



# Decoding the Bill: A Guide to Water & Sewer Rate Fundamentals

December 4, 2025

# Agenda

Today's Rate Setting Environment

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Rate Study Ingredients

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Rate Design

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Affordability

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# Today's Rate Setting Environment

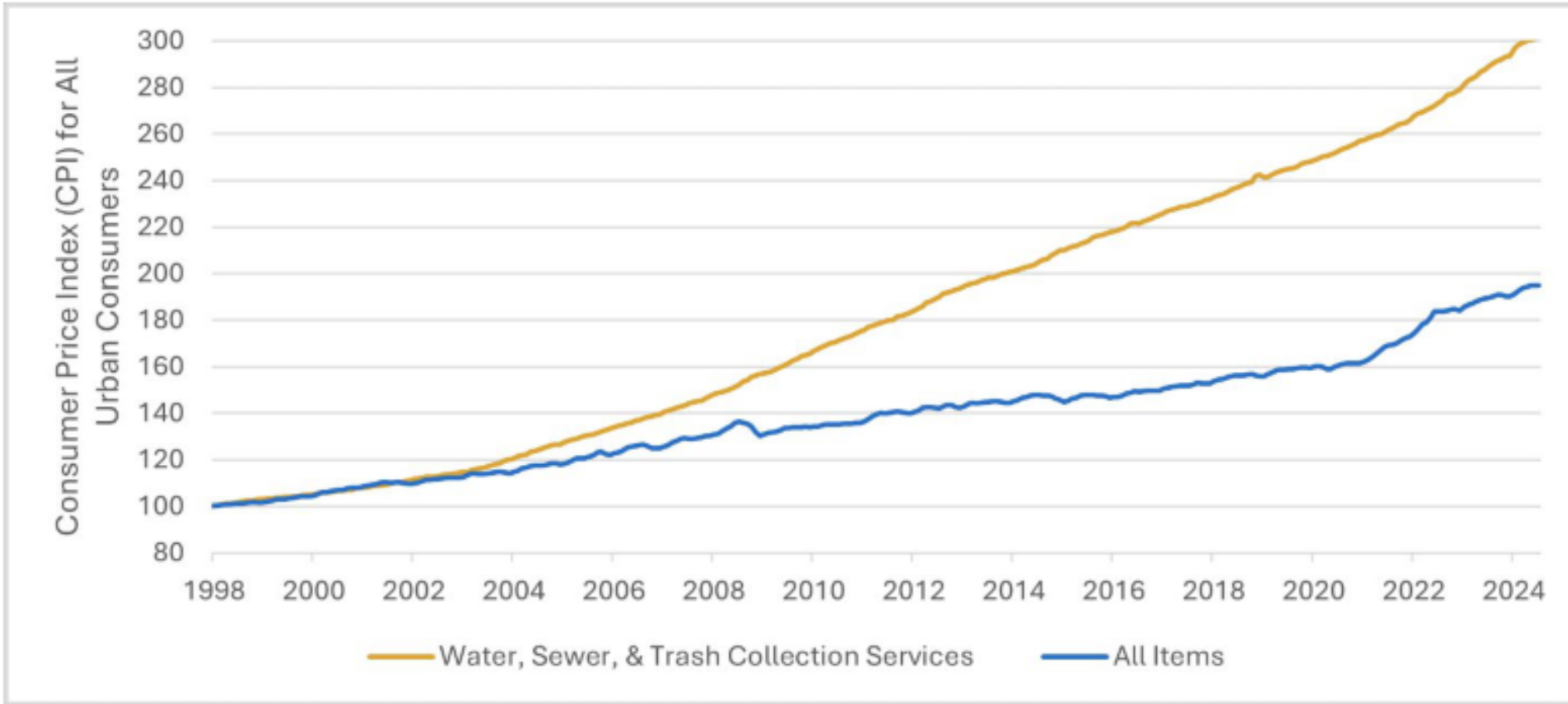




# The Water Sector is a Unique Business

- A self-sufficient enterprise that acts like a government body
- A sales pitch that often says: “try not to use our product”
- A perception by some that “Water is everywhere, it is a basic human need, and it should be free.”
- The essential service provider in every community

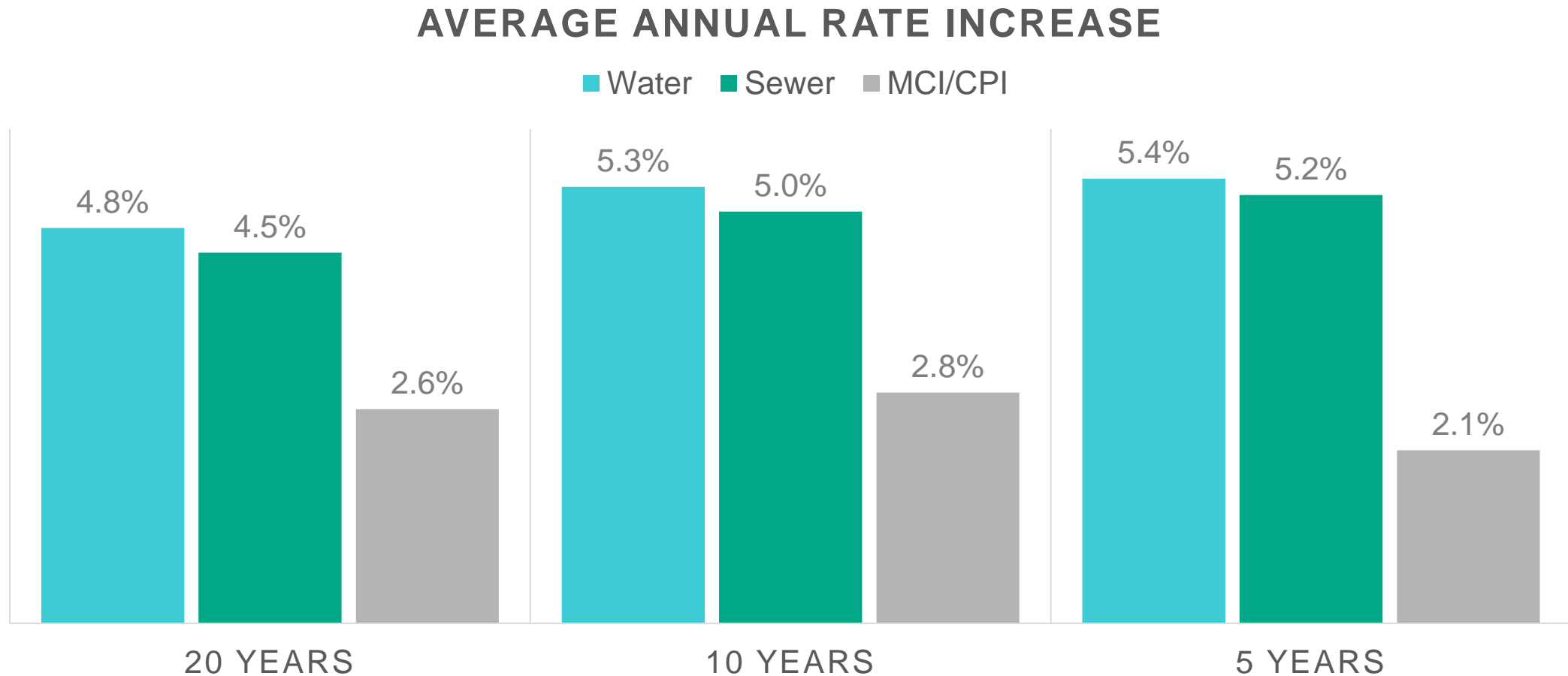
# A situation that we're all aware of...



**Figure 3: Consumer Price Index for Water, Sewer, and Trash Collection vs. All Items for Urban Consumers, 1998 - 2024**

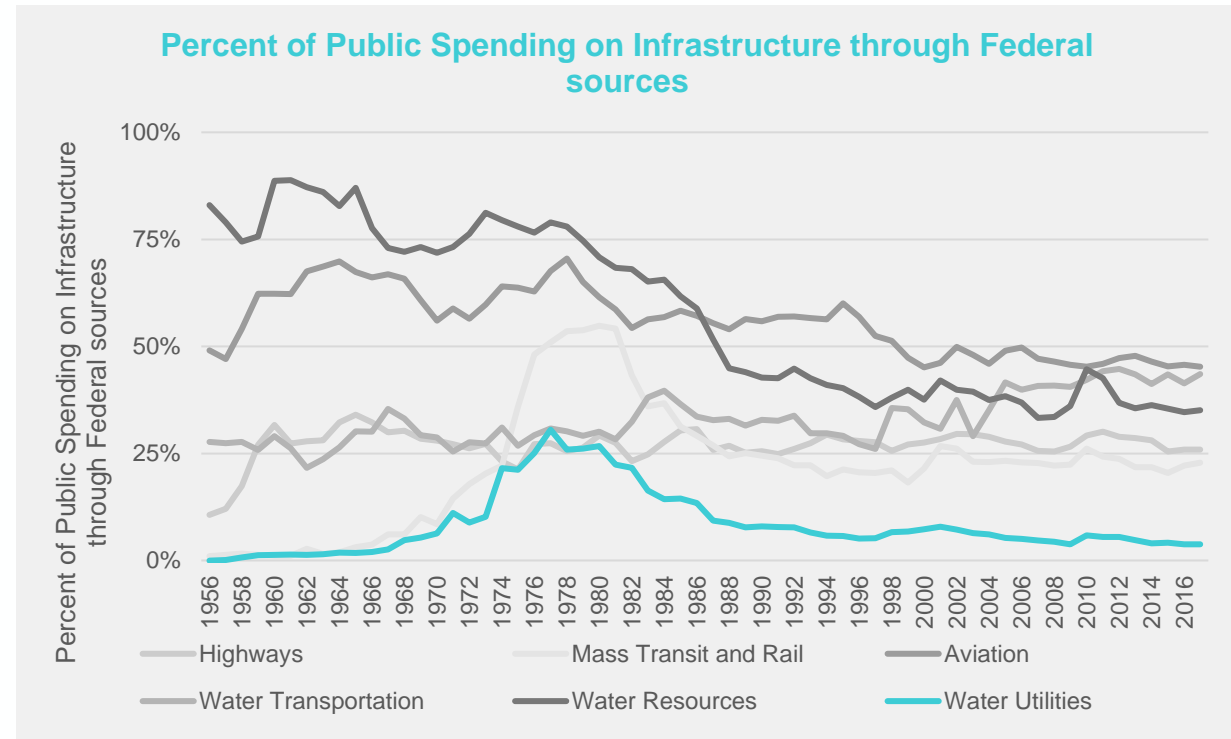
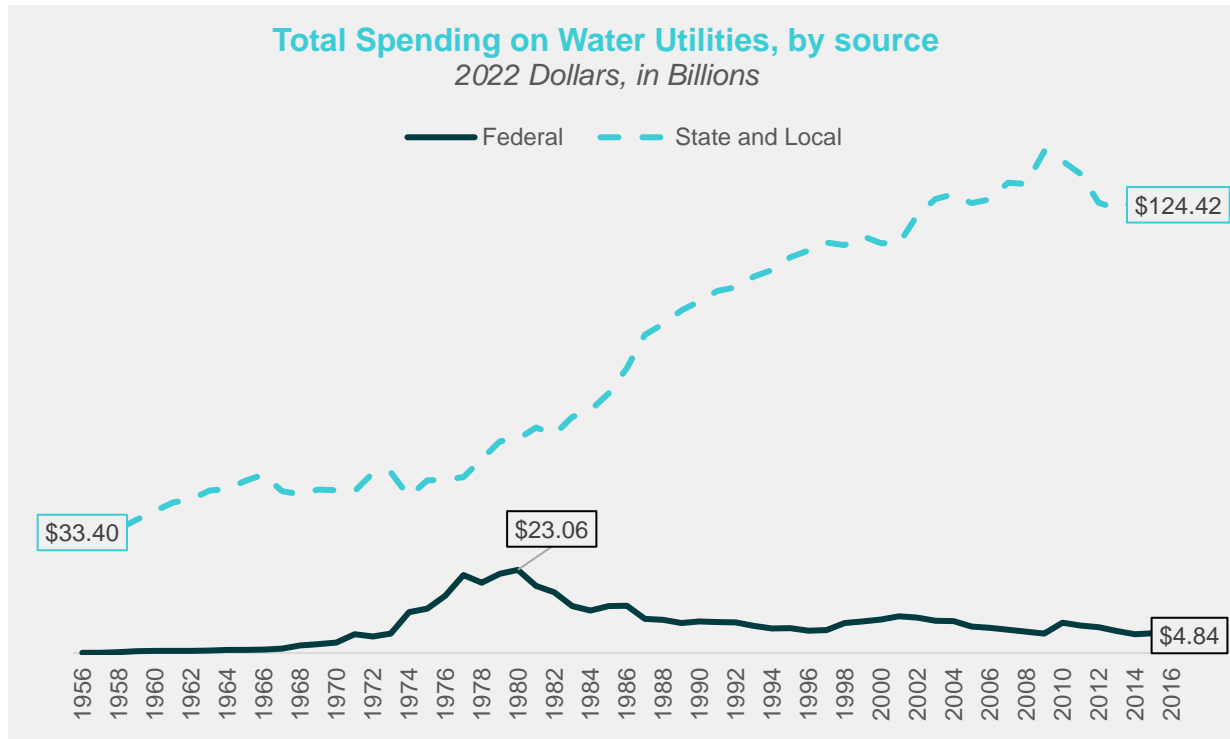
Source: U.S. Bureau of Labor Statistics, 2024a; U.S. Bureau of Labor Statistics, 2024b

# And Ohio utilities have followed a similar path

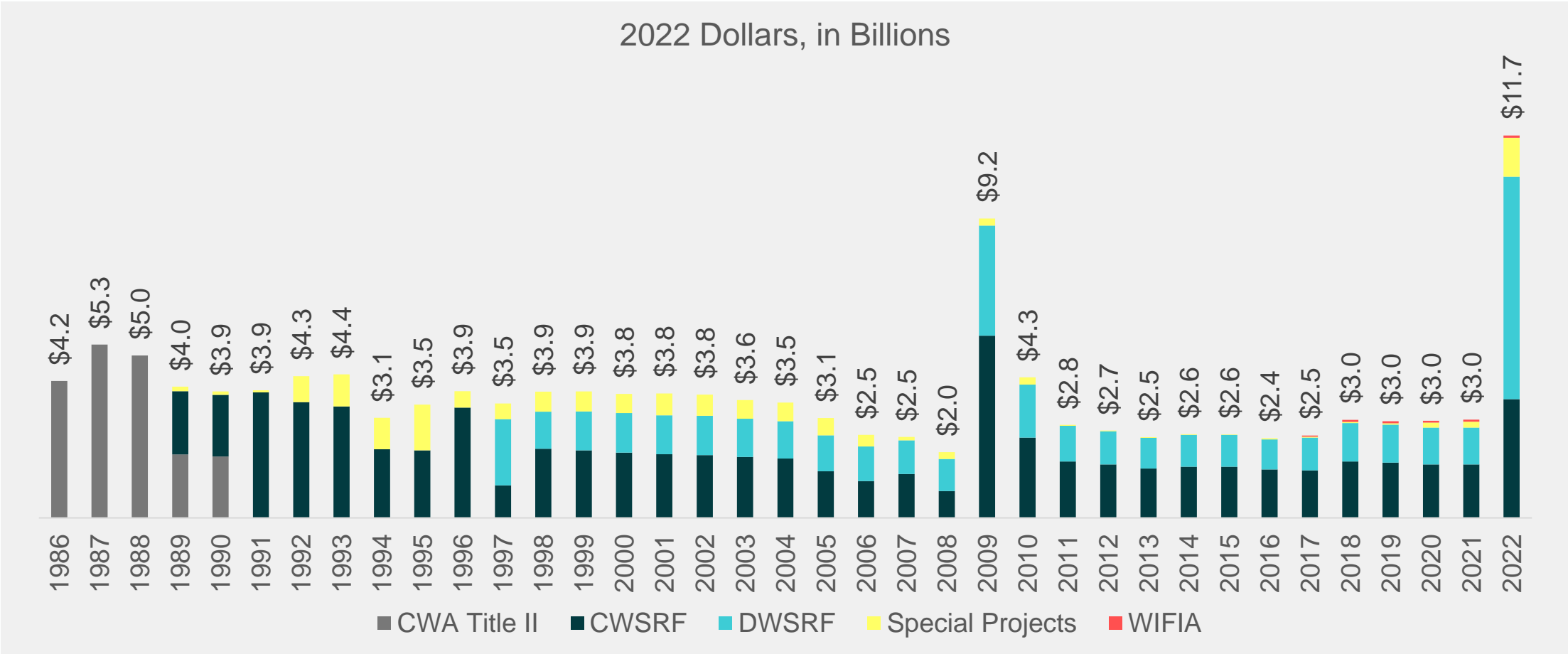


# Federal support for water sector infrastructure is less than other sectors

*Water Infrastructure Funding Parity Report, NACWA, July 2022*



# IIJA Funding provided a historic opportunity for infrastructure investment – but as that wraps up, what is next?



**Rising operating costs +  
Aging Infrastructure +  
Capital Project Costs +  
Little Outside Funding =  
Ratepayers Pick Up the Bill**



# Two recent reports highlight the affordability challenges utilities are facing



## Water Affordability Needs Assessment: Report to Congress

DECEMBER 2024  
EPA 830-R-24-015



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### Advancing Water Affordability Nationwide: A Framework for Action

January 2025

This report has not been reviewed for approval by the U.S. Environmental Protection Agency; and hence, the views and opinions expressed in the report do not necessarily represent those of the Agency or any other agencies in the Federal Government.

# Utilities Must Understand Their Unique Risks Before Becoming Financially Resilient

## System Pressures

Customer Usage Patterns

Capital Financing Needs

Operating Costs

## Financial Metrics

Other Financial Management Policies

Debt and Liabilities

Debt Coverage Ratios

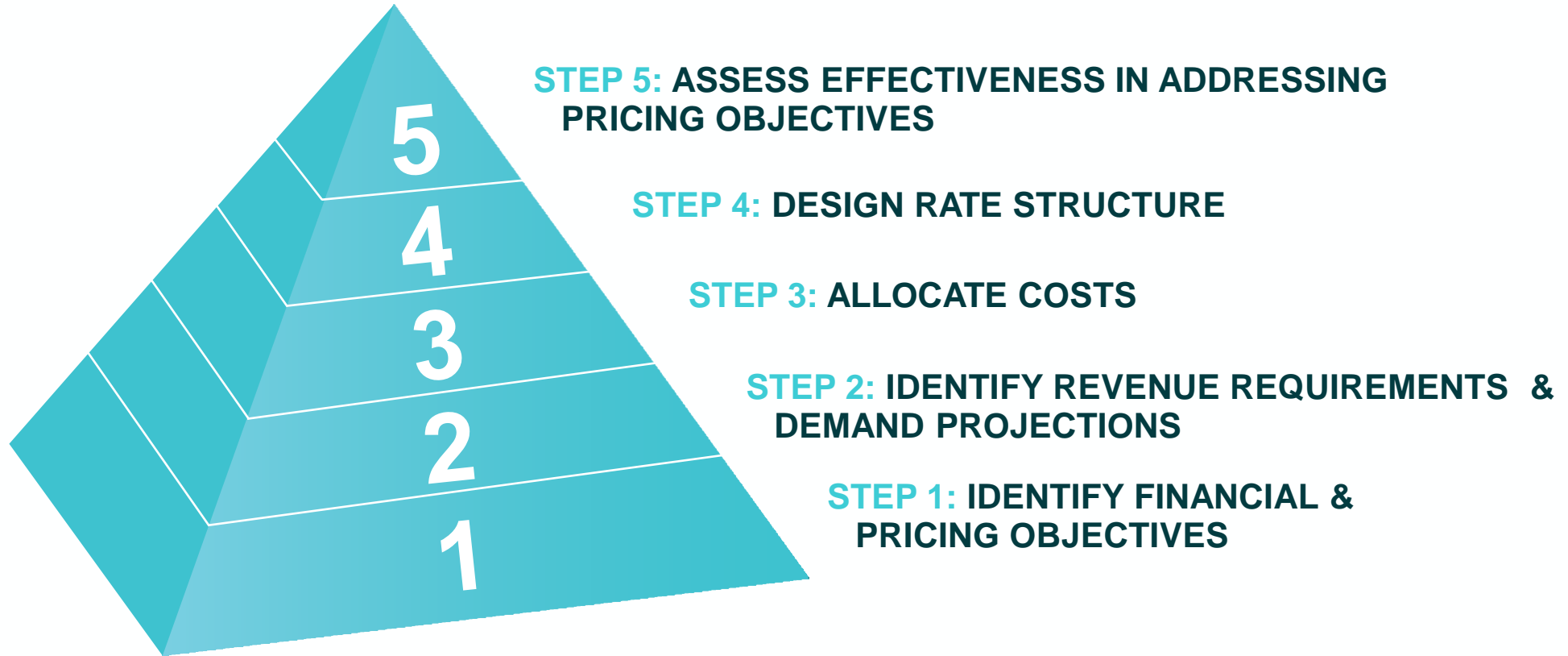
Liquidity and Reserves



# Rate Study Ingredients



# Rate Study Process



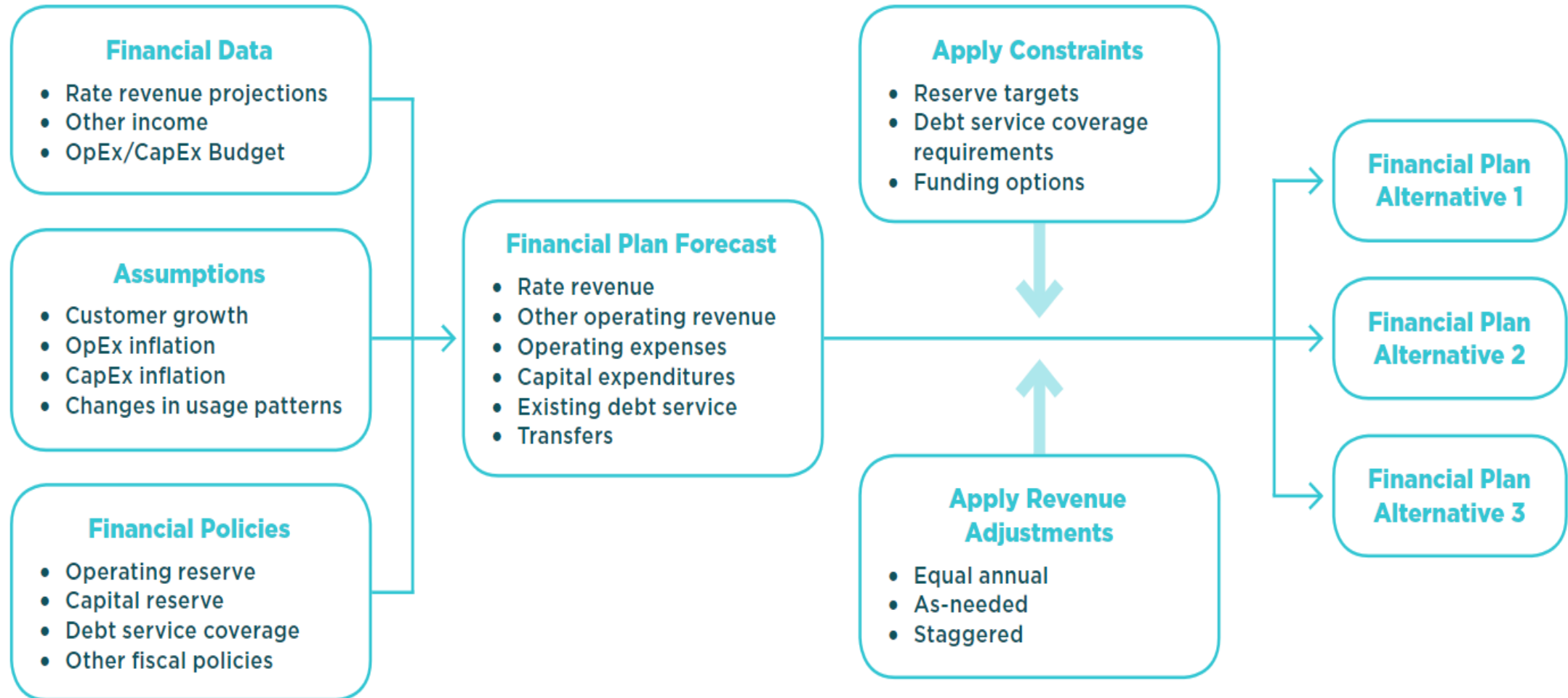
# Typical Rate Study Drivers

- Capital investment
- No rate adjustments for years
- Pension
- Groundwater treatment (PFAS, chromium, nitrate)
- Conservation
- Tiered rate defensibility
- Credit rating/meet bond covenants
- Other?

# What's top of mind as you start a rate study?

- Expect it to be contentious?
- Concerned citizens or citizens groups, or Council members?
- Political appetite for change?
- Should you invest in outreach?
- What is driving your rate study?
  - a. CIP or simply keeping up with your costs?
  - b. Tiered rate defensibility?
- Report clearly deriving rates

# A clear financial plan promotes strategic decision making



# Financial Planning Time Horizons

| Years | Benefits  | Challenges  |
|-------|---|---|
| 5     | <ul style="list-style-type: none"><li>• Natural extension of the annual budgeting process</li><li>• Short-term projections are generally more accurate</li></ul>  | <ul style="list-style-type: none"><li>• Short-term focus may prevent recognition of key long-term trends</li><li>• CIP expenditures beyond Year 5 not reflected</li></ul> |
| 10    | <ul style="list-style-type: none"><li>• Includes CIP expenditures in Years 6 -10</li><li>• 10-year projections frequently required by external financing sources</li></ul>  | <ul style="list-style-type: none"><li>• Projections of demand, revenues, and costs beyond Year 5 may be of limited accuracy</li></ul>                                     |
| 10+   | <ul style="list-style-type: none"><li>• Adjunct to broader utility planning activities:<ul style="list-style-type: none"><li>• Long-term water supply projects</li><li>• Integrated resource plans</li><li>• CIP master plans</li></ul></li></ul> | <ul style="list-style-type: none"><li>• Speculative nature of the financial planning projections</li></ul>  |

# Risk Mitigation Strategies: The “Big 3”

## Adequacy of Fixed Revenue Contribution

- Minimize revenue fluctuations
- Drought curtailments
- Cool/wet irrigation season

## Adequacy of Cash Reserves

- Operating
- Capital Improvement
- Long-term asset repair and replacement
- Rate stabilization

## Careful Use of External Debt Financing

- Target vs. Required debt service coverage ratio
- Ratio of long-term debt to assets

# Importance of Formal Financial Policies

- Guidance to Maintain Financial Solvency
  - › Provide a basis for coping with fiscal emergencies (revenue short-falls, asset failure, emergency, etc.)
- Guidelines for Sound Financial Management
  - › Cash Reserves
  - › Use of Debt
- Enhance financial management transparency
  - › Governing Bodies
  - › Customers
  - › External financing sources

# External Debt Financing

## Lower Short-Term Rates vs. Higher Risk

### ADVANTAGES

- Cheaper short-term option relative to rate-funded financing
- Provides intergenerational equity
- Far less impactful on current ratepayers

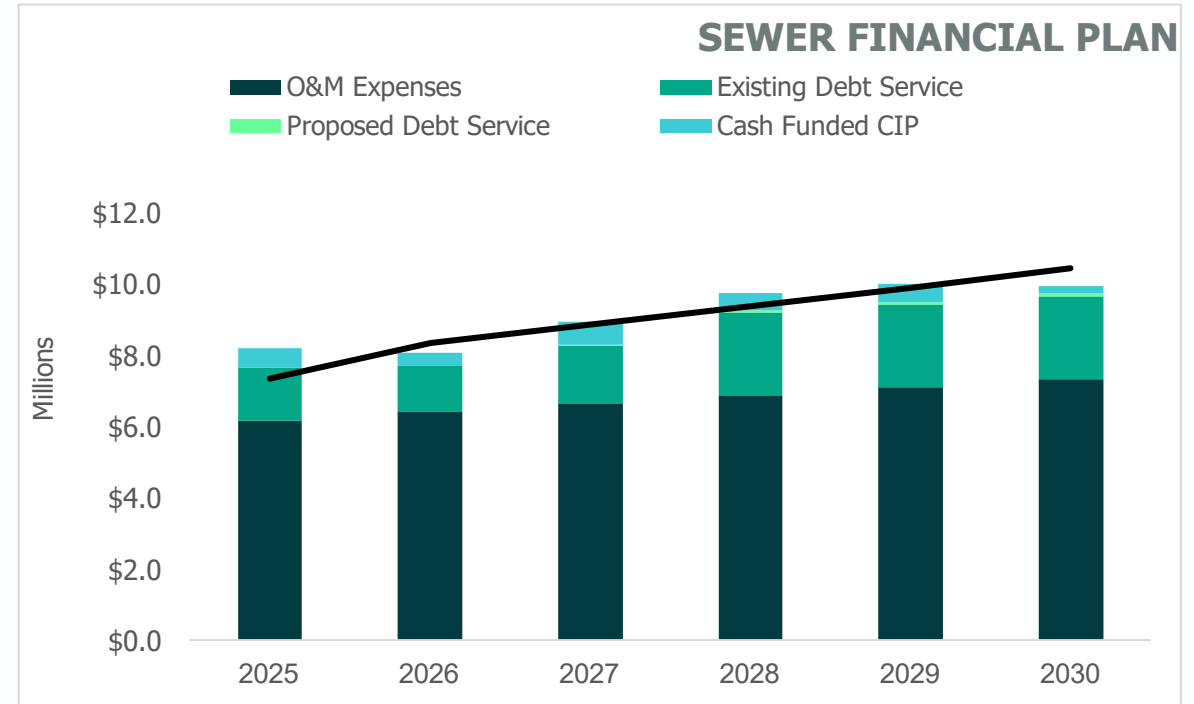
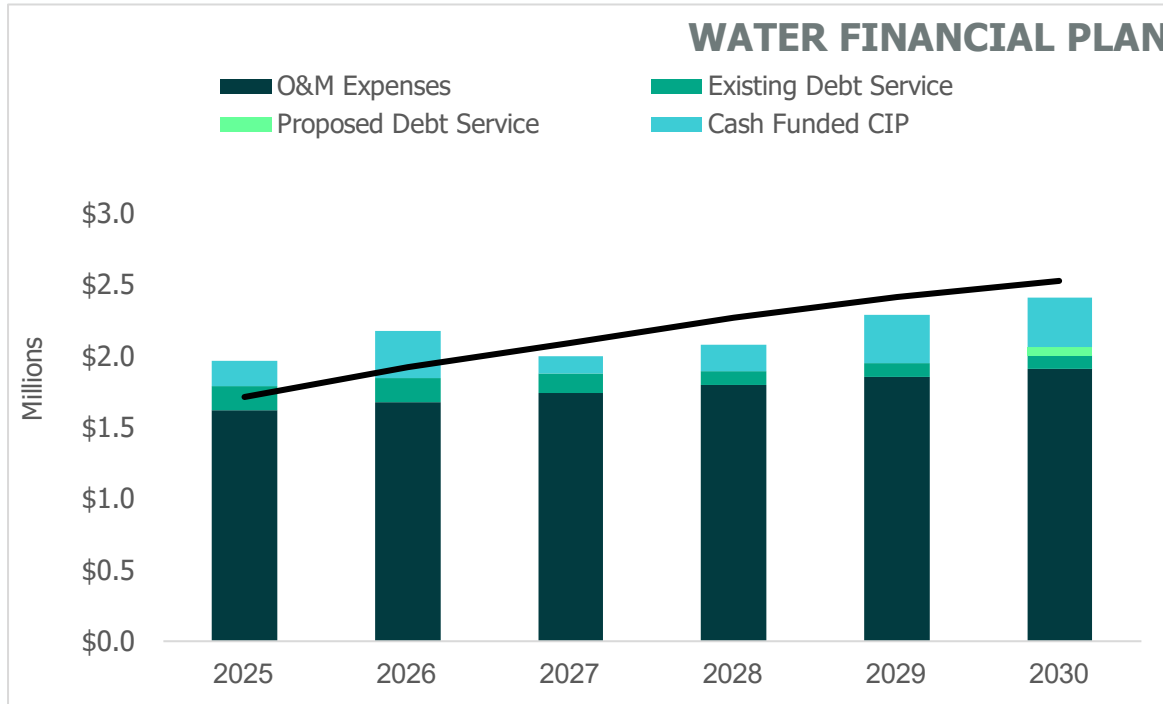
### DISADVANTAGES

- Excessive debt limits financial flexibility & may lower credit rating
- Over the long-term, more costly (in absolute dollars) relative to rate-funded financing
- Bond/loan covenants requiring specific debt service coverage

# Geauga County Case Study

- Geauga County Department of Water Resources provides water and sewer service to about 50 communities east of Cleveland
- Prior rate study was completed in 2016. This included a 5-year rate plan and a rate structure simplification
- Rate increases were necessary to prepare for large, upcoming capital costs
- \$28M Wastewater Treatment Plant Upgrade in 2027

# Water & Sewer Financial Plans



| Water Financial Plan         | 2025    | 2026    | 2027    | 2028    | 2029    | 2030    |
|------------------------------|---------|---------|---------|---------|---------|---------|
| Total Revenue (in millions)  | \$ 1.71 | \$ 1.91 | \$ 2.09 | \$ 2.26 | \$ 2.41 | \$ 2.52 |
| Total Expenses (in millions) | \$ 1.96 | \$ 2.17 | \$ 1.99 | \$ 2.07 | \$ 2.28 | \$ 2.40 |
| Ending Cash Balance          | \$ 1.63 | \$ 1.37 | \$ 1.47 | \$ 1.66 | \$ 1.79 | \$ 1.91 |
| Days of Cash (180 target)    | 369     | 300     | 310     | 339     | 353     | 365     |
| Debt Coverage (1.1x target)  | 0.54x   | 1.41x   | 2.54x   | 4.79x   | 5.67x   | 4.12x   |

| Sewer Financial Plan         | 2025    | 2026    | 2027    | 2028    | 2029     | 2030     |
|------------------------------|---------|---------|---------|---------|----------|----------|
| Total Revenue (in millions)  | \$ 7.36 | \$ 8.34 | \$ 8.86 | \$ 9.39 | \$ 9.91  | \$ 10.44 |
| Total Expenses (in millions) | \$ 8.22 | \$ 8.08 | \$ 8.96 | \$ 9.77 | \$ 10.01 | \$ 9.95  |
| Ending Cash Balance          | \$ 3.15 | \$ 3.42 | \$ 3.32 | \$ 2.94 | \$ 2.85  | \$ 3.34  |
| Days of Cash (180 target)    | 186     | 194     | 182     | 156     | 146      | 166      |
| Debt Coverage (1.1x target)  | 0.80x   | 1.49x   | 1.33x   | 1.05x   | 1.17x    | 1.28x    |

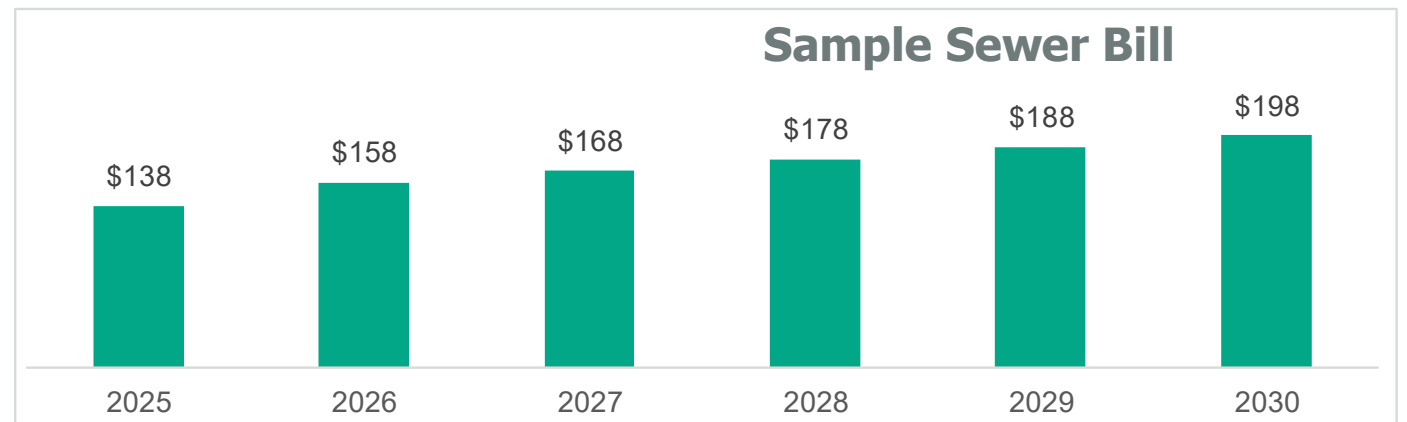
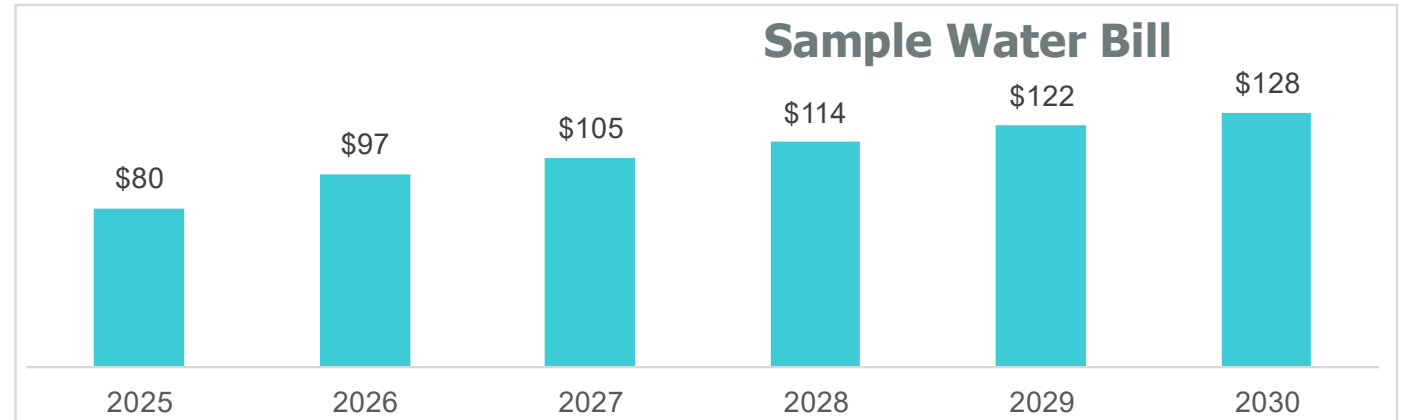
# Recommended Rate Increases

- Introduced new Water Improvement Fee, which gets charged bi-monthly to all water customers
- Increased water volume rates so that the two systems have identical rates by 2028
- Minimum charge for water is on a bi-monthly basis
- Large sewer rate increases needed to support WWTP upgrade

| Water Recommended Rate Plan                               | 2026           | 2027           | 2028           | 2029           | 2030           |
|---|----------------|----------------|----------------|----------------|----------------|
| <b>NEW Water Improvement Fee</b>                          | <b>\$ 5.00</b> | <b>\$ 5.00</b> | <b>\$ 5.00</b> | <b>\$ 5.00</b> | <b>\$ 5.00</b> |
| <b>Cleveland Water</b>                                    |                |                |                |                |                |
| Volume Rate Increase                                      | \$ 1.25        | \$ 1.25        | \$ 1.25        | \$ 1.25        | \$ 1.00        |
| New Volume Rate (/Kgal)                                   | \$ 14.21       | \$ 15.46       | \$ 16.71       | \$ 17.96       | \$ 18.96       |
| Minimum Billed Usage (gal)                                | 6,500          | 6,500          | 6,500          | 6,500          | 6,500          |
| Minimum Charge  | \$ 92.37       | \$ 100.49      | \$ 108.62      | \$ 116.74      | \$ 123.24      |
| <b>Services Center</b>                                    |                |                |                |                |                |
| Volume Rate Increase                                      | \$ 2.15        | \$ 2.15        | \$ 2.15        | \$ 1.25        | \$ 1.00        |
| New Volume Rate (/Kgal)                                   | \$ 12.41       | \$ 14.56       | \$ 16.71       | \$ 17.96       | \$ 18.96       |
| Minimum Billed Usage (gal)                                | 6,500          | 6,500          | 6,500          | 6,500          | 6,500          |
| Minimum Charge  | \$ 80.67       | \$ 94.64       | \$ 108.62      | \$ 116.74      | \$ 123.24      |
| <b>Sewer Recommended Rate Plan</b>                        |                |                |                |                |                |
| Service Charge Increase<br>(Applies to all service areas) | \$20           | \$10           | \$10           | \$10           | \$10           |

# Sample Bills

- Based on residential customer that uses 6,000 gallons every two months
- Total bill increases from ~\$218 to ~\$326 over 5-year forecast
- 8.4% compound annual increase in the combined bill



# Cost of Service & Rate Design



# What is Cost of Service?

## Rationale:

- Different types of customers generate different costs because the way they use water (flow) governs how facilities are designed, sized and operated
- Cost of service allows the matching of the rates charged to each group with the cost incurred to serve them
- Each group will “pay its own way”; no subsidies

# What can affect the cost to serve a customer or customer class?

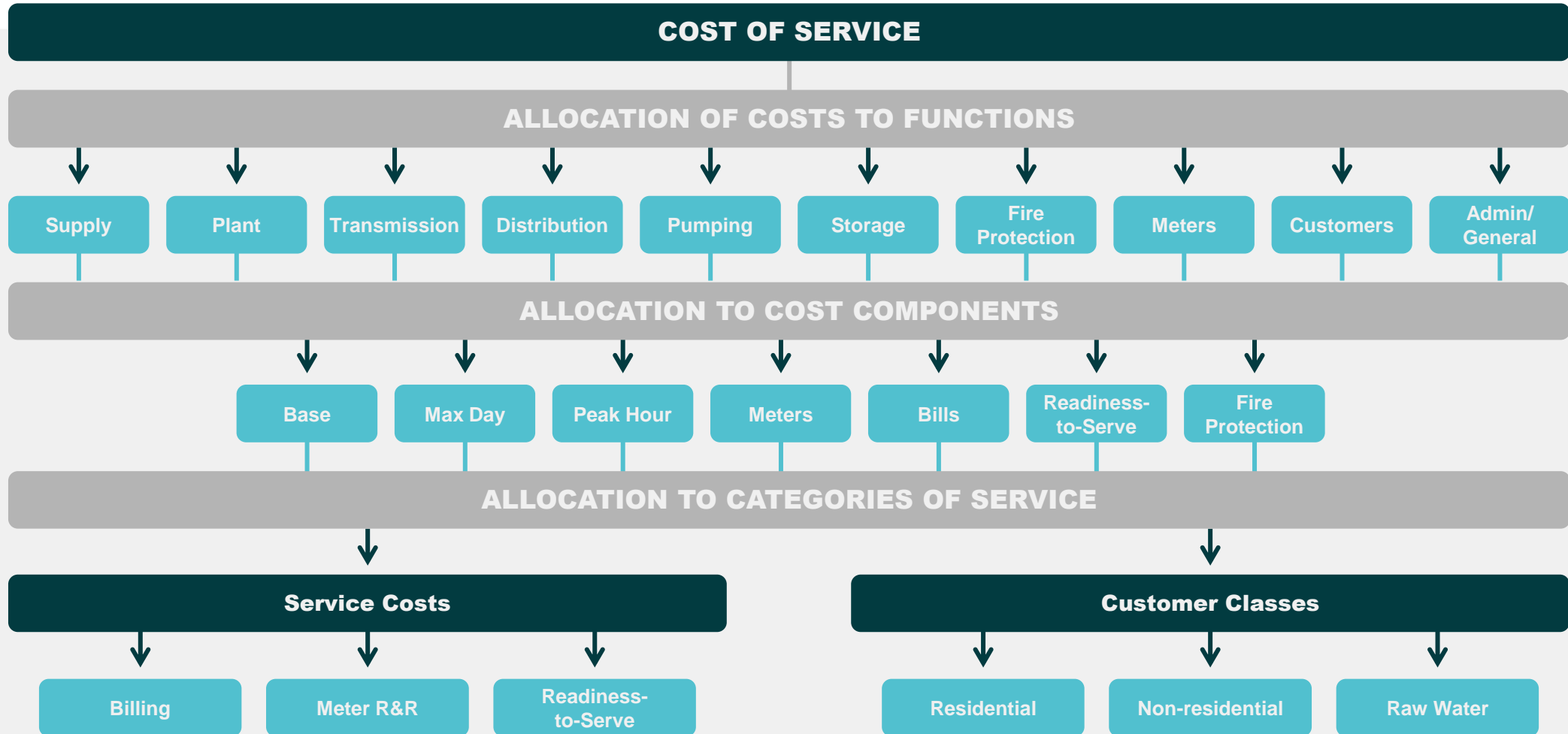
## Wastewater

- Strength of sewage (BOD, TSS, TKN)
- Capacity (less common)
- Location (not common)

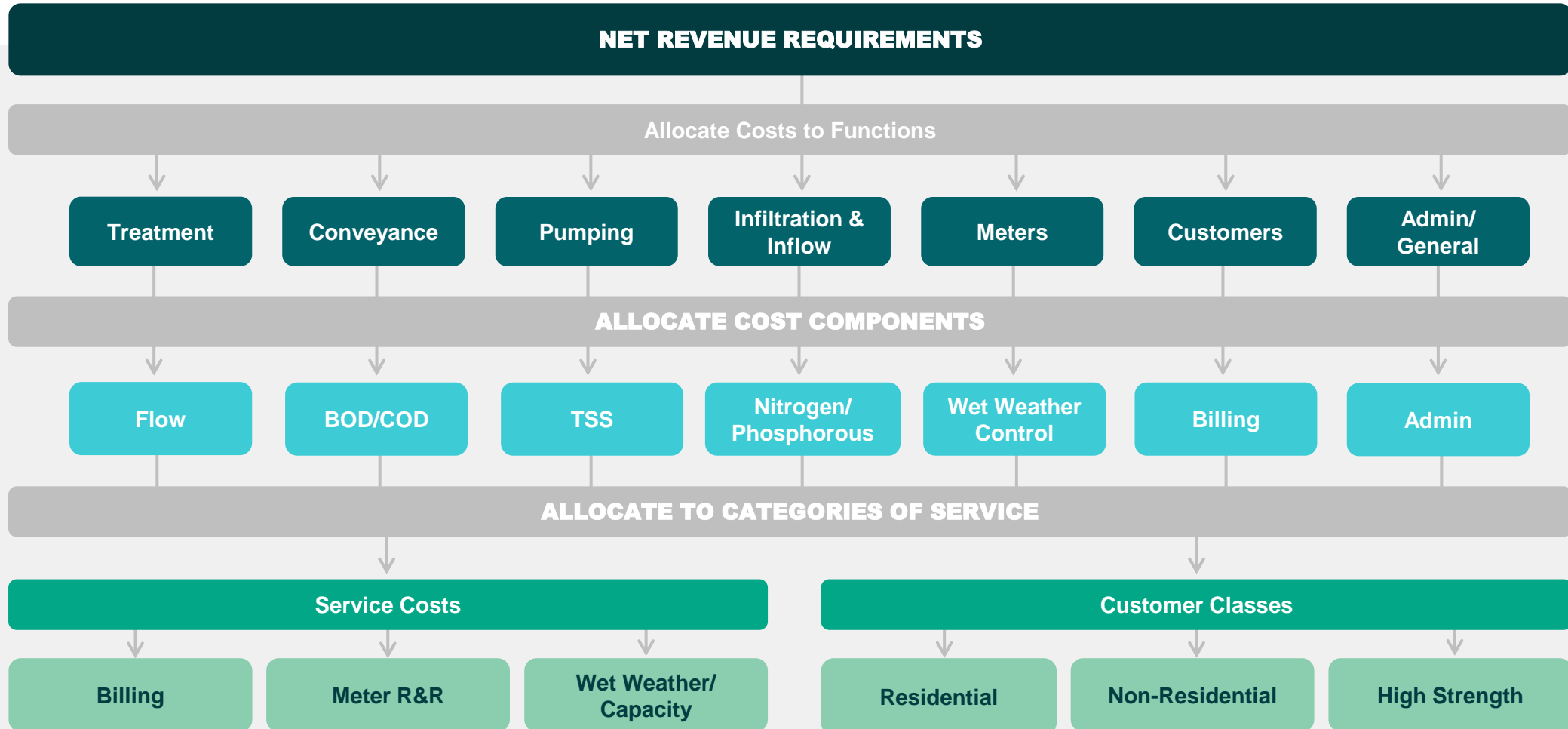
## Water

- Water source
- Peak v. average flow
- Elevation
- Location (not common)

# Water Cost of Service

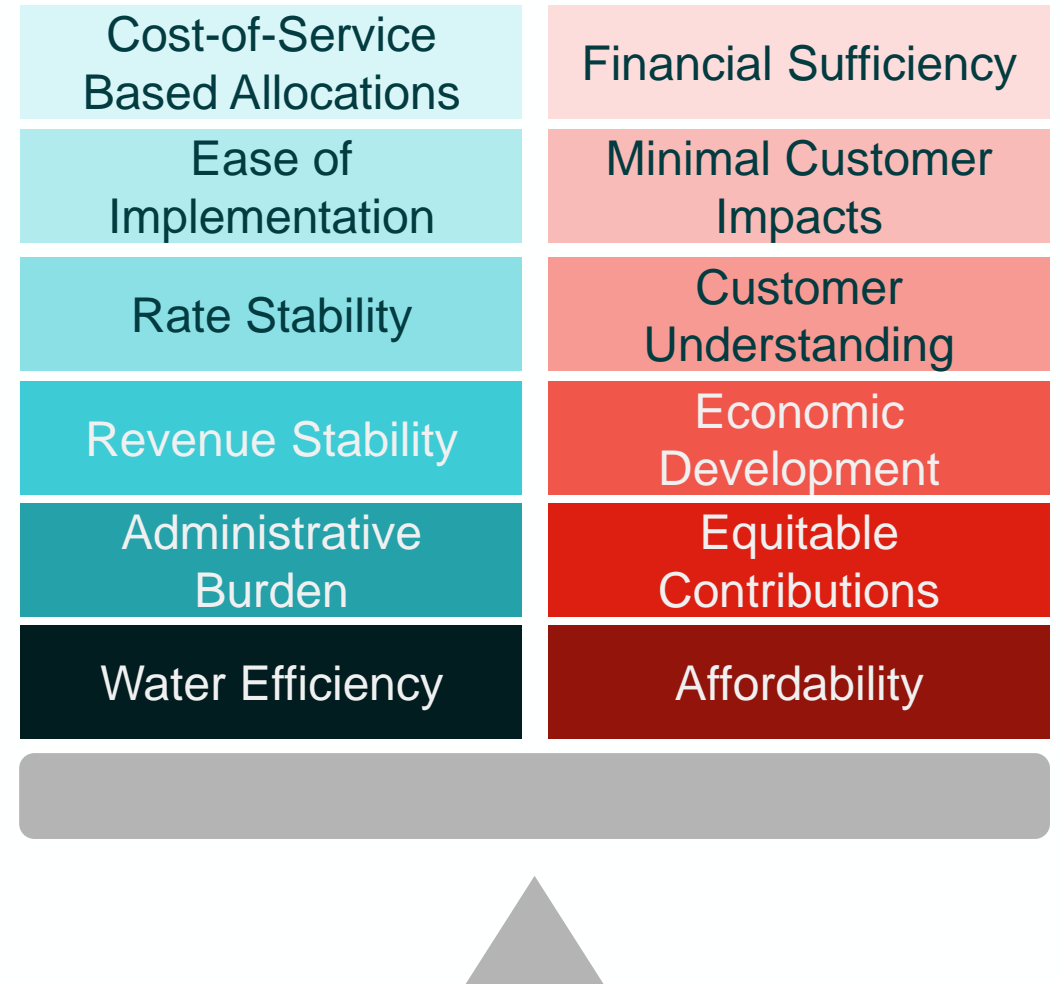


# Sewer Cost Allocation



# Rate Structure Objectives

- Rates can be a powerful communication tool
- Different rate structures promote different behavior
- Objectives often compete and must be balanced



# Common Pricing Objectives

## Conservation

- Reducing total annual demand
- Reducing water waste
- Reducing peak demand
- Reducing outdoor water usage

## Financial

- Enhancing revenue stability
- Providing funding for alternative water supplies
- Mitigating risk

## Affordability

- Minimizing customer impacts
- Maintaining low average customer bills
- Crafting rates that provide affordable water for essential uses

## Equity

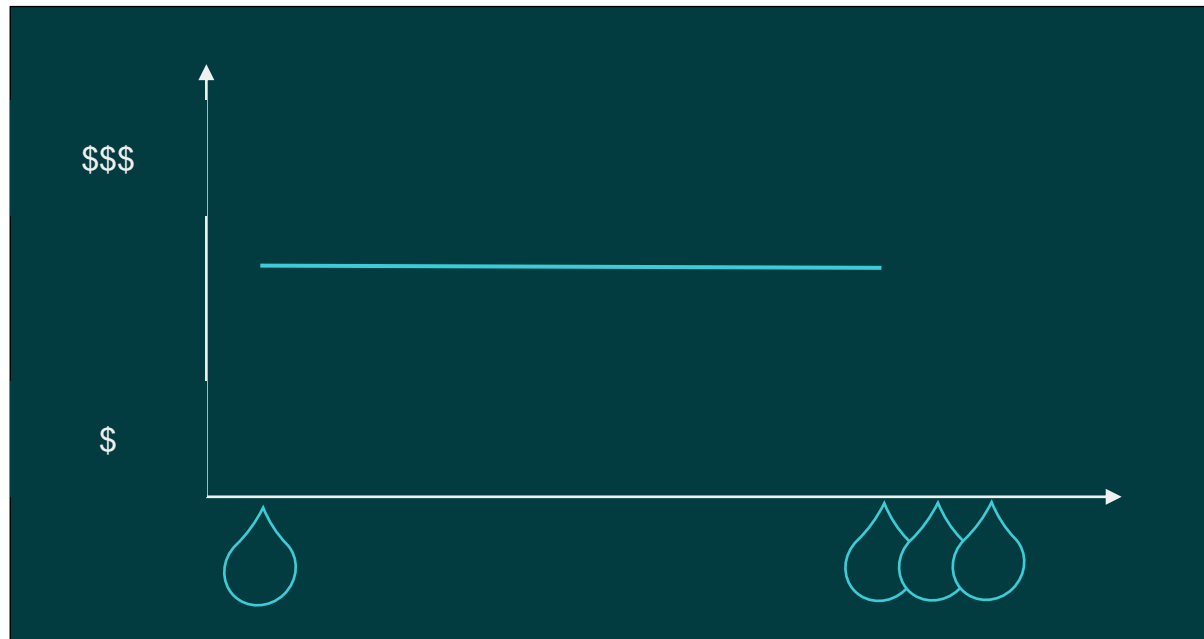
- Allocating water supplies equitably
- Providing a drought management tool
- Valuing efficiency of use over total use

## Administration

- Allowing cost-effective administration
- Allowing easy implementation
- Enhancing customer understanding

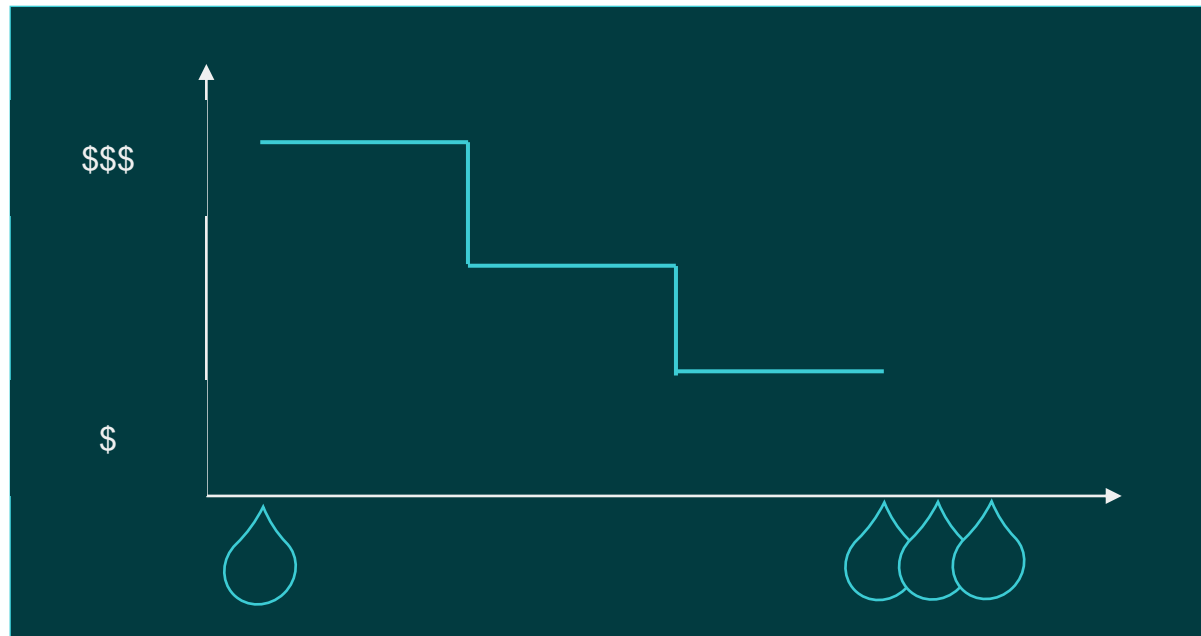
# Flat or Uniform Rate

- Provides limited pricing signal to promote efficient water usage
- Flat rate can be regressive for low users
- Easy to understand and stable revenue stream



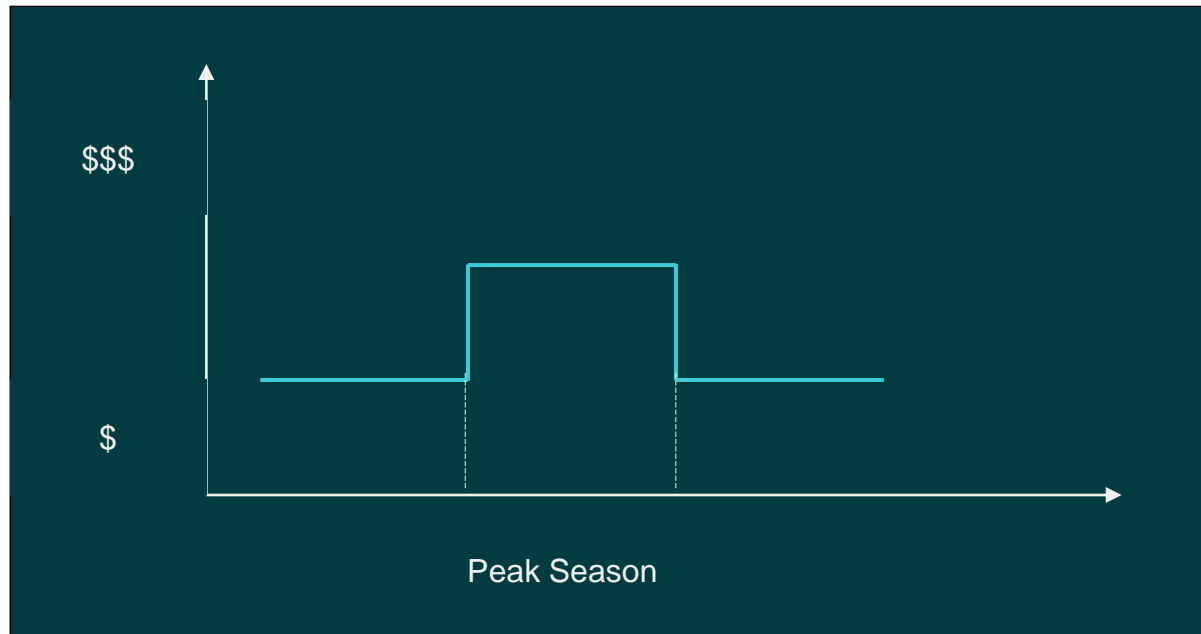
# Declining Block Rate

- Does not provide pricing signal to promote efficient water usage
- Can promote economic development



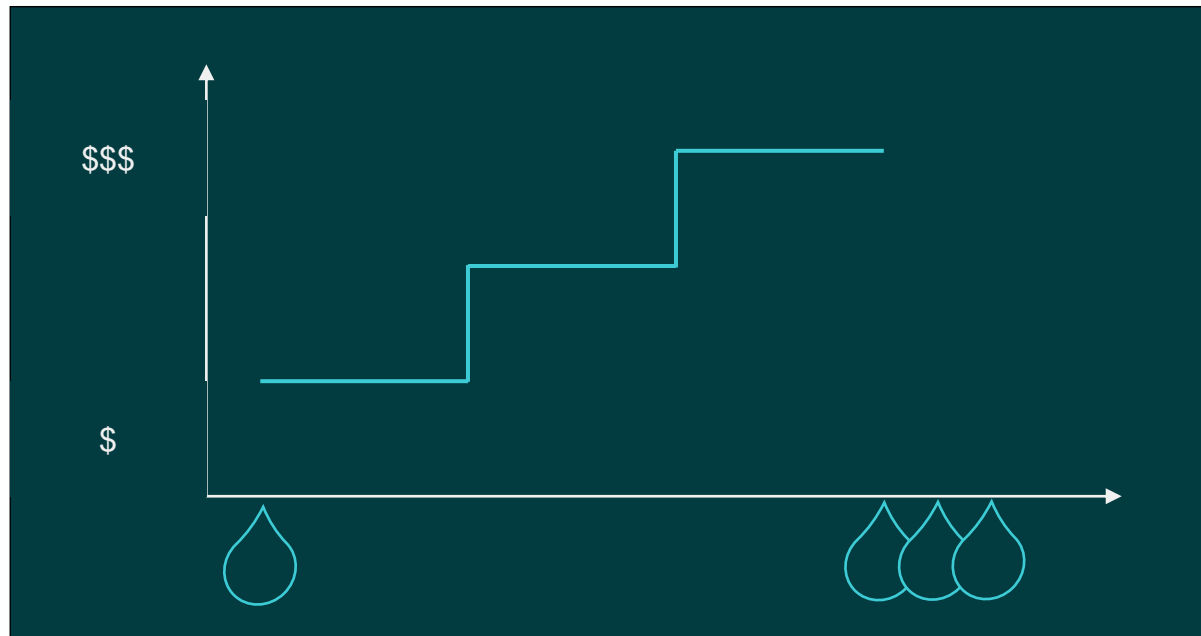
# Seasonal Rate

- Provides pricing signal to promote efficient water usage
- Can lead to revenue instability and unaffordability for essential use



# Inclining Block Rate

- Provides strong pricing signal to promote efficient water usage
- More volatile revenue source
- Potential to penalize large users



# Delaware City Case Study

- City's goal was to encourage efficient water use with their volume rates while maintaining the same annual revenue amount
- Create class-based rates (residential, mastered, non-res.)
- A surprising result: water bills cheaper for most residential customers

## Existing Rates

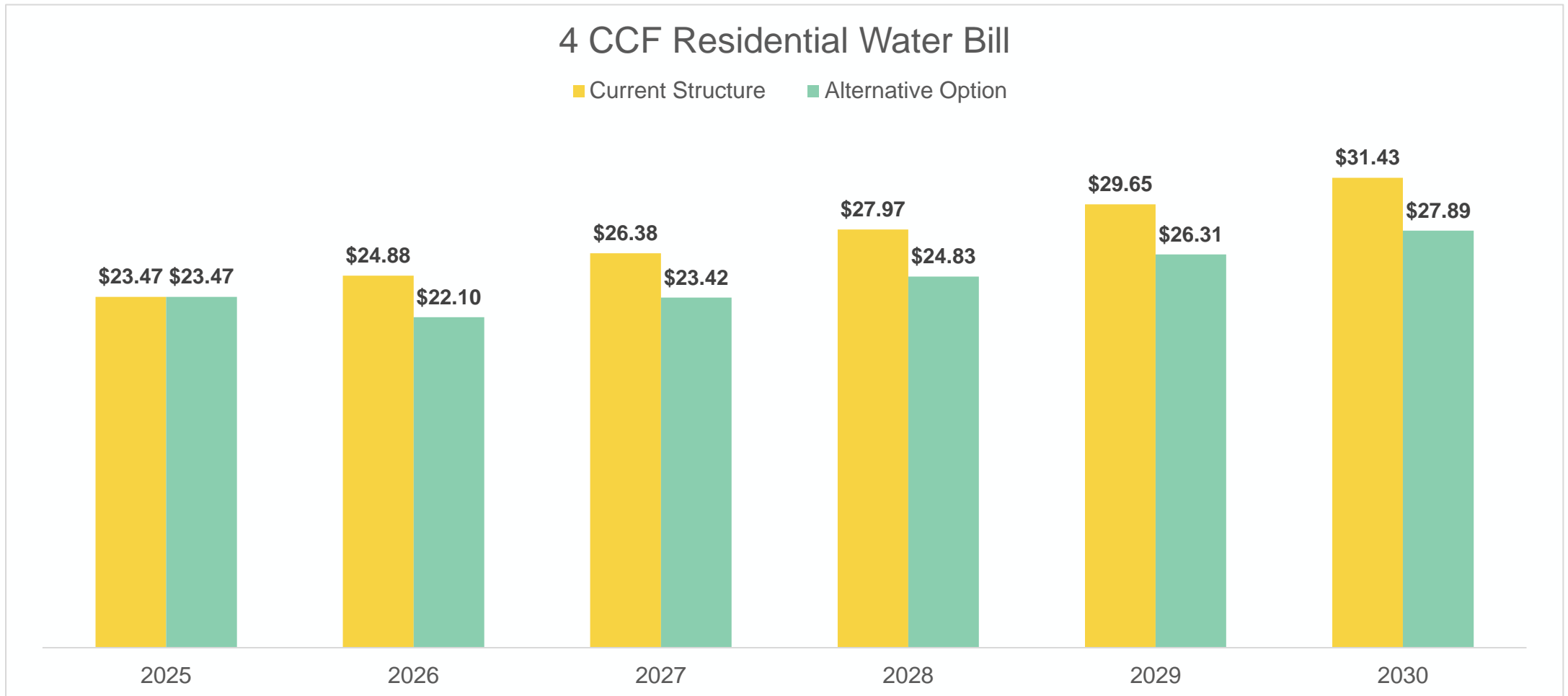
| <b>Water Minimum Charges</b>            |          | <i>Ratio</i>    |
|---|----------|-----------------|
| 5/8"                                    | \$ 13.15 | 1.0             |
| 3/4"                                    | 19.73    | 1.5             |
| 1"                                      | 32.88    | 2.5             |
| 1.5"                                    | 65.75    | 5.0             |
| 2"                                      | 105.20   | 8.0             |
| 3"                                      | 197.25   | 15.0            |
| 4"                                      | 328.75   | 25.0            |
| 6"                                      | 657.50   | 50.0            |
| 8"                                      | 1,052.00 | 80.0            |
| <b>Water Volumetric Rates (per CCF)</b> |          | <i>Discount</i> |
| 0 - 2 CCF (Minimum)                     | \$ -     |                 |
| 2 - 30 CCF                              | 5.16     | -               |
| 30 - 470 CCF                            | 3.62     | 30%             |
| > 470 CCF                               | 2.50     | 52%             |

# Volume Rate Alternative Option

- Adjusted residential tier cutoffs
- Inclining block structure for residential customers to promote efficient water use
- Uniform rate for Master-metered & Non-residential customers

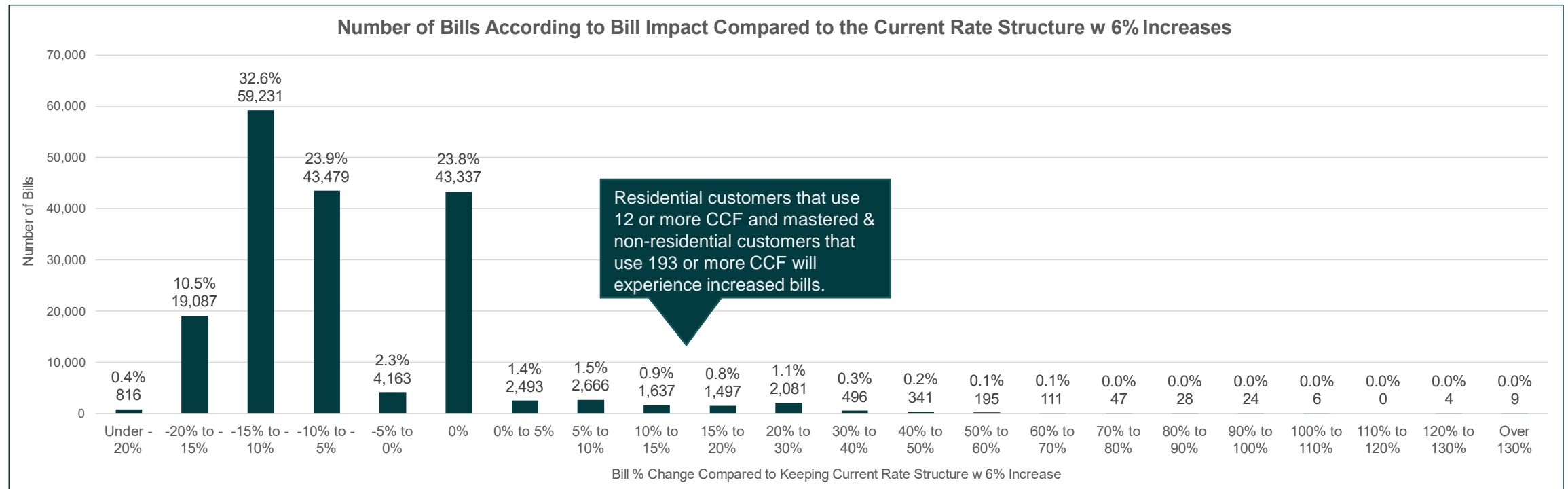
|                          | 2026 Forecasted Rates |        | Alternative Rate Option |        |
|--------------------------|-----------------------|--------|-------------------------|--------|
|                          | Cutoff (ccf)          | Rate   | Cutoff (ccf)            | Rate   |
| Residential (Tier 1)     | 2                     | \$0.00 | 2                       | \$0.00 |
| Residential (Tier 2)     | 30                    | \$5.47 | 6                       | \$4.08 |
| Residential (Tier 3)     | 470                   | \$3.84 | 10                      | \$6.12 |
| Residential (Tier 4)     | x                     | \$2.65 | x                       | \$8.16 |
| Mastered (Tier 1)        | 2                     | \$0.00 | 2                       | \$0.00 |
| Mastered (Tier 2)        | 30                    | \$5.47 | 30                      | \$4.08 |
| Mastered (Tier 3)        | 470                   | \$3.84 | 470                     | \$4.08 |
| Mastered (Tier 4)        | x                     | \$2.65 | x                       | \$4.08 |
| Non-Residential (Tier 1) | 2                     | \$0.00 | 2                       | \$0.00 |
| Non-Residential (Tier 2) | 30                    | \$5.47 | 30                      | \$4.08 |
| Non-Residential (Tier 3) | 470                   | \$3.84 | 470                     | \$4.08 |
| Non-Residential (Tier 4) | x                     | \$2.65 | x                       | \$4.08 |

# Water Bill Comparison with Alternative Rate Structure



# Alternative Option Bill Impacts

- Approximately 70% of all customer bills will decrease
- Approximately 24% of bills will not be affected
- Residential customers benefit from the new structure until they use 12 CCF
- Mastered and non-residential customers benefit from the new structure until they use 193 CCF



# Affordability





## What's Changed...



Water and wastewater bills are growing faster than inflation

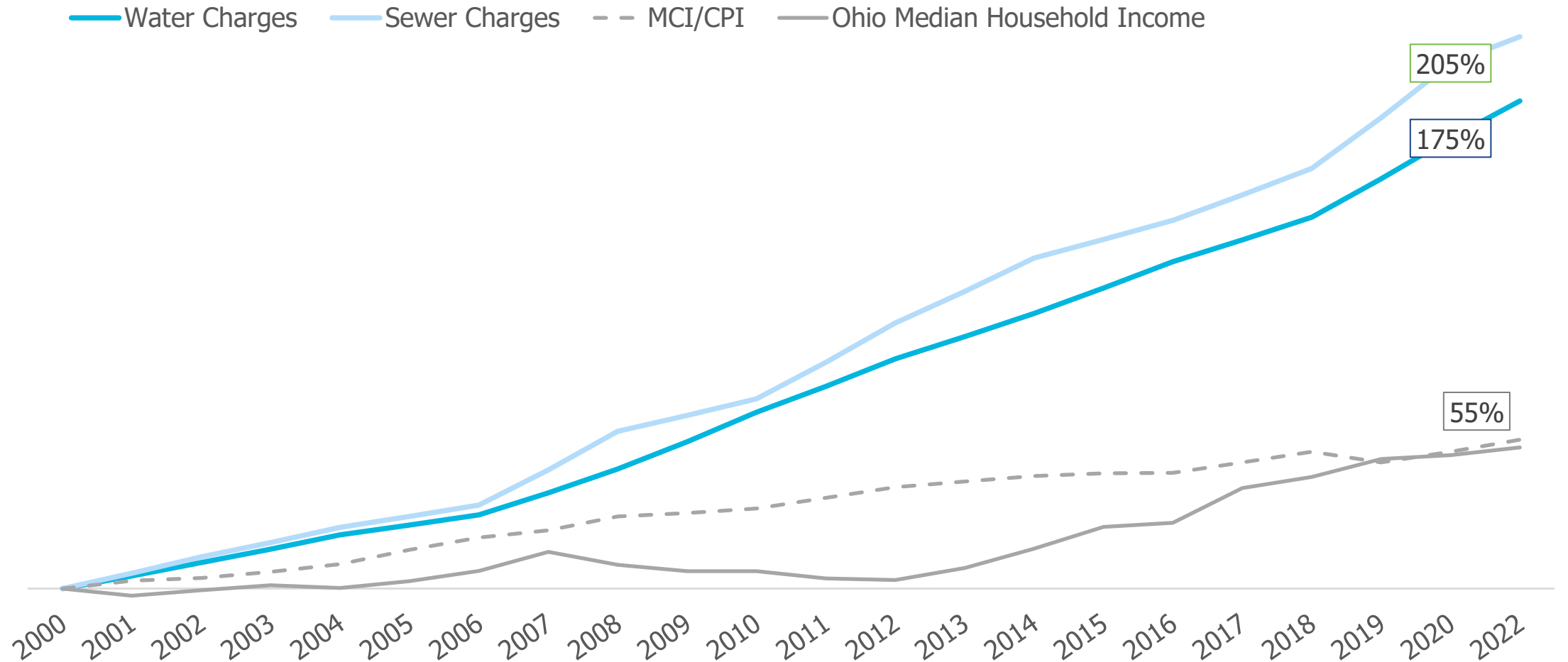


Cost of living has risen significantly



Customer (and governing body) expectations

# Water and Sewer Bills vs. MHI and CPI



Based on AWWA/Raftelis National Rate Survey, 10 Ccf Bill, National Median

# Affordability Questions



**What is legally permissible?**



**How does the utility define affordability?**



**Who is helped by the current rate structure – low income or low user?**



**Who should the utility be concerned about?**



**What type of program best suits the needs of the customers needing assistance?**

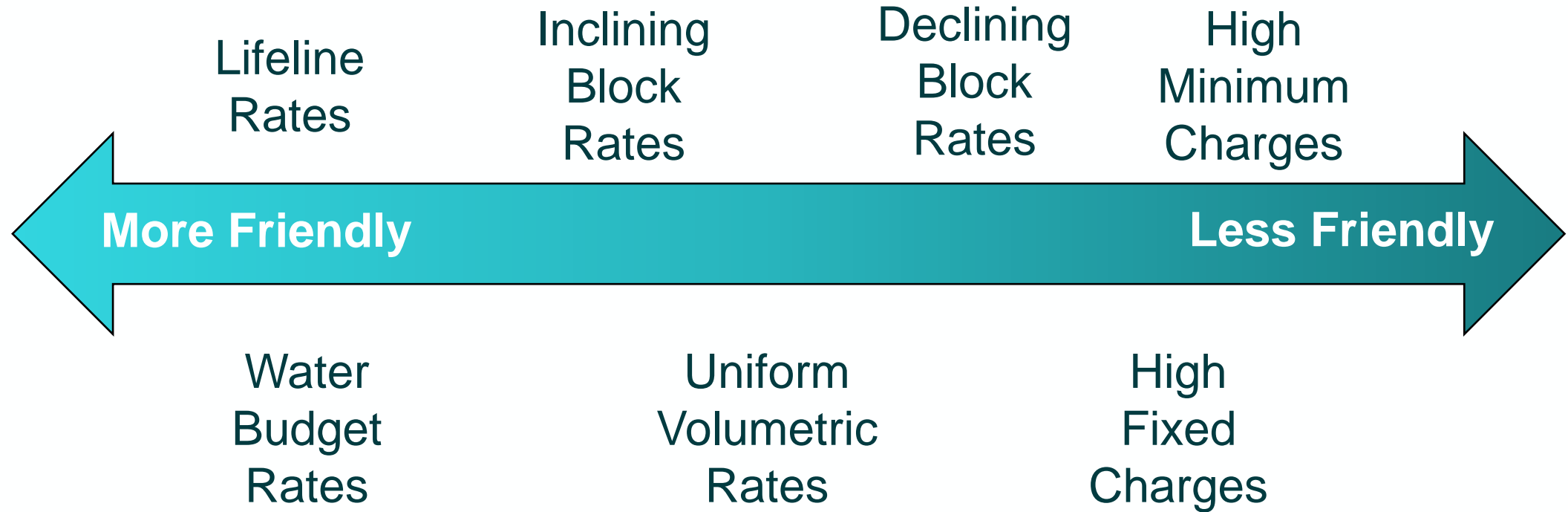


**How will the programs be funded?**

# Our Job: Allowing All Customers To Manage Their Water Bills

- Your rate structure can enhance or undermine your affordability message
- Affordability-friendly:
  - » Variable charges allow customers to reduce their bill by conserving
  - » Lifeline rates discount the initial increment of usage to recover only base costs
- Less friendly:
  - » Minimum charges may force customers to pay for services they did not use
  - » High fixed charges do not allow customers to control their bill through conservation

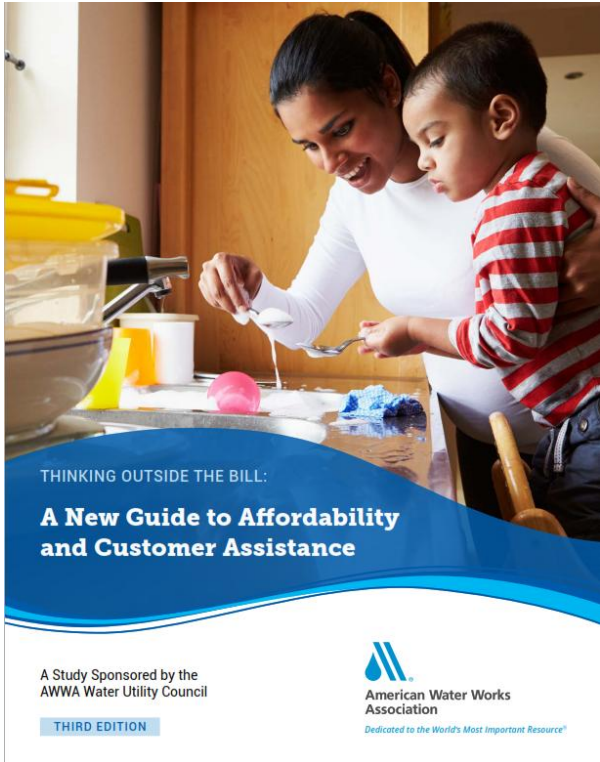
# Measuring the Affordability-Friendliness of Common Rate Structures



# Why Utilities are Turning to Customer Assistance Programs

- 1 To meet a growing need (increased delinquencies)
- 2 Mitigates impacts when discussing the need for revenue increases
- 3 Provides a direct pipeline for assistance between you and the customer
- 4 Makes the customer smarter about your services
- 5 Demonstrates responsiveness by being more efficient and effective

# Most utilities in Ohio have flexibility to develop CAPs



Thinking Outside the Bill: A New Guide to Affordability and Customer Assistance, AWWA, 2022

|   | Potential                              |  | Key Points  |
|---|--|--|---|
|   | Breadth (Number of Customers Assisted) | Depth (Impact on each Customer Assisted) |   |
| Bill Reductions and Discounts               |  |  | <ul style="list-style-type: none"> <li>• May require administrative and customer information system changes</li> <li>• Can be simple and effective</li> <li>• Legal constraints in some areas</li> </ul>  |
| Lifeline Rates                              |  |  | <ul style="list-style-type: none"> <li>• Helps all residential customers</li> <li>• May have customer and revenue impacts</li> <li>• Can promote conservation</li> </ul>  |
| Arrearage Management and Forgiveness        |  |  | <ul style="list-style-type: none"> <li>• Directly assists customers in need</li> <li>• Fewer legal and policy barriers</li> </ul>   |
| Crisis Funding                              |  |  | <ul style="list-style-type: none"> <li>• Directly assists customers of greatest need</li> <li>• Often has net negative budget impact</li> <li>• Low cost for a high customer value</li> </ul>   |
| Partnerships with Other Assistance Programs |  |  | <ul style="list-style-type: none"> <li>• Can have lower administrative burden and costs</li> <li>• Partners may be better equipped to assist customer in need</li> <li>• Utility does not have full control over the program</li> </ul>                                   |
| Conservation and Leak Repair                |  |  | <ul style="list-style-type: none"> <li>• Can dramatically reduce future water bills for target customers</li> <li>• Low cost for a high customer value</li> <li>• Promotes conservation</li> </ul>  |
| Controlling Operational Costs               |  |  | <ul style="list-style-type: none"> <li>• Is a utility best practice that helps keep rates low, but may not significantly reduce affordability challenges</li> </ul>   |
| Billing Mechanisms                          |  |  | <ul style="list-style-type: none"> <li>• Monthly and budget billing can improve customer ability to pay</li> <li>• Administrative burden can be low if technology is in place</li> </ul>  |
| Regionalization                             |  |  | <ul style="list-style-type: none"> <li>• Cooperation, contracted collaboration, shared governance, and consolidation can create economies of scale and reduce operating expenses and customer bills</li> <li>• Can be a slow and politically difficult process</li> </ul> |



# **The way you think about rates can reflect how you manage your system**

- Proactive and responsive to the needs of your system and customers
- Aligned with community values and goals
- Predictable, fair and equitable

Q&A



# Thank you!

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