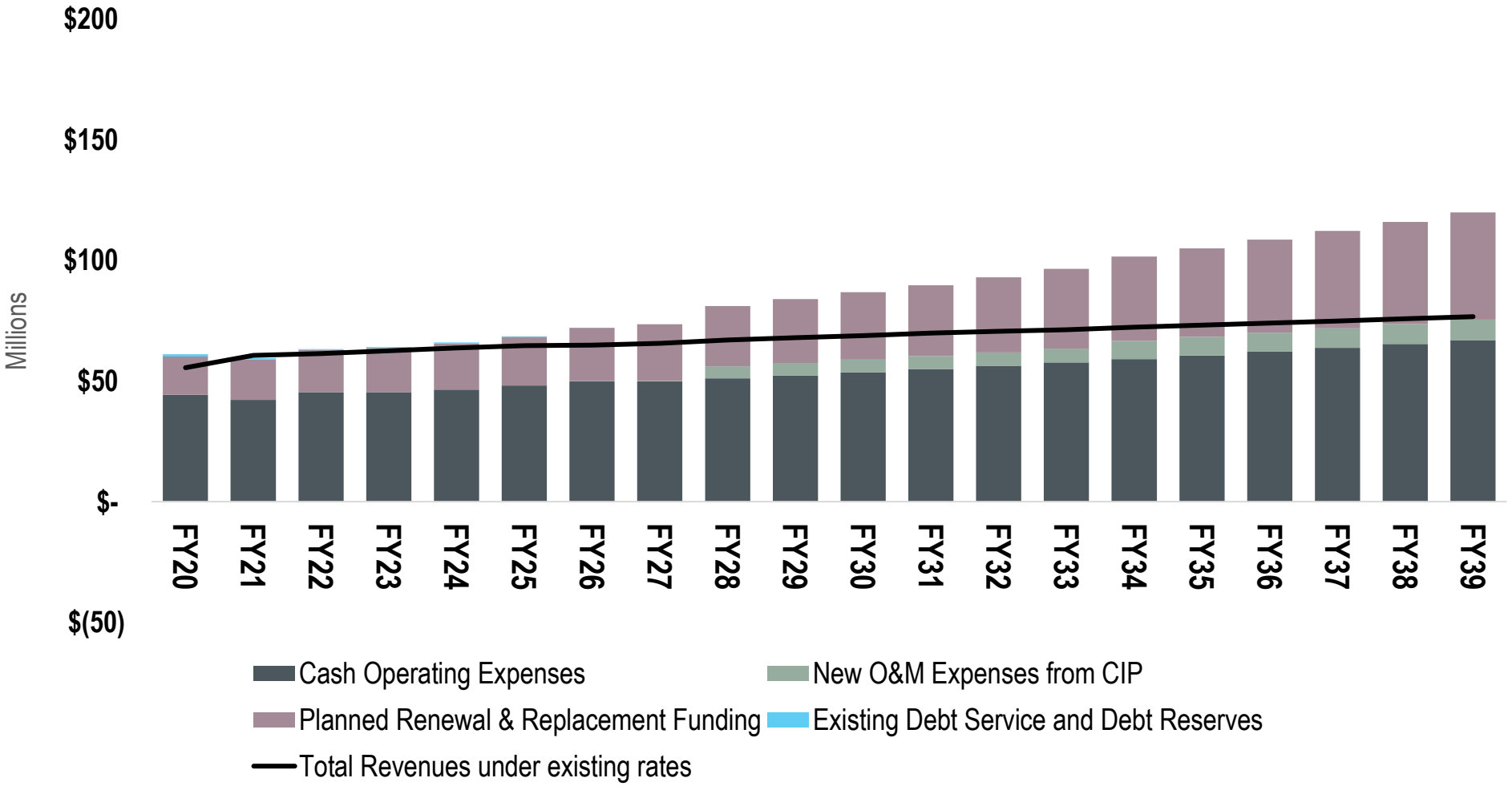
# Rate Funded Capital Detailed Example

| Summary of Operations | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|
| Existing Rate Revenues | $ 3,000,000 | $ 3,000,000 | $ 3,000,000 | $ 3,000,000 |
| Rate Revenues from Increases | - | 500,000 | 1,000,000 | 1,500,000 |
| Operating Expenses | (2,800,000) | (2,880,000) | (2,970,000) | (3,060,000) |
| Existing Debt Service | (200,000) | (200,000) | (200,000) | (200,000) |
| Revenue Available For Capital | $ - | $ 420,000 | $ 830,000 | $ 1,240,000 |

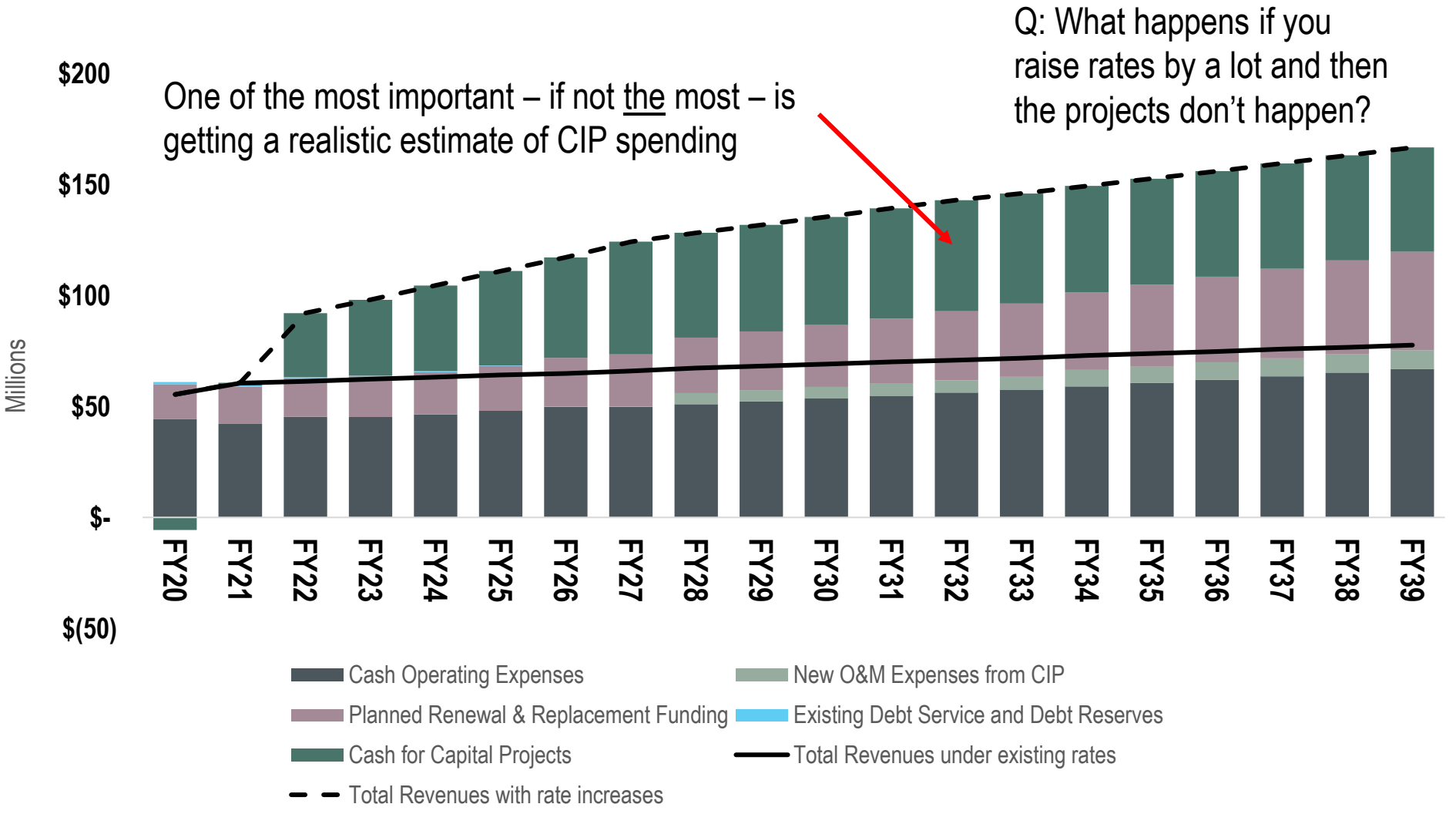
| Capital Funding Strategy | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|
| Beginning Fund Balance | $ 1,000,000 | $ 750,000 | $ 170,000 | $ 1,000,000 |
| Connection Charges | 250,000 | 250,000 | 250,000 | 250,000 |
| Rate Funded Capital | - | 420,000 | 830,000 | 1,240,000 |
| Capital Projects | (500,000) | (1,250,000) | (500,000) | (2,000,000) |
| Ending Fund Balance | $ 750,000 | $ 170,000 | $ 750,000 | $ 490,000 |

**Rate Funded Capital greater than Capital. 'Bank' for next year.**

# Example: Status Quo slide



# Capital Throughput



# Connection Charges

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# Connection Charges

- a.k.a. GFCs, SDCs, CFCs, Hookup Fees
- One-time fee paid at the time of development / redevelopment
- Provides equity between existing and new customers
- Provide a source of capital funding as growth occurs

$$\text{Charge} = \frac{\text{Existing System Cost} + \text{Future Project Costs}}{\text{Existing + Future Customer Base (System Capacity)}}$$

# Example Calculation and Schedule

- **Existing + future costs: $30 million**
- **System Capacity: 10,000 MCEs**
  - » MCE = meter capacity equivalent
- **Charge per MCE = $3,000**
- **Many jurisdictions set 5/8” and 3/4" meters to same charge**
  - » Minimum fire flow requirements

| Meter Size | MCEs per Meter | SDC |
|---|---|---|
| | | |
| 5/8" | 1.00 | $ 3,000 |
| 3/4" | 1.00 | $ 3,000 |
| 1" | 2.50 | $ 7,500 |
| 1.5" | 5.00 | $ 15,000 |
| 2" | 8.00 | $ 24,000 |
| 3" | 16.00 | $ 48,000 |
| 4" | 25.00 | $ 75,000 |
| | | |

# Fiscal Policies

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# Reserve & Debt Policies

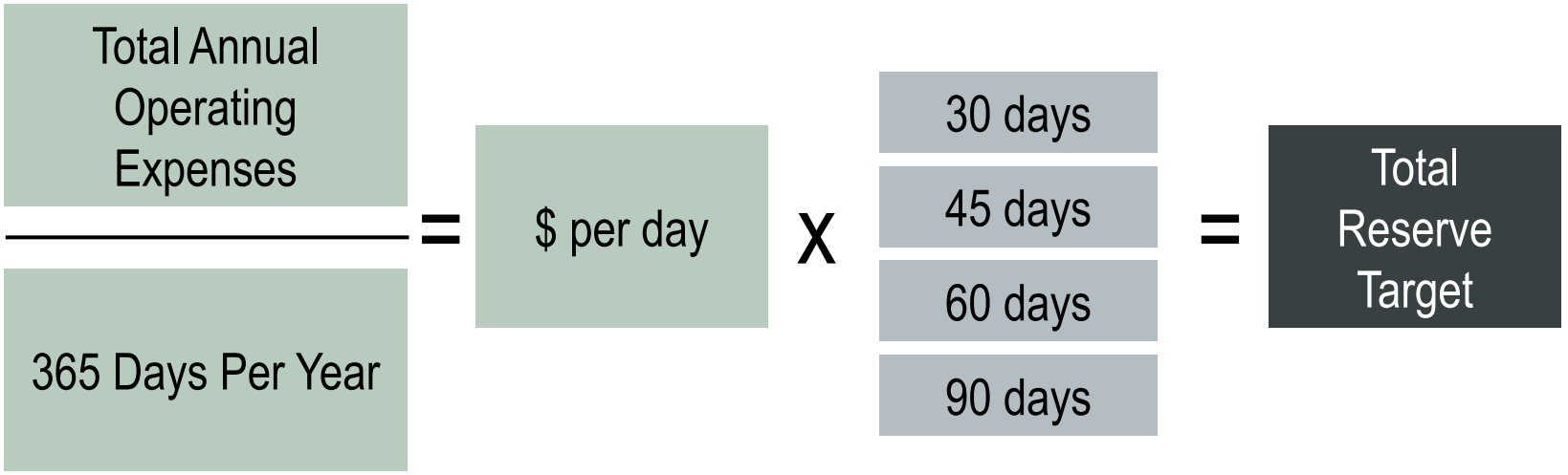
- Help weather financial risk and disruptions
- Make consistent financial and rate decisions
- Can help stabilize rates over time
- Debt is useful; don't over-rely on debt
- Make decisions once versus ad-hoc
- Implement immediately or phase in?

# Example Financial Policies

| Policy | Purpose | Policy Examples |
|---|---|---|
| Operating Reserve | Accommodate variations in revenue & expenses | Water = 90 days O&M<br>Sewer = 45-90 days O&M<br>Storm = 30 days O&M |
| Capital Reserve | Emergency repairs, unanticipated capital, & project cost overruns | 1-2% of capital assets; or<br>Critical asset reserve |
| Total Cash on Hand | Maintain credit worthiness for future debt needs | 180 days of O&M |
| Rate Funded Capital | Annual rate funded capital mechanism | Annual depreciation;<br>Average R&R capital spending |
| Debt Service Coverage | Compliance with existing debt covenants;<br>Maintain credit worthiness | Target 2.0 or higher;<br>Minimum 1.25 |

# Operating Reserve Example

- **Target typically equals a "number of days"**
- **For example 30, 45, 60, or 90 days**
- **Higher target for utilities with longer billing cycles / volatile revenue**



# Capital Reserve Target Based on Fixed Assets

| Asset Group | Original Cost |
|---|---|
| Supply/Treatment | $20,000,000 |
| Storage | $2,000,000 |
| Transmission & Distribution | $12,000,000 |
| General Plant | $1,000,000 |
| **Total** | **$35,000,000** |

1% of fixed assets
$350,000

2% of fixed assets
$700,000

*Note: Capital reserve target grows as utility adds assets*

# Total Days Cash on Hand Example

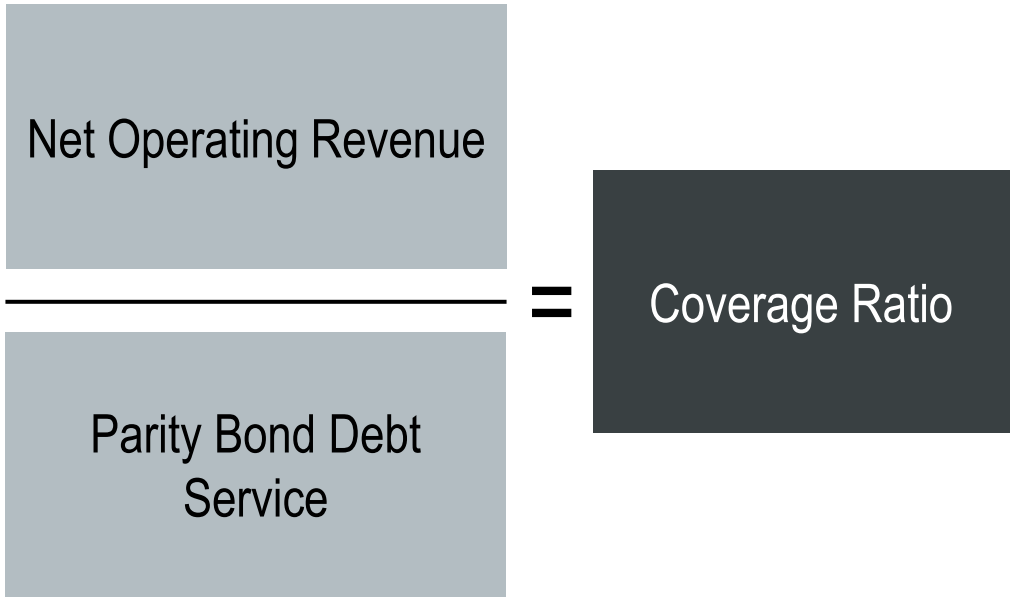
- **Days cash on hand is a key metric for bond rating agencies**

| Debt Rating Target | Aaa | Aa | A |
|---|---|---|---|
| Days Cash on Hand | > 250 days | 250 days ≥ n > 150 days | 150 days ≥ n > 35 days |

Source: Moody's Approach to Local Government Credit Analysis; February 2019

# Debt Service Coverage Ratio

- **Bond rating agencies look favorably on coverage ratios > 2.0x**
- **Important to show that utilities can maintain that coverage ratio**
  - » Rating agencies like to see a multi-year rate plan
- **Net operating revenue can sometimes include connection charge revenue**



# Revenue Requirement

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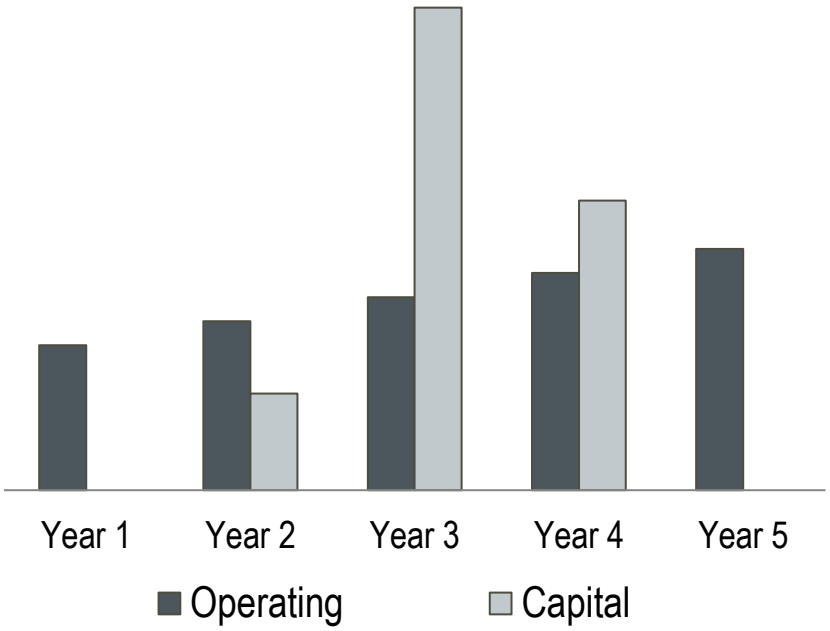
# Introduction to Utility Rate Making

- **Utility rates are set to recover the cost of providing service**
- **Financial policies**
- **Operating costs (regular / ongoing)**
  - » Employee salaries and benefits
  - » Routine inspections & maintenance
  - » Professional services
  - » Utilities / power
- **Capital costs (periodic)**
  - » Infrastructure replacement
  - » Facility expansions and upgrades



# Overview of Revenue Requirement

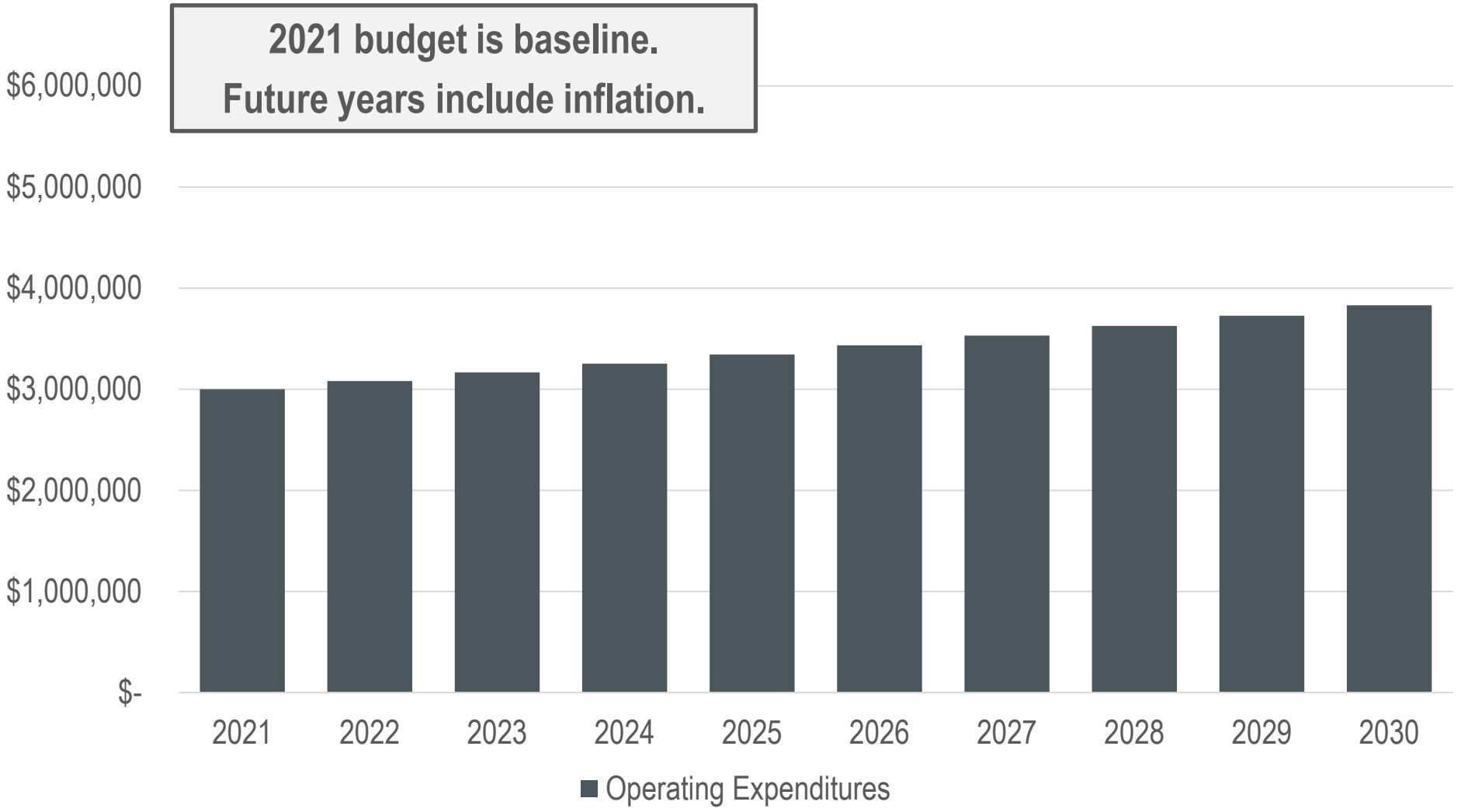
| | Revenue Requirement |
|---|---|
| | Operating & Maintenance |
| + | Debt Service |
| + | Rate Funded Capital |
| = | Revenue Requirement |
| - | Miscellaneous Revenue |
| = | Revenue Required from Rates |

- Current year budget + inflation?
- Increasing service levels?
- Vacancies?
- O&M increases due to capital program?
- Cost efficiencies?

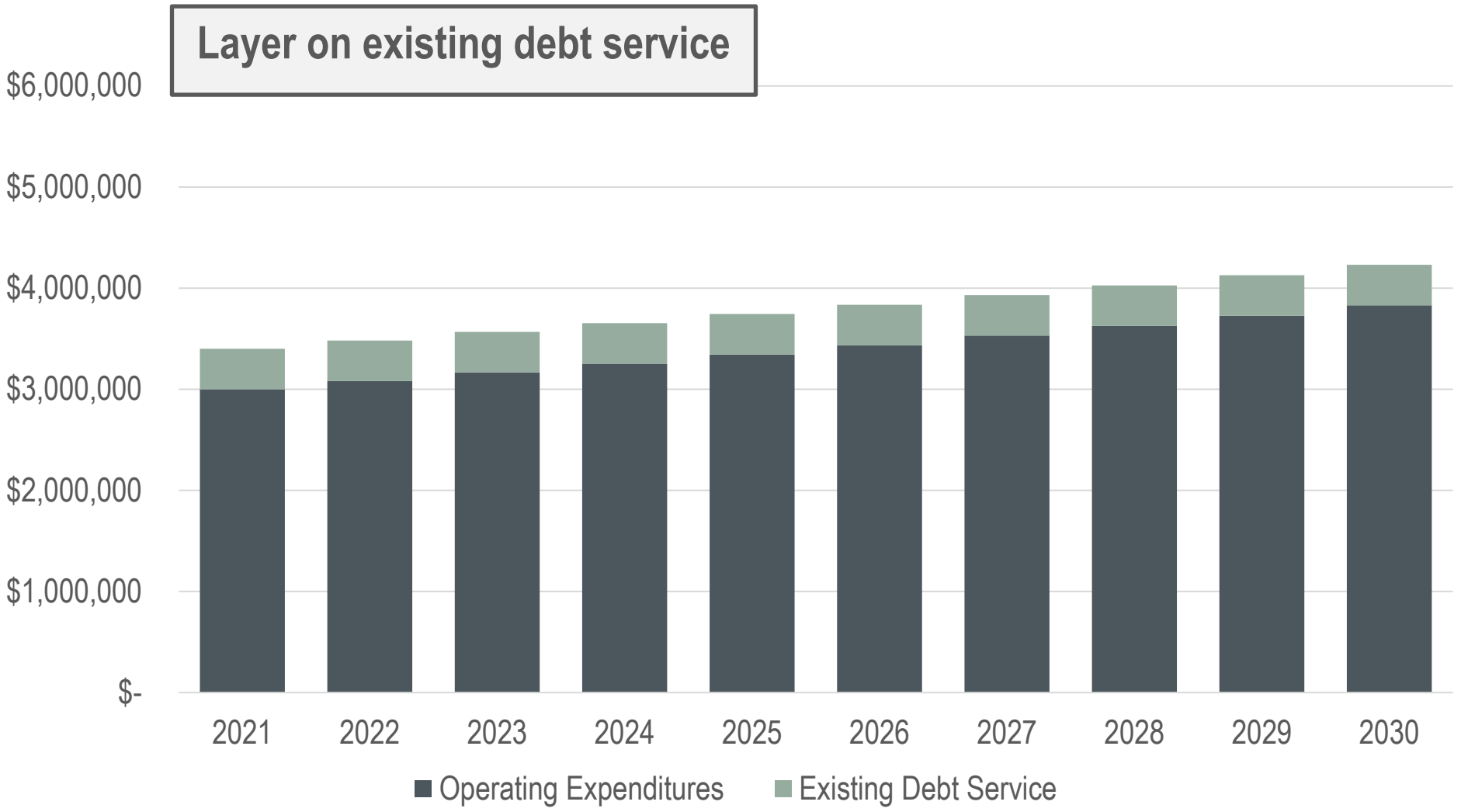
- What about fund balance?

- Historical trends?
- Customer growth?
- Annexation?
- Seasonality?

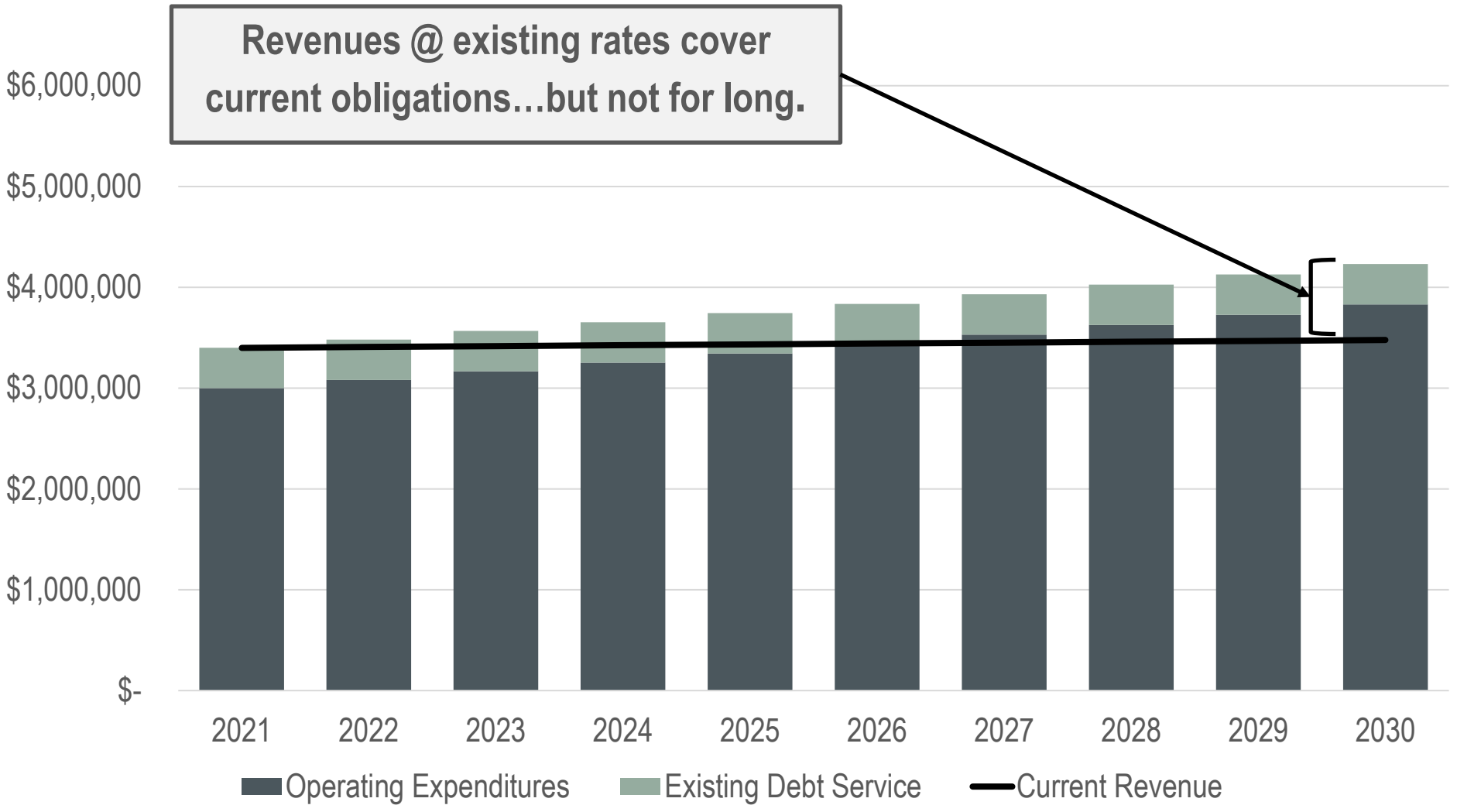
# Step 1: Forecast Operating Costs



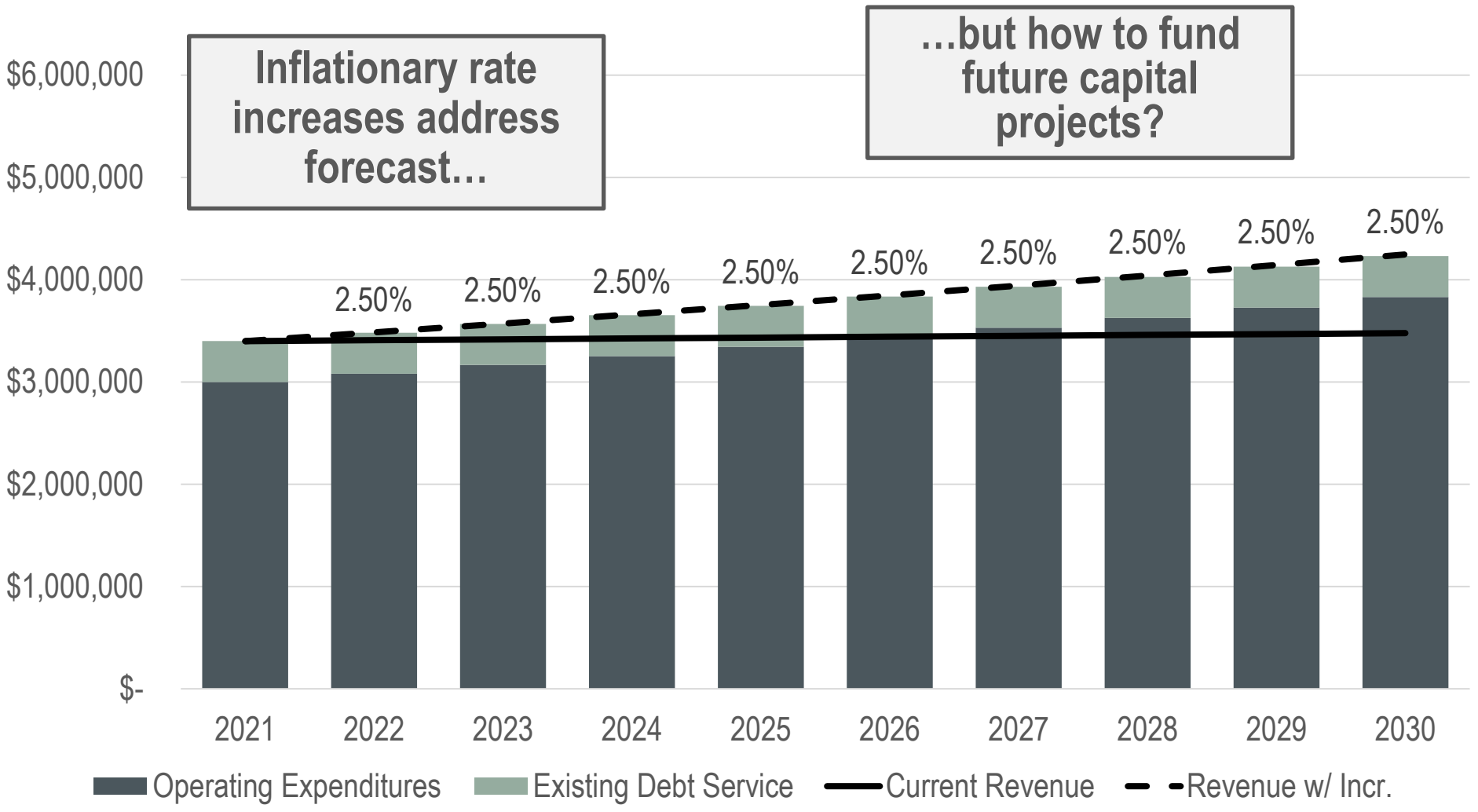
# Step 2: Add Existing Debt Obligations



# Step 3: Obligations vs. Existing Rates



# Step 4: Calculate Rate Increases Needed



# Forecasting Tips for Capital Costs

- Year(s) of construction?
- Cost estimates current or escalated?
- Tackle high-priority capital projects first

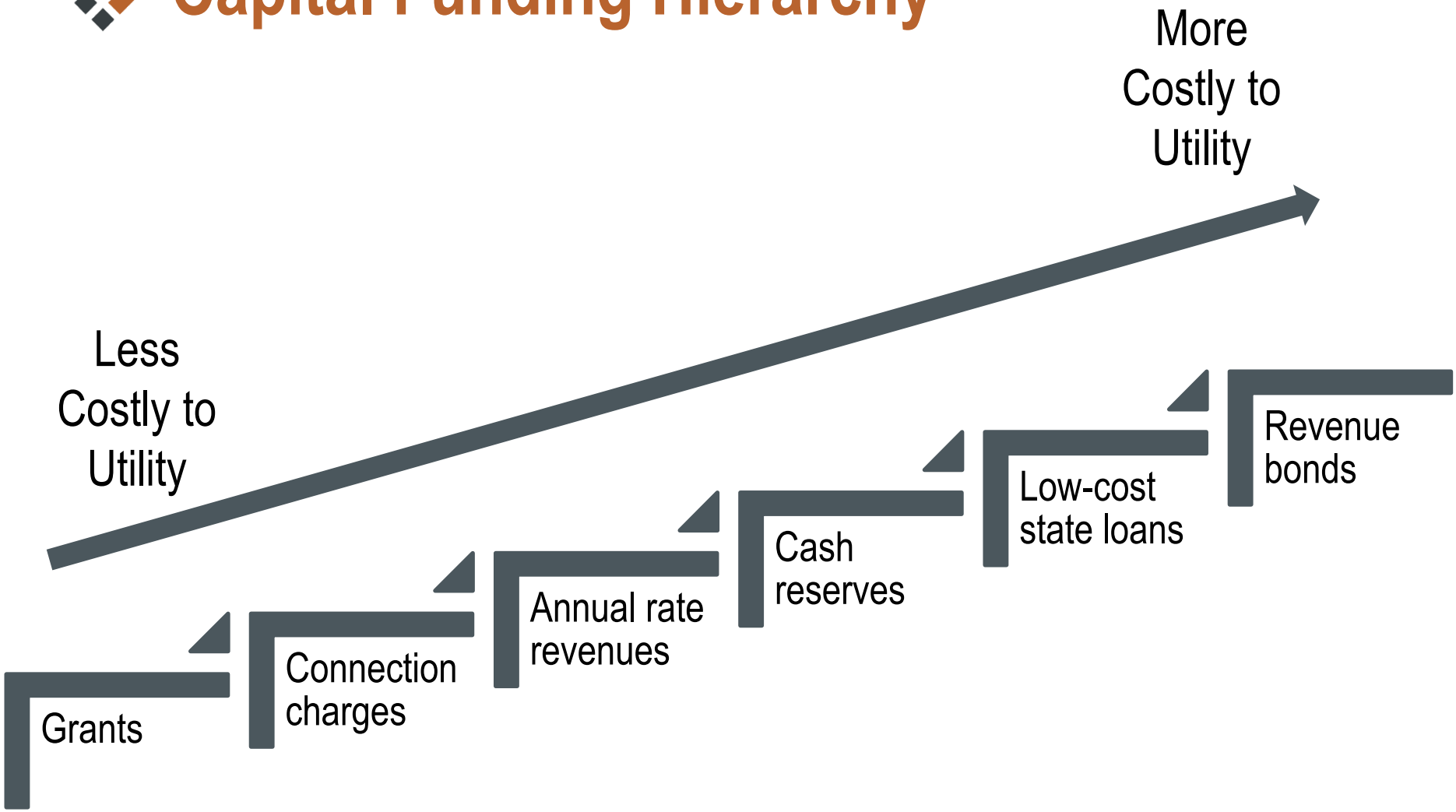
**Critical Assets**

*Those assets that are likely to result in a more significant financial, environment and social cost in terms of impact on organizational objectives.*


**Critical = High Consequence of Failure**

- ✓ Right project
- ✓ Right time
- ✓ Right reason

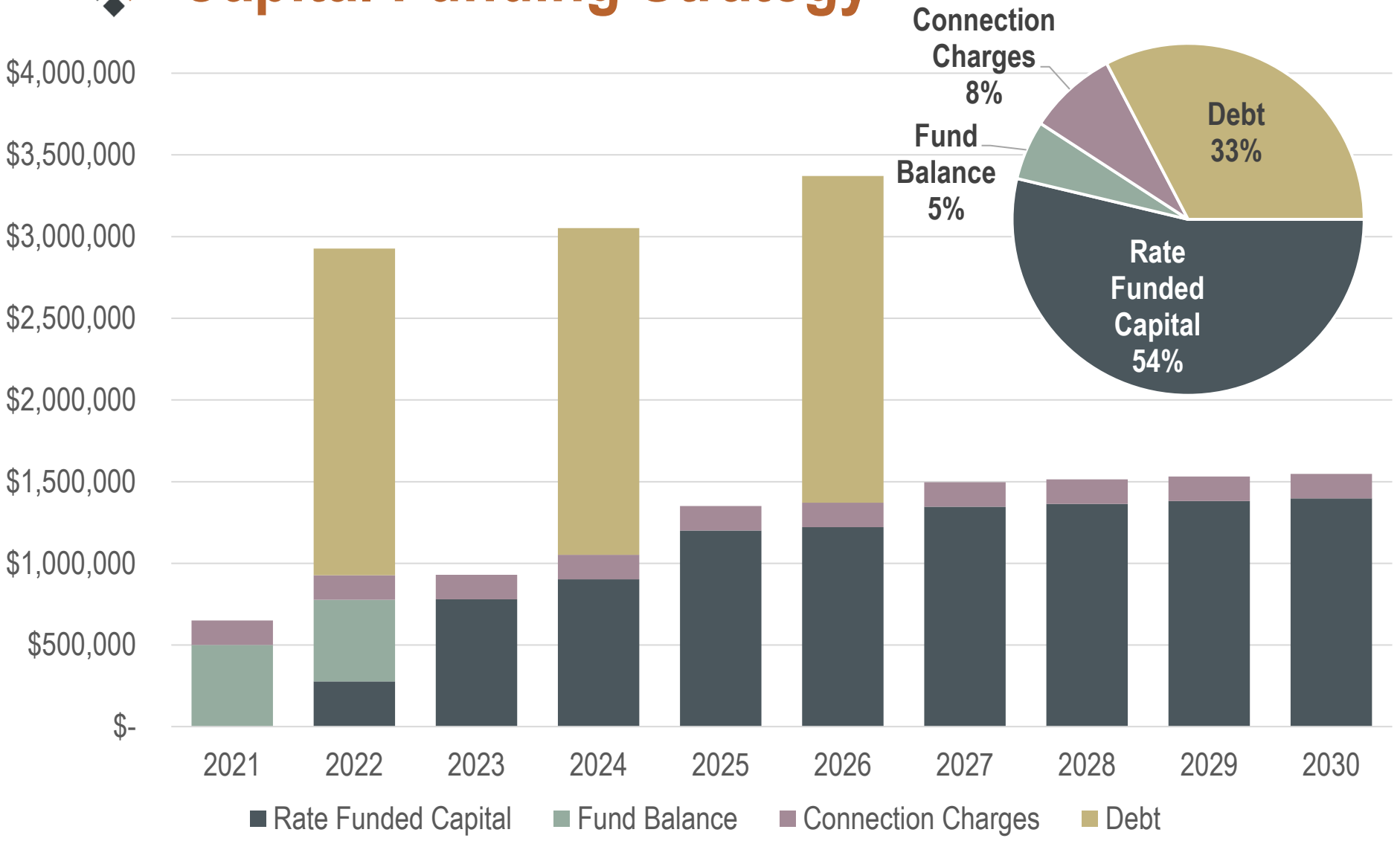
# Capital Funding Hierarchy



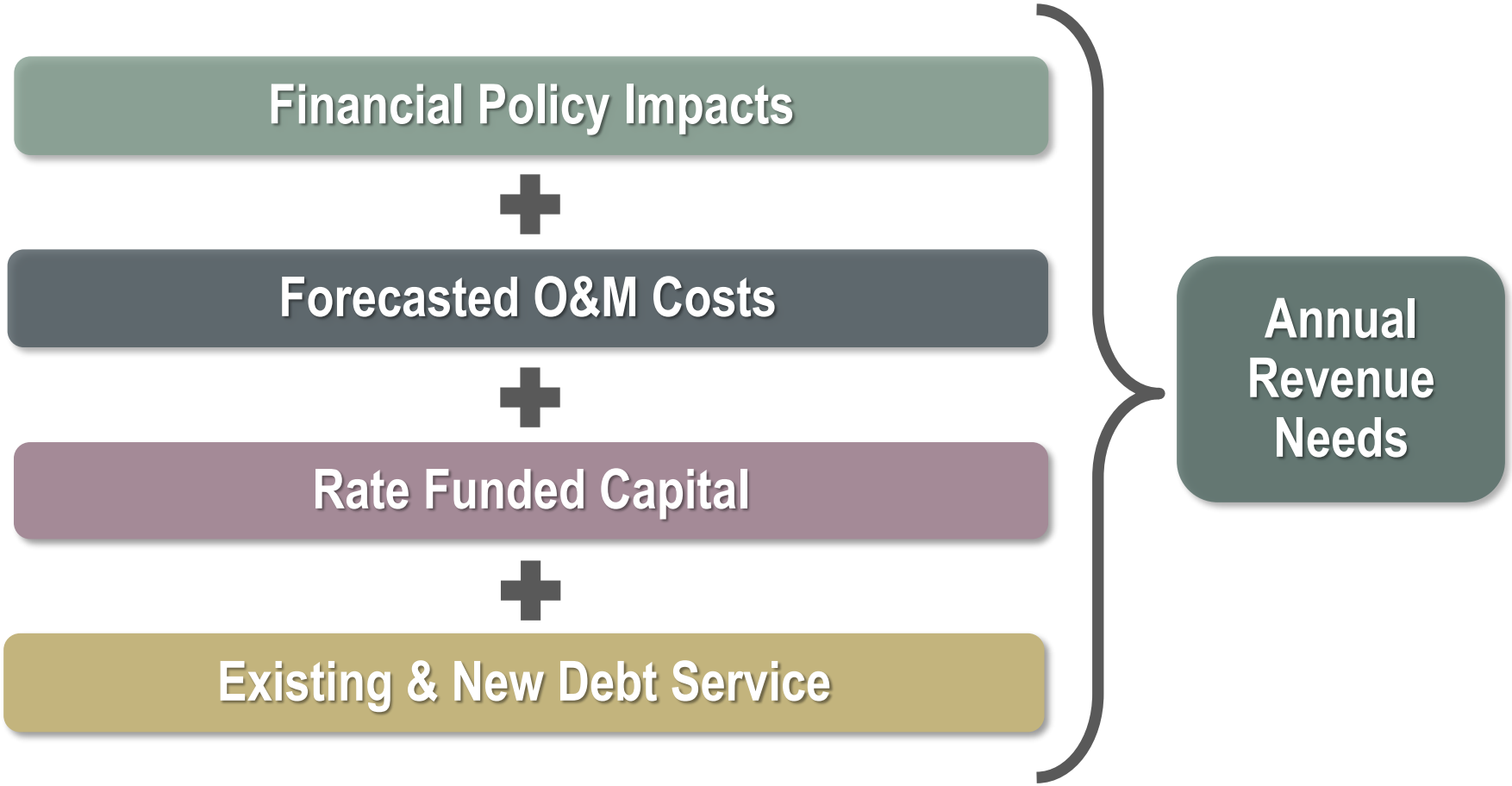
# Capital Funding Philosophy

| | |
|---|---|
| **Cash (pay-as-you-go)** | • Higher near-term rates<br>• Existing customers pay 100% of costs |
| **Debt Financing** | • Lowest near-term rates…but interest cost<br>• Spreads cost between existing / future customers |
| **Hybrid** | • Cash fund repair and replacement projects<br>• Debt fund large expansion projects |

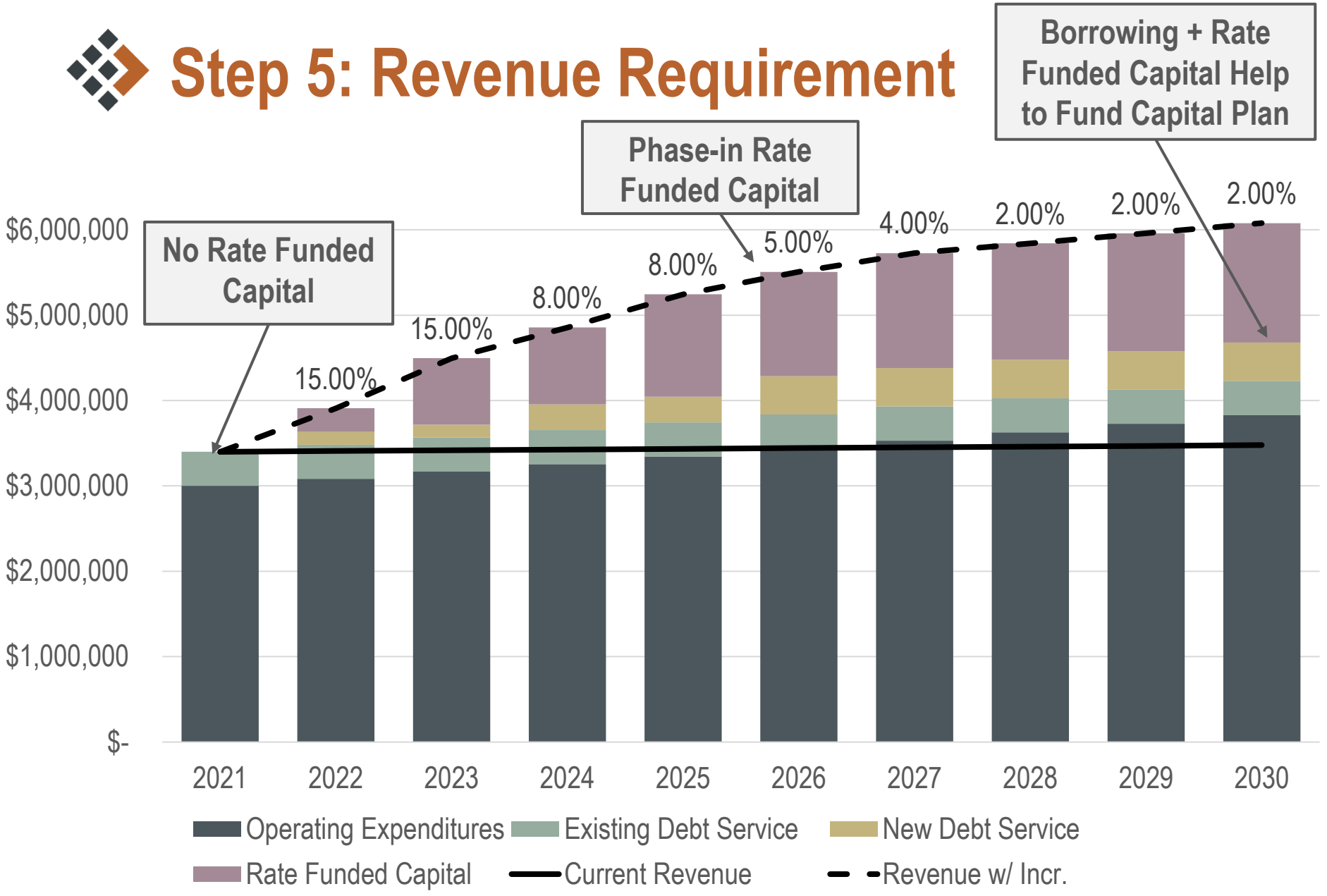
# Capital Funding Strategy



# How Much Revenue is Needed?



# Step 5: Revenue Requirement

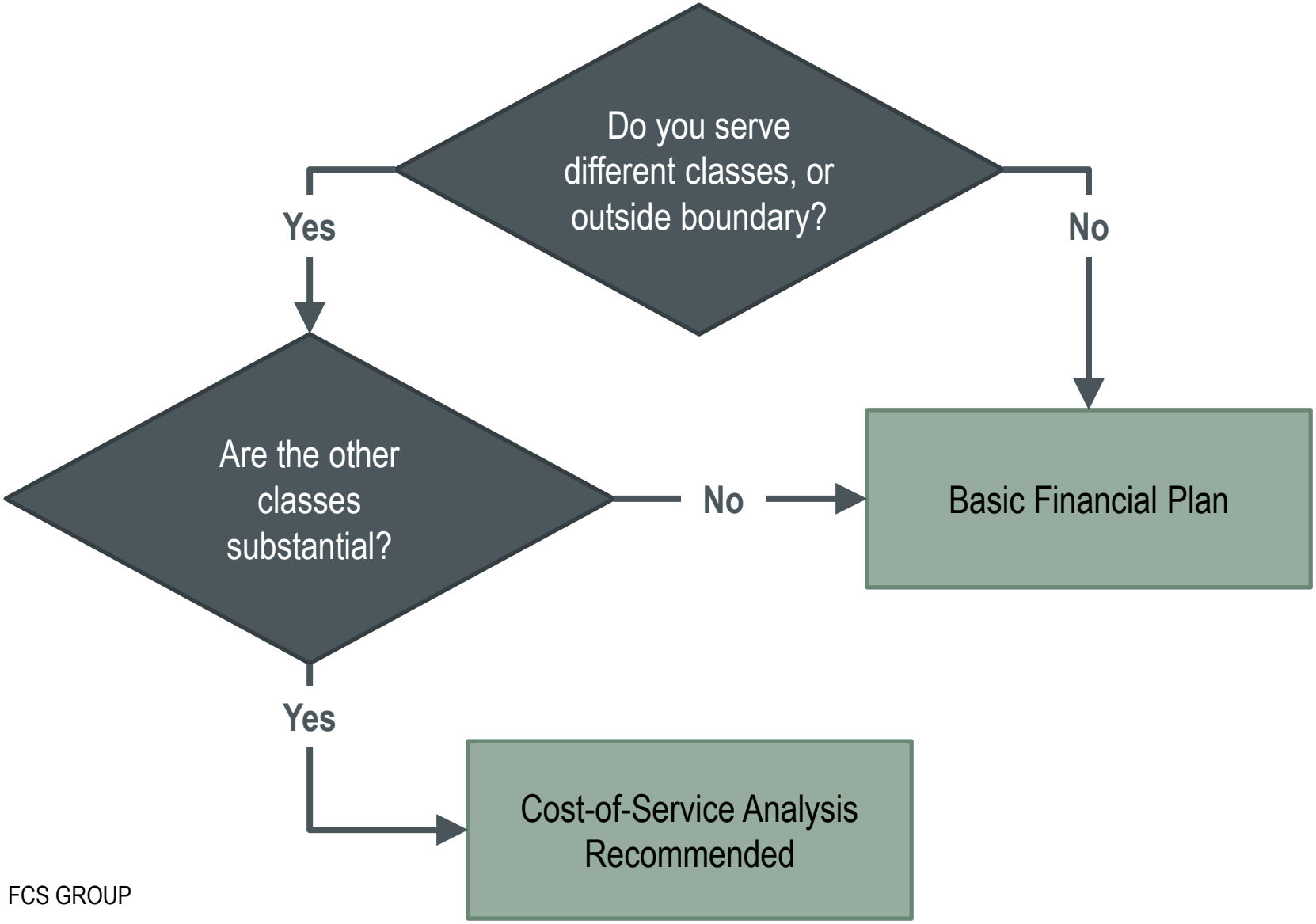


# Indexed Rates

- **Setting rates based on an index is not best practice**
- **However, if rates have not been evaluated in some time, consider increasing rates with general cost inflation**
  - » Rates do not get too far behind cost curve
  - » Automatic process

> Effective January 1st of each year, beginning on January 1, 20xx, the water rates listed in xxMC xx.xx.xxx shall be adjusted by the annual change in the most recent Seattle-Bellevue-Tacoma Consumer Price Index (Urban Consumers) published by the U.S. Department of Labor

# When Should I Do a Cost-of-Service Analysis?



# Decision Point for Utility – Can We Stop Here?

- **If no cost of service or rate structure change is needed…**
  - » Simply apply indicated rate increases 'across-the-board' (ATB)
  - » E.g., both fixed and variable rates increase by 5% per year

| Across-the-Board Rate Schedule | Existing 2021 | ATB 2022 | ATB 2023 |
|---|---|---|---|
| **Annual System-Wide Rate Increase** | | **5.00%** | **5.00%** |
| Fixed Charge per Customer | $47.14 | $49.50 | $51.97 |
| Volume Charge: per ccf of water usage | $3.92 | $4.12 | $4.32 |

# Cost of Service

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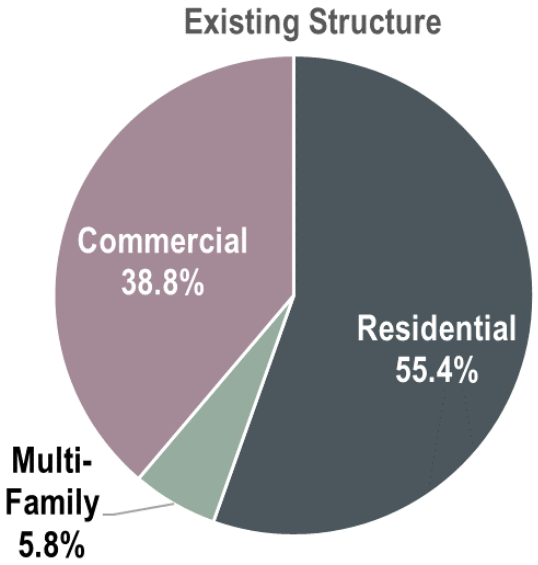
# How Will Costs Be Equitably Distributed?

**Revenue requirement: How big is the pie?**

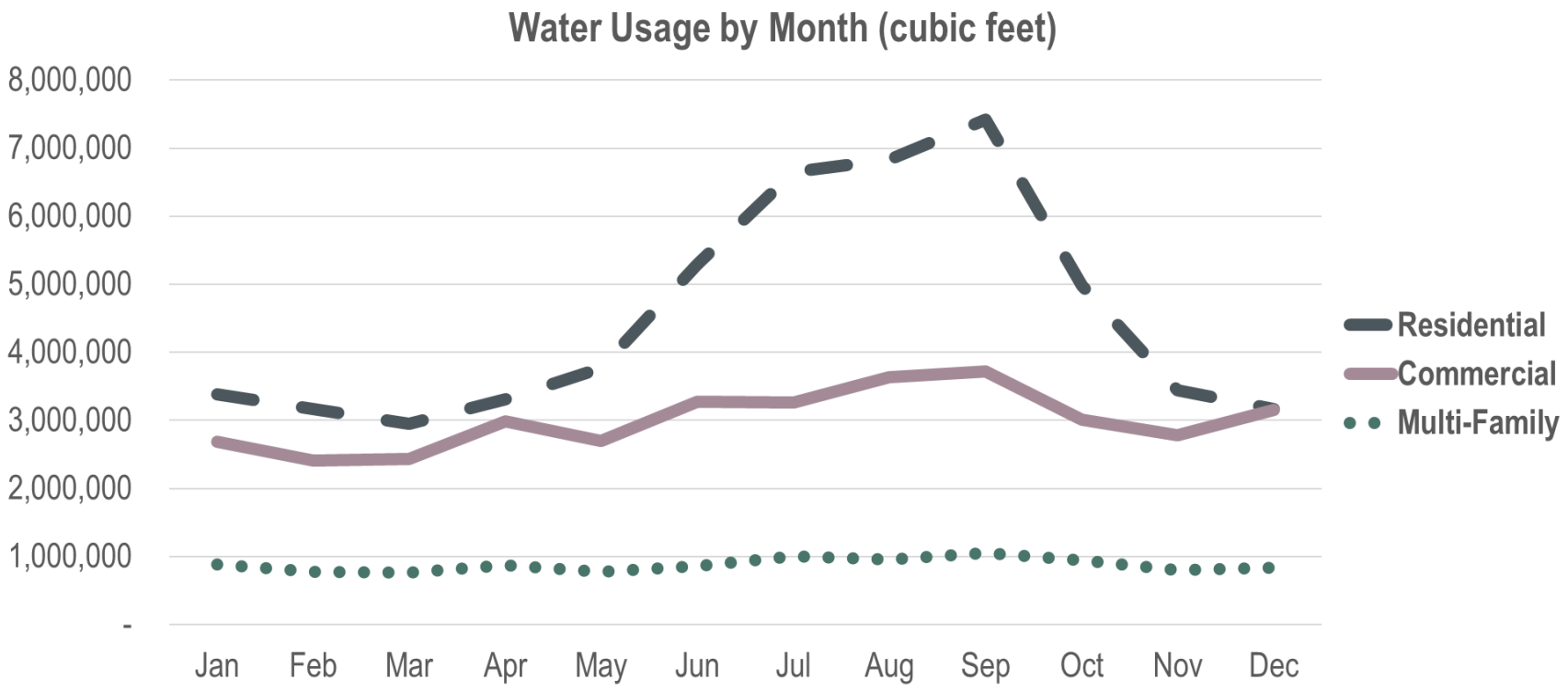
**Cost of service: How should the pie be sliced?**



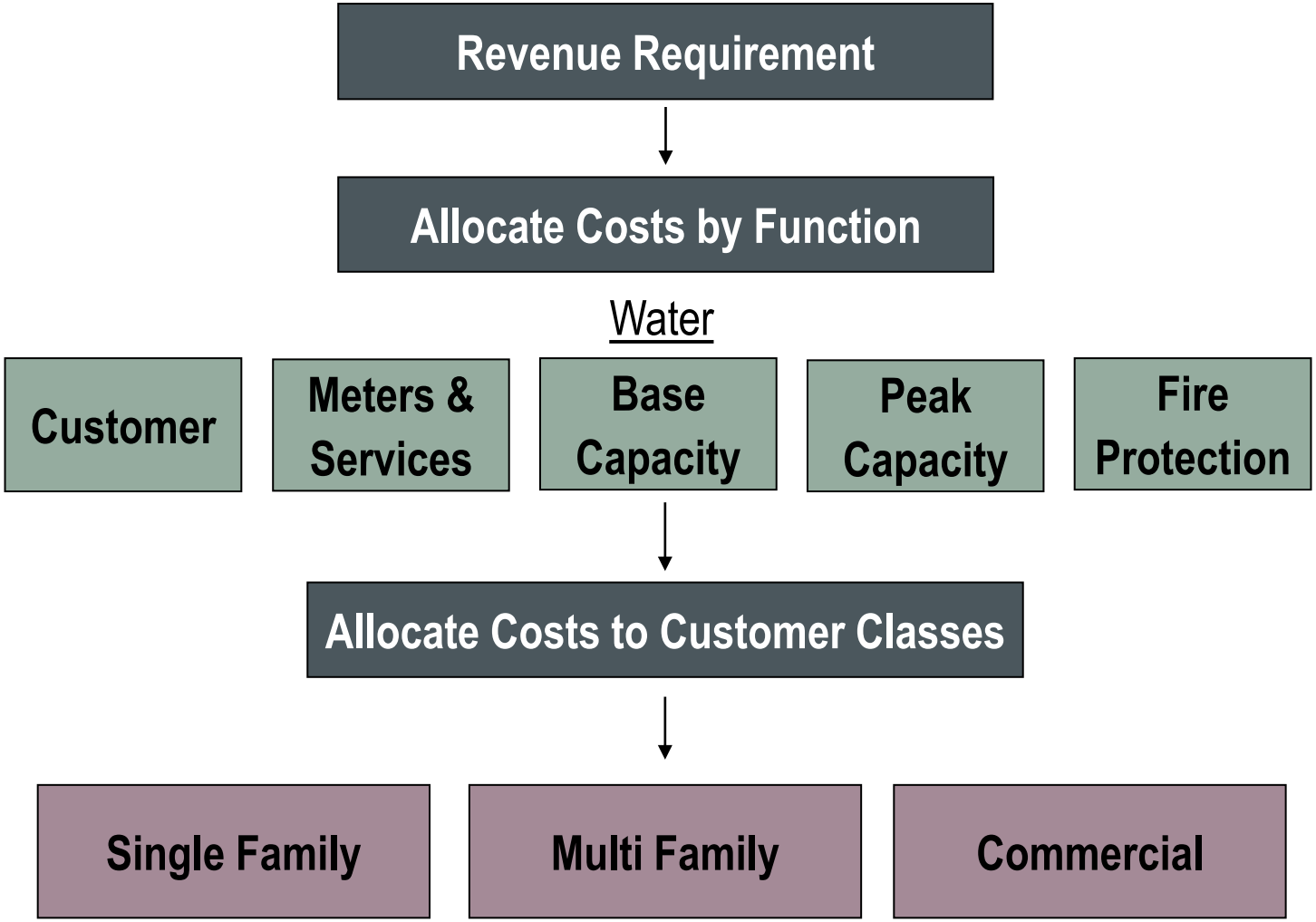
# Sample Customer Classes

| | |
|---|---|
| **Single Family Residential (SFR)** | • Typically largest customer group<br>• Relatively low usage per unit<br>• High peak demand<br>• Lowest fire flow requirement; domestic sewer strength |
| **Multi-family Residential (MFR)** | • Lower usage per dwelling unit<br>• Usually master metered<br>• Relatively constant use<br>• Domestic sewer strength |
| **Commercial / Industrial** | • Diversity in use per account<br>• Can have relatively constant use<br>• Highest fire flow requirement<br>• Varying sewer strength |
| **Parks, Irrigation, & Agriculture** | • Often smallest customer classes in terms of accounts<br>• Majority of use in peak season<br>• No fire flow requirement<br>• Economic sensitivity |

# Sample Customer Class Usage



# Cost of Service Analysis (Water)



# Cost of Service - Cost Allocation Example

- **Commercial customers**
  - » 9% of accounts but 42% of annual consumption

| Customer Costs | | | $ 146,421 | |
|---|---|---|---|---|
| | Allocation Basis | | | |
| Customer Classes | Accounts | % Share | Allocated Cost | Cost per Account per Month |
| Residential | 6,951 | 87.8% | $ 128,506 | $1.54 |
| Multi-Family | 221 | 2.8% | $ 4,092 | $1.54 |
| Commercial | 748 | 9.4% | $ 13,824 | $1.54 |
| **TOTAL** | **7,920** | **100.0%** | **$ 146,421** | **$1.54** |

| Base Demand | | | $ 2,651,532 | |
|---|---|---|---|---|
| | Allocation Basis | | | |
| Customer Classes | Total Annual Usage | % Share | Allocated Cost | Cost per Account per Month |
| Residential | 54,388,376 | 53.4% | $ 1,415,132 | $16.97 |
| Multi-Family | 4,750,251 | 4.7% | $ 123,597 | $46.54 |
| Commercial | 42,768,841 | 42.0% | $ 1,112,803 | $124.01 |
| **TOTAL** | **101,907,469** | **100.0%** | **$ 2,651,532** | **$27.90** |

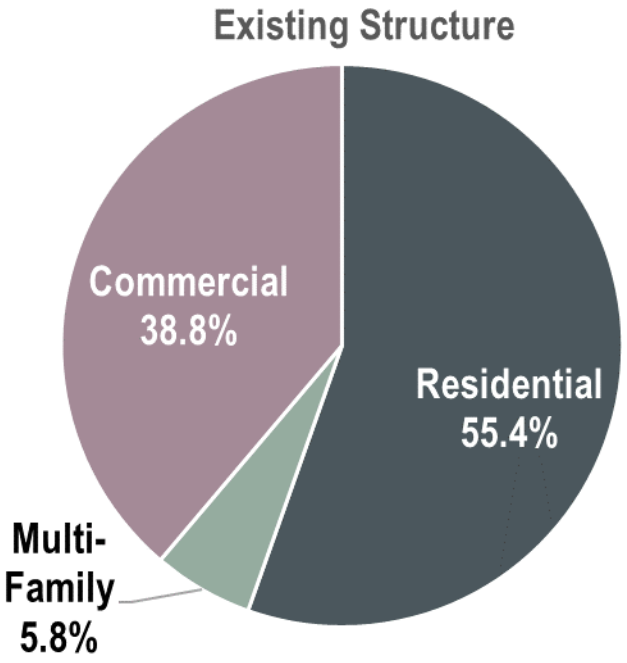
# Redistribution of Cost Recovery

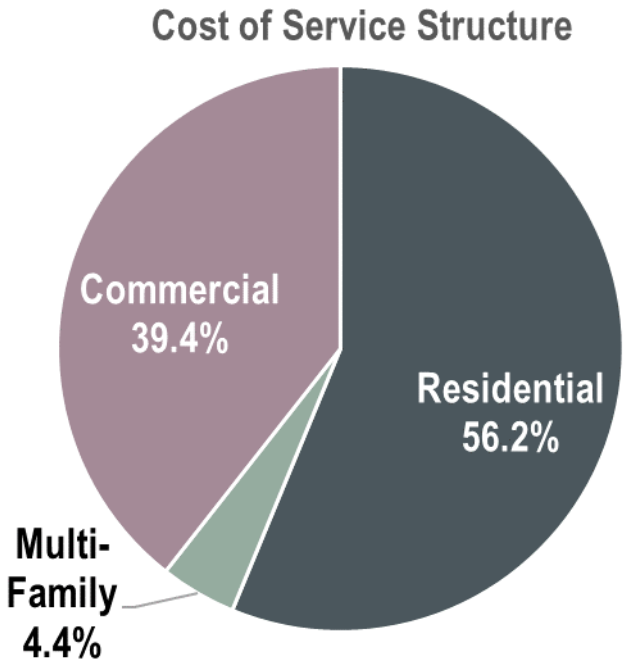
- **Cost-of-service analysis identifies how costs should be equitably distributed among customer classes**
- **In this case, multi-family was subsidizing other classes**

| Class | Existing 2021 Structure | Cost of Service 2021 Structure | $ Difference | % Difference |
|---|---|---|---|---|
| Residential | $ 2,385,537 | $ 2,420,192 | $ 34,655 | 1.5% |
| Multi-Family | 247,999 | 187,428 | (60,571) | -24.4% |
| Commercial | 1,669,490 | 1,695,406 | 25,916 | 1.6% |
| **Total** | **$ 4,303,027** | **$ 4,303,027** | **$ -** | **0.0%** |

# Cost of Service Equity Shift

- **Multi-family would generate 4.4% of revenues after equity shift**



# Rate Design

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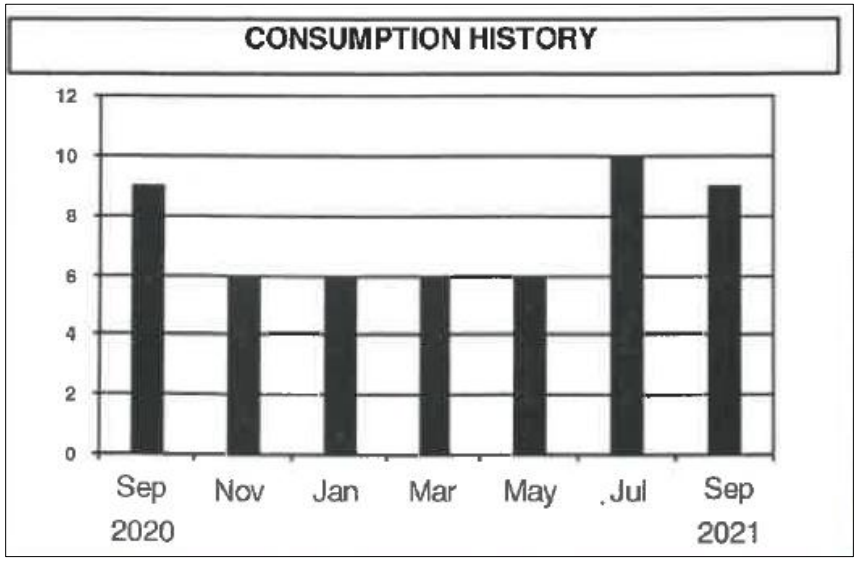
# Rate Design = Revenue Collection

- Main goal is to recover target level of revenue
- Primary communication tool with customers
- Typically fixed and/or variable charges




| | |
|---|---|
| PREVIOUS BALANCE | 92.25 |
| PAYMENTS | -92.25 |
| PAST DUE BALANCE | 0.00 |
| BASE CHARGE | 62.50 |
| CONSUMPTION | 15.00 |
| SUMMERSURCHARGE | 4.00 |
| KC ROW FEE | 6.00 |
| TOTAL NEW CHARGE | 87.50 |

# Do Rate Structures Align with Your Objectives?

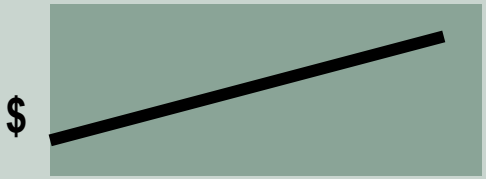
| Example Rate Structure Goals | | Sample Rank |
|---|---|---|
| **Financial Sustainability** | • Sufficient & predictable revenues<br>• Stable and predictable impacts to customers | 1 |
| **Conservation and Efficiency** | • Promote conservation and efficiency of use<br>• Protect natural resources | 2 |
| **Transparency and Simplicity** | • Easy to understand, explain and administer<br>• Compatible with billing system | 3 |
| **Fairness and Equity** | • Correlate rates with costs<br>• Reflect customer usage patterns<br>• Reflect other customer service requirements | 4 |
| **Affordability** | • Provide affordable water to “lifeline” users | 5 |

# Types of Rate Structures

### Flat Rate

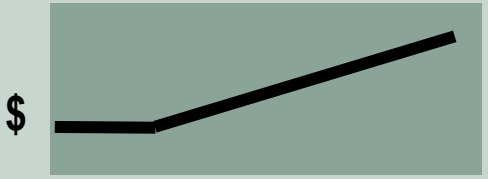

| | |
|---|---|
| Fixed Charge | $40/mo. |

### Uniform Rate



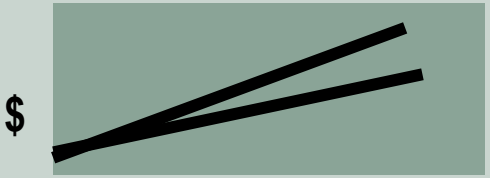

| | |
|---|---|
| Fixed Charge | $10/mo. |
| Volume Charge | $0.60/ccf |

### Allowance Rate




| | |
|---|---|
| Fixed Charge | $12/mo. |
| 0 - 10 ccf | $0.00/ccf |
| Use >10 ccf | $1.00/ccf |

### Seasonal Rate




| | |
|---|---|
| Fixed Charge | $10/mo. |
| Winter Charge | $1.00/ccf |
| Summer Charge | $1.50/ccf |

### Inclining/Tiered Rate


| | |
|---|---|
| Fixed Charge | $10/mo. |
| 0-10 ccf | $0.50 / ccf |
| 10-20 ccf | $0.75 / ccf |
| > 20 ccf | $1.00 / ccf |

- Fixed charges for water utilities are typically charged by meter size
- Flat rates are common for Sewer and Stormwater rates
- Sewer moving to volume-based rates

# Communication with Decision Makers

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# Illustrate Existing Issues

Bottom of Pipe Eroded Away

Collapsing Pipes


Joint Separation

# Illustrate Existing Issues

# Illustrate Existing Issues

# Illustrate Existing Issues

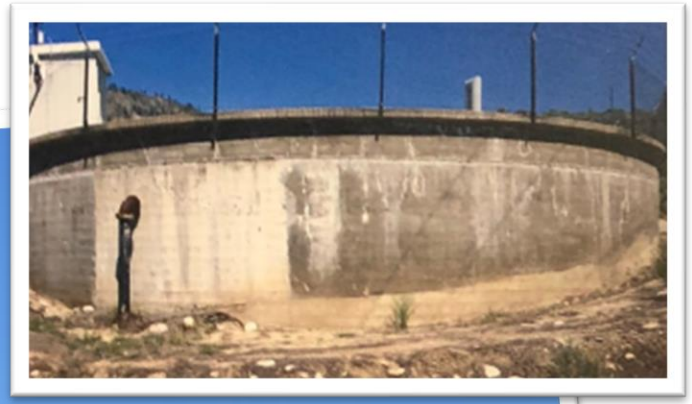
- City's sewer system needs routine maintenance

# Highlight Recent Success

- **Corrected issues help protect water quality**

# Highlight Recent Success

BEFORE

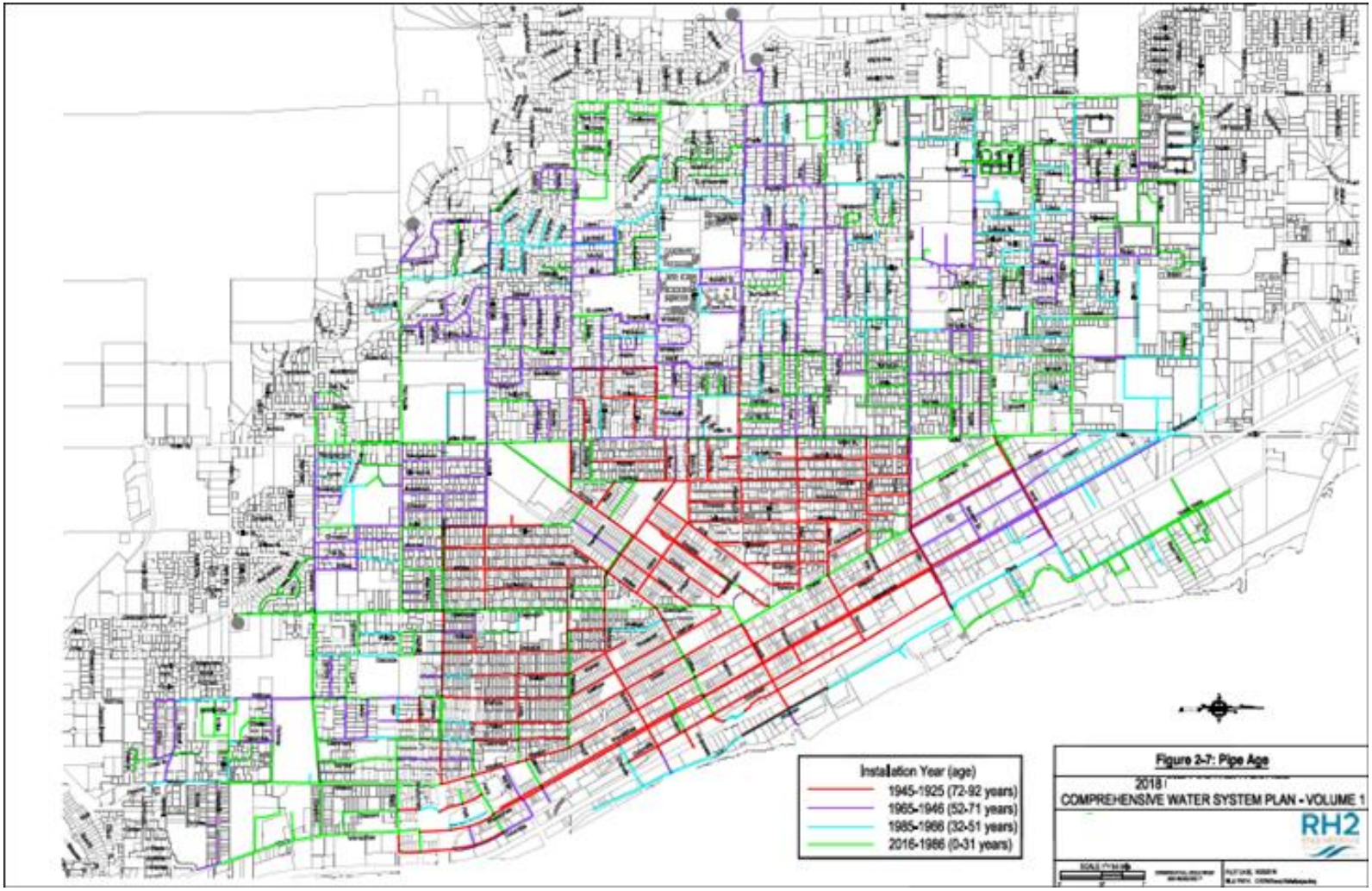


Water Tank Improvement Project

# Highlight To Do List

## Corrosion Control


# Age of Pipes in City System




- Every pipe shown in either red or purple (55 miles) is *already* over 50 years old
- A pipe replacement program can be phased in gradually, but we shouldn't just ignore it

# Level of Service Options (Storm)

Associate Rate Increases with Level of Service Impacts

High Priority

| Single Family Annual Rate | Existing 2018 Rate | Options for 2019 Rate |
|---|---|---|
| LOS 1: Correct Operating Deficit | $125 | +$42 |
| LOS 2: Staff / Supplies to Meet NPDES Req. | n/a | +$33 |
| LOS 3: High Priority Capital | n/a | +$20 |
| LOS 4: Medium Priority Capital | n/a | +$32 |
| **Grand Total** | **$125** | **$252** |

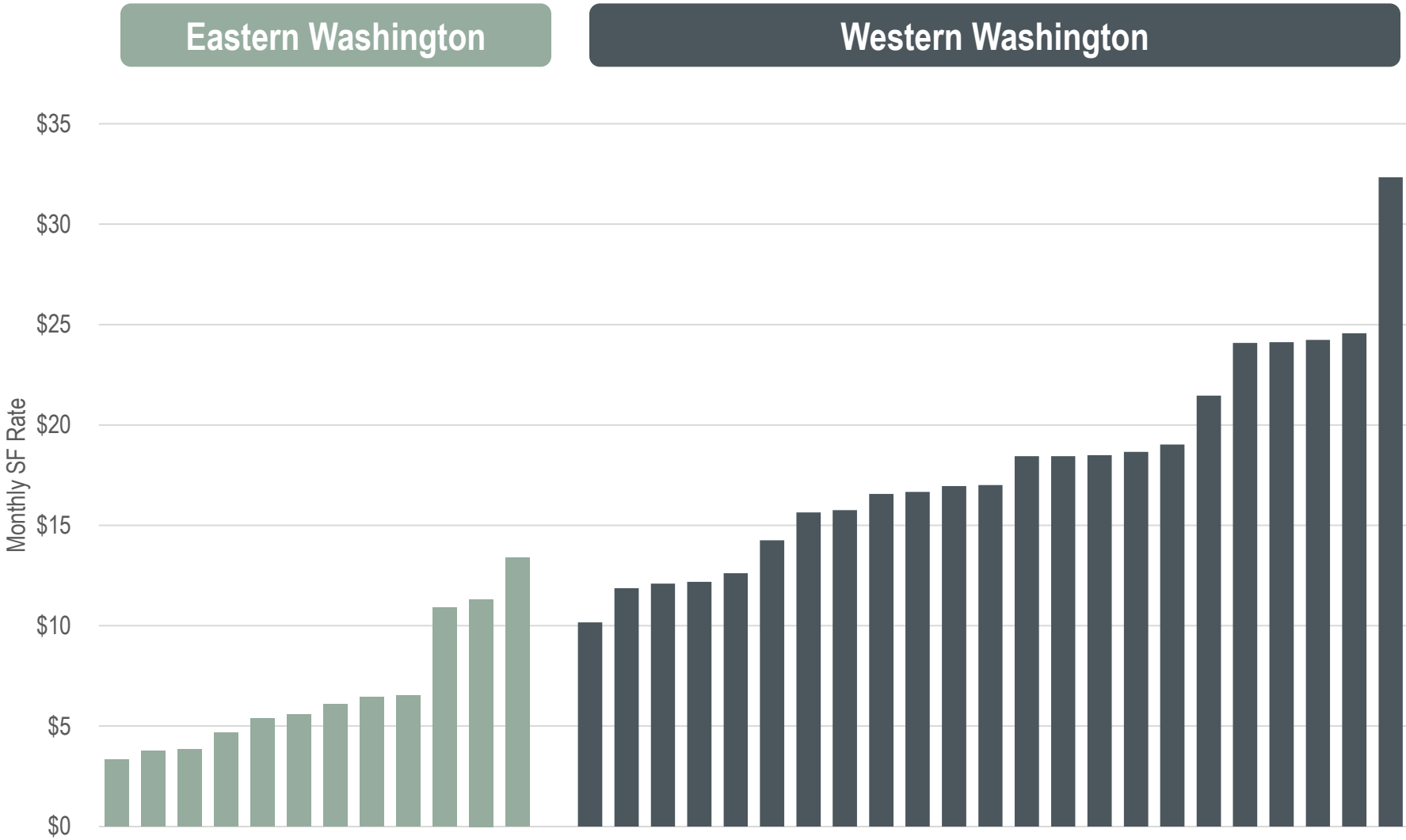
Medium Priority

# Provide Scenarios for Decision Makers

| Variable | 6% Scenario | 7% Scenario | 8% Scenario |
|---|---|---|---|
| Annual Increases | 6% per year | 7% per year | 8% per year |
| Debt Needed | $2.75 million | $1.25 million | n/a |
| Rate Funded Capital | $1.1 million (45% of avg. CIP) | $1.6 million (65% of avg. CIP) | $2.1 million (85% of avg. CIP) |
| Single Family Bill (end of study period) | $70 | $75 | $80 |

- 8% scenario: higher increases but no debt

# Single-Family Monthly Stormwater Rates



# Public Communication

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# Traditional Public Communication

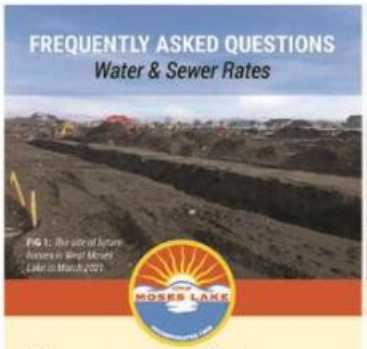
- **Greater public scrutiny**
  - Requires public engagement, education, and transparency
- **Traditional options**
  - Open house
  - Rate advisory committee
  - Bill calculators
  - Frequently asked questions (FAQs)
  - Newsletters
  - Bill stuffers / notices
- **Technology Creates New Opportunities**

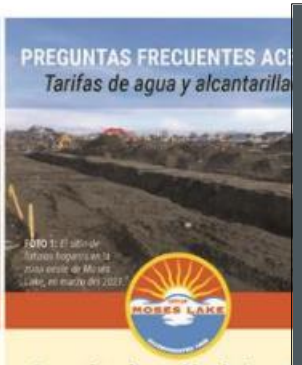
# News Releases / Website Interaction

Home › Departments › Utilities › Water and Sewer Rate Study

## WATER AND SEWER RATE STUDY

Frequently Asked Questions - English  Frequently Asked Questions - Spanish




**Why are rates changing?**

The community is growing, construction projects are in abundance, and Moses Lake is planning for its future. Adequately funding the water and sewer system fairly across all rate classes is vital.

The City Council directed staff in 2019 to explore solutions to cost of service issues. The City brought on the FCS Group to analyze rates in an extensive rate study culminating over months of reviewing data and interviewing City staff. Two public study sessions took place on Oct. 13, 2020 and Jan. 26, 2021. **cityofml.com/agendacenter**

The rate study found residential rates are paying more than their fair share. There has also been a need to create a rate class for industrial rate payers and a conservation rate for residential users to encourage conservation.

**¿Por qué están cambiando las tar**

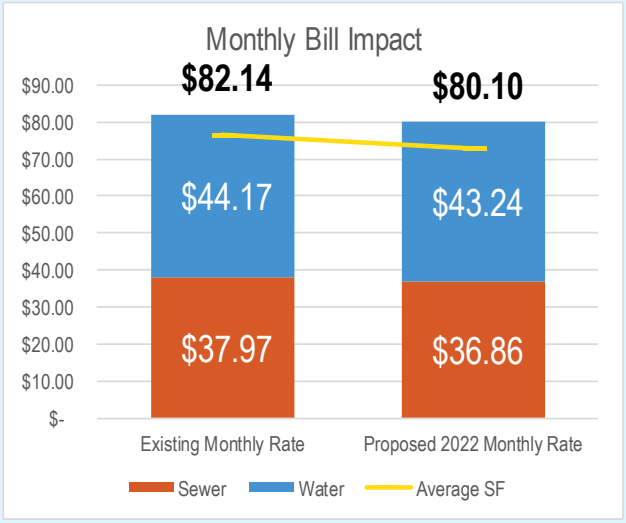
La comunidad está creciendo, los proyectos de constr abundan y Moses Lake ha comenzado a planificar su f Financiar adecuadamente y en forma equitativa y justa sistema de aguas y alcantarillado en todas las clases tarifas es vital.

El Concejo Municipal le ordenó al personal en el año 2 que buscara soluciones para los problemas de costo d servicio. La municipalidad trajo al Grupo FCS para que analizara las tarifas en un extensivo estudio de tarifas culminó revisando datos y entrevistando al personal d ciudad durante meses. Dos sesiones públicas de estu ocurrieron el 13 de octubre del 2020 y el 26 de enero d **cityofml.com/agendacenter**

El estudio de tarifas descubrió que las tarifas residenc están pagando más de lo justo. También ha existido u necesidad de crear una clase de tarifas para clientes industriales y una tarifa de conservación para alentar

| SELECT YOUR INFORMATION: | |
|---|---|
| Customer Type | Single Family |
| Meter Size | .75" |
| Monthly Usage (cf)* | 2,400 cf |
| Number of Units in Building | 1 |

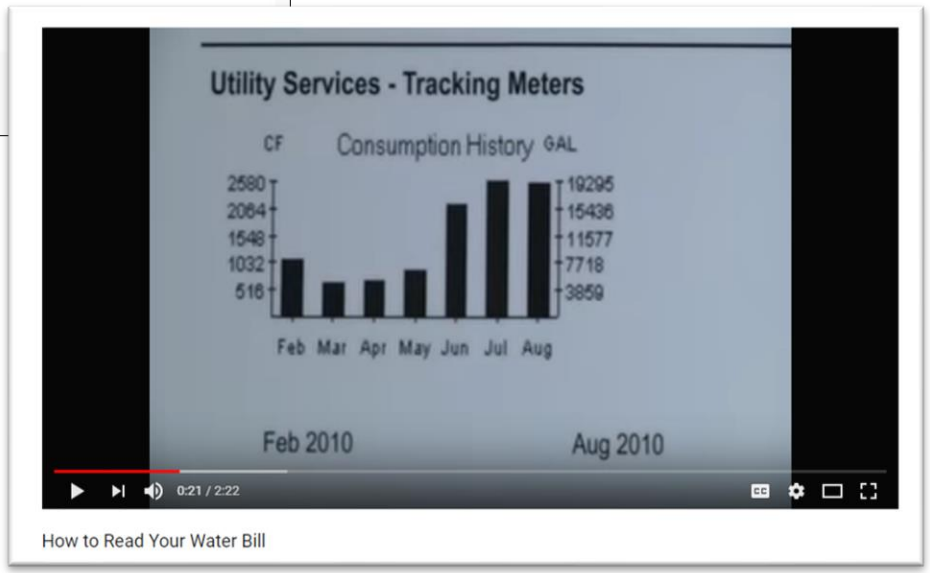
*1 cf = 7.48 gallons; the average single family home in Moses Lake uses 1,800 cf per month.




Change in your monthly bill:

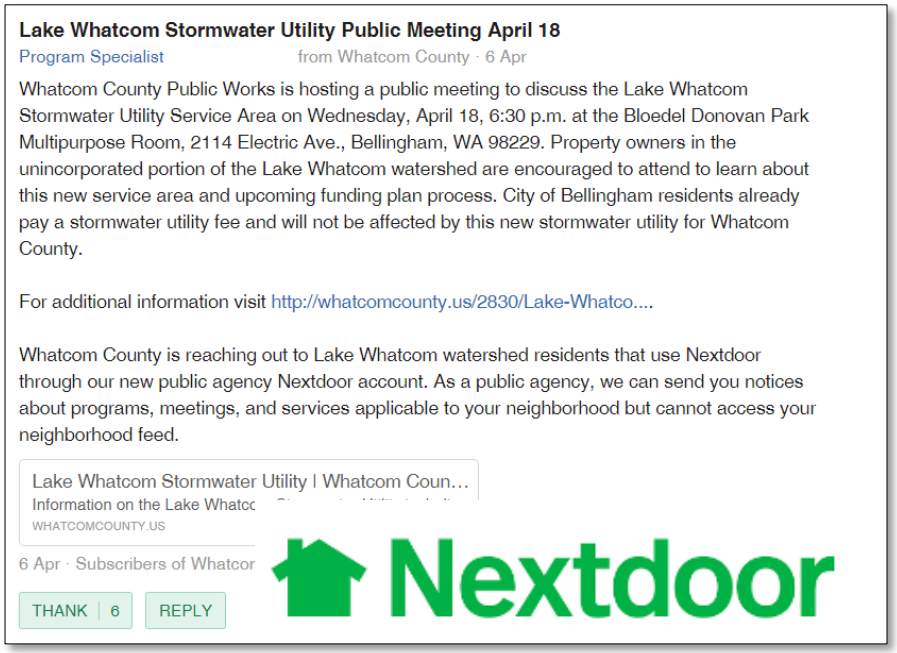
-$2.04

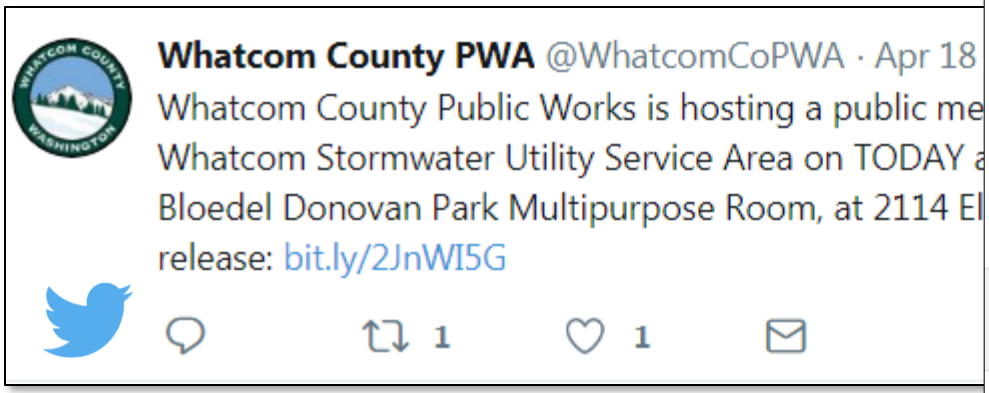
# YouTube Educational Videos

# Social Media

- Reach more customers
- Get message out quickly




# Easy to Understand Newsletters

**City of Ferndale**
**Utility Newsletter**

This newsletter provides an update on current events for the City's water, sewer, and stormwater services.

Did you know:

**4,800:** The number of homes and businesses served by City of Ferndale water, sewer, and stormwater utilities.

**365 / 24 hours a day:** Delivery of utility services does not stop and requires a large network of pipes, water reservoirs, pressure reducing valves, and pump stations. This network must operate year-round to ensure water is available on demand and to safely convey wastewater away from your homes for treatment.

**1907:** Year the first documented city utility infrastructure was installed. The majority of the City's utility infrastructure was constructed in the 1950's and 70's to accommodate the population boom triggered by the arrival of the nearby refineries. Much of this infrastructure is still in use today.

As the City's utility system ages, failures such as water line breaks, intrusion from tree roots, and general operating failures are expected to occur with greater frequency.

**131 miles:** This is the combined length of water and sewer pipe in the City. Ferndale employs a team of 22 maintenance workers that monitor

**$0:**

Below are some facts about each of Ferndale's utilities.

**WATER UTILITY:**

Miles of water main: 73
Pump stations: 4
Water reservoirs: 2
Pressure Zones: 6

**STORMWATER UTILITY:**

Miles of storm pipe: 70
Pump station: 1
Number of culverts: 453
Number of city storm retention ponds: 23
Miles of open ditches to maintain: 50

***What is the City doing to ensure utility costs are as low as it can be?***

City utilities are a basic public service, much like police and fire. It is fundamental to human health, welfare and community development.

To that end, we ensure that utilities are operated responsibly and that the infrastructure to deliver these services is well maintained and operating properly.

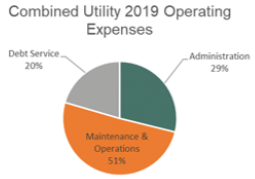
*Photo: Well Pump House*

***What are our major utility projects and how will they be paid for?***

Major projects on the horizon include expanding the City's wastewater treatment plant and the City's water treatment facilities. Both facilities have reached their operational limits.

Recent engineering evaluations have determined that the City's aquifers are being reduced at a rate faster than anticipated. The City has already taken steps to construct a new well tapping a separate aquifer to ensure there is no shortage of water on the horizon. We will continue to look at ways to protect the City's aquifer and ensure it is sustainable in the long-term.

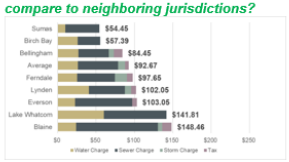
***Where does our utility money go?***




***How do we ensure growth pays for growth in the utilities?***

The City assesses a connection charge on new customers who connect to the utility system. As a portion of the upcoming rate study, the City will review the charges imposed on new customers who connect to the system.

***How do our monthly utility bills compare to neighboring jurisdictions?***




***Note:** Bills are monthly, assuming 11 ccf of bimonthly water usage, 11 ccf of bimonthly sewer usage*

***How is our water treated to ensure it is safe for cooking and drinking?***

The City's wells produce groundwater that meets and exceeds the standards of all State and Federal regulations. Because the groundwater is hard (an annoyance and aesthetic issue for the public) it is delivered directly to the City's water treatment plant where it is treated via greensand filtration and reverse osmosis before being delivered to the public. The City is constantly monitoring the water to make sure your water is always safe for drinking and cooking.

***Why did we move to well water rather than draw water from the river?***

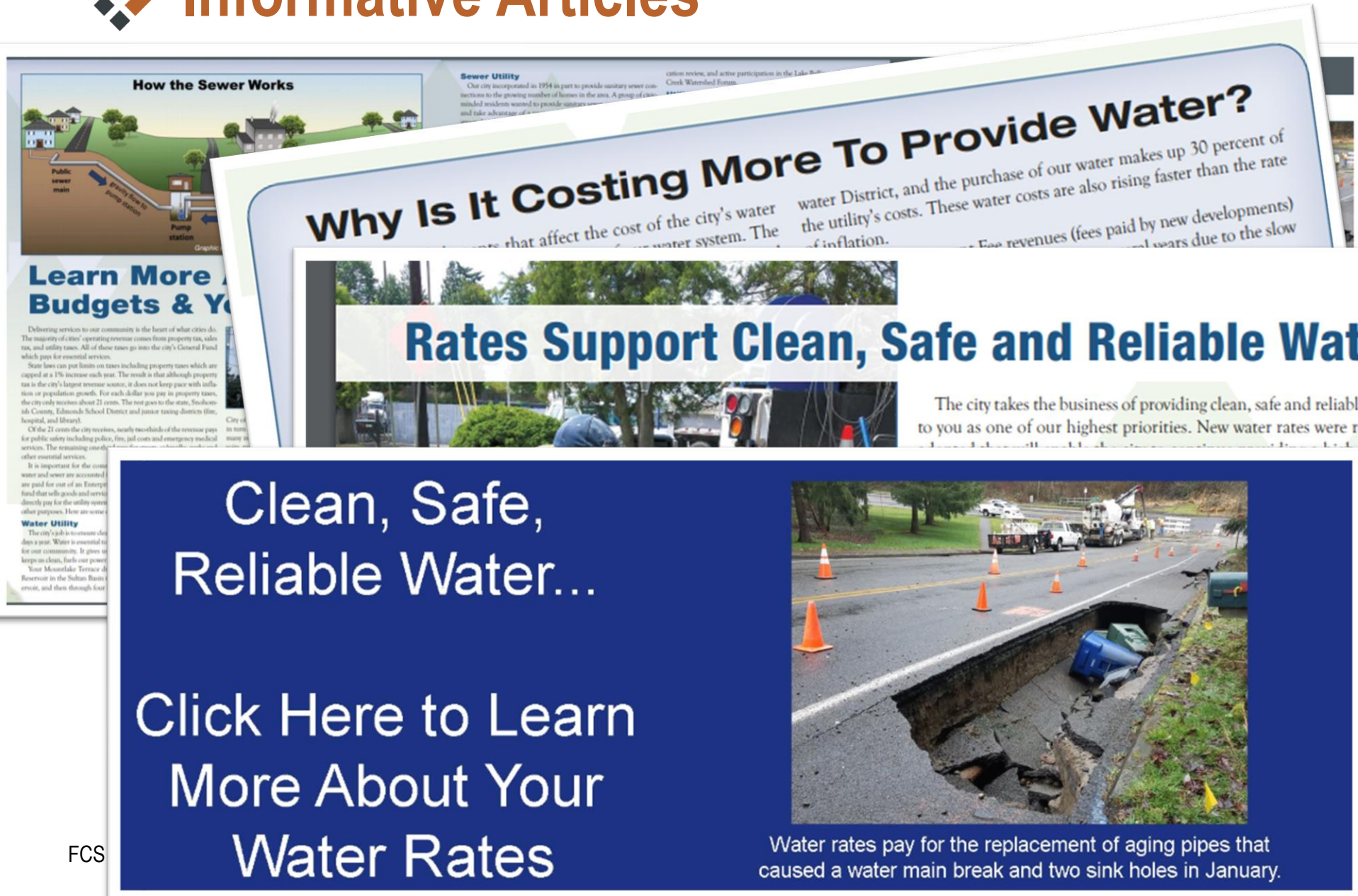
Prior to December of 2011, the City purchased its water supply from the Public Utility District No. 1 of Whatcom County (PUD). The PUD pumped water directly out of the Nooksack River and provided primary treatment to remove river sediment. For several reasons, the City concluded that shifting its source of water supply to groundwater was the best financial decision. The City then proceeded to develop its own groundwater sources, the Shop Well and Douglas Well.

For more information about your utility bill, please call 360-384-4269.

*Photo: Reservoir 1*

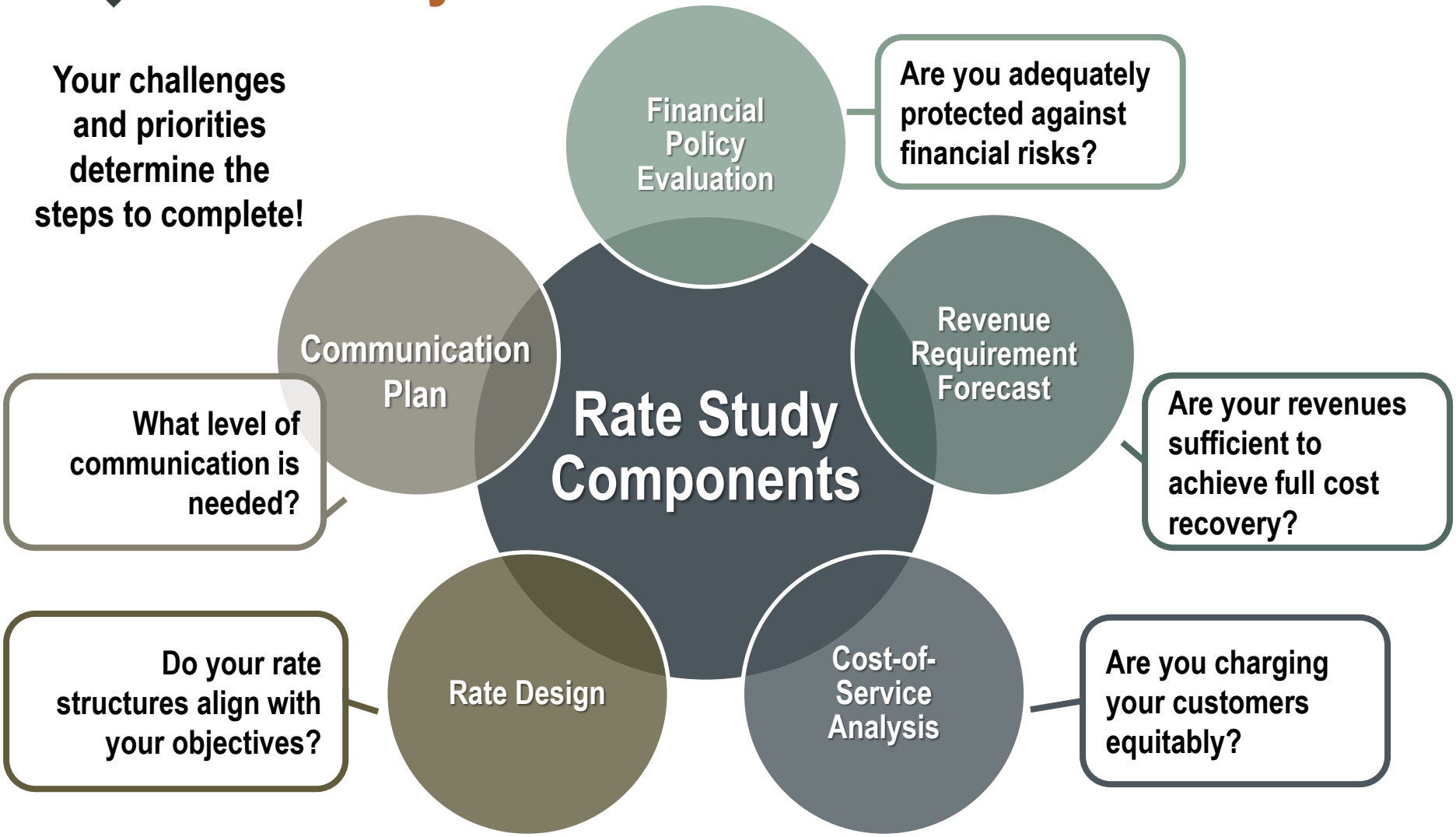
*Photo: Reverse Osmosis Unit*

# Informative Articles



# Summary

**Your challenges and priorities determine the steps to complete!**



# Thank you!
# Questions?

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