

Establishing Equitable, Defendable Utility Rates

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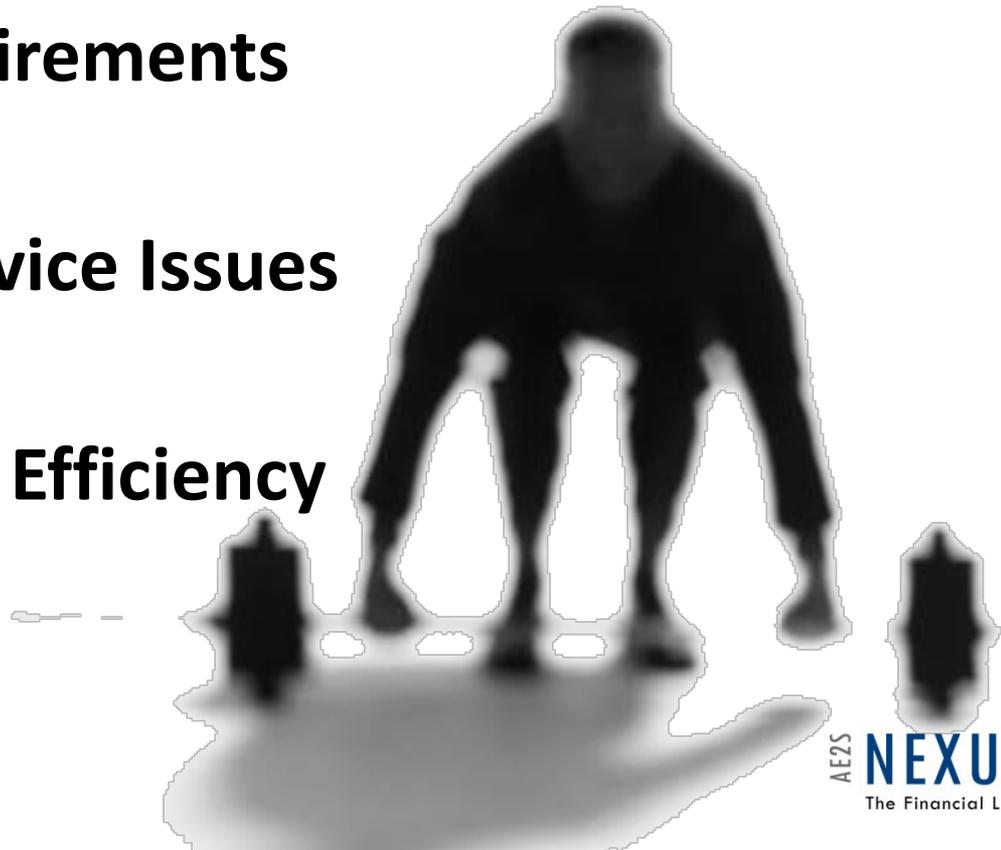
Outline

- ✓ **Challenges**
- ✓ **Define Objectives of Equitability and Defendability**
- ✓ **Approach to Meeting Objectives**
 - ✓ **Cost of Service Analysis**
 - ✓ **Rate Design**
 - ✓ **Revenue Adequacy Evaluation**
- ✓ **Regional Benchmarks**
- ✓ **Conclusion/Questions**



PHYSICAL Challenges

- **Water supply**
- **Aging infrastructure**
- **Regulatory Requirements**
- **Capacity**
- **Reliability of Service Issues**
- **Security Issues**
- **Productivity and Efficiency**
- **Sustainability**



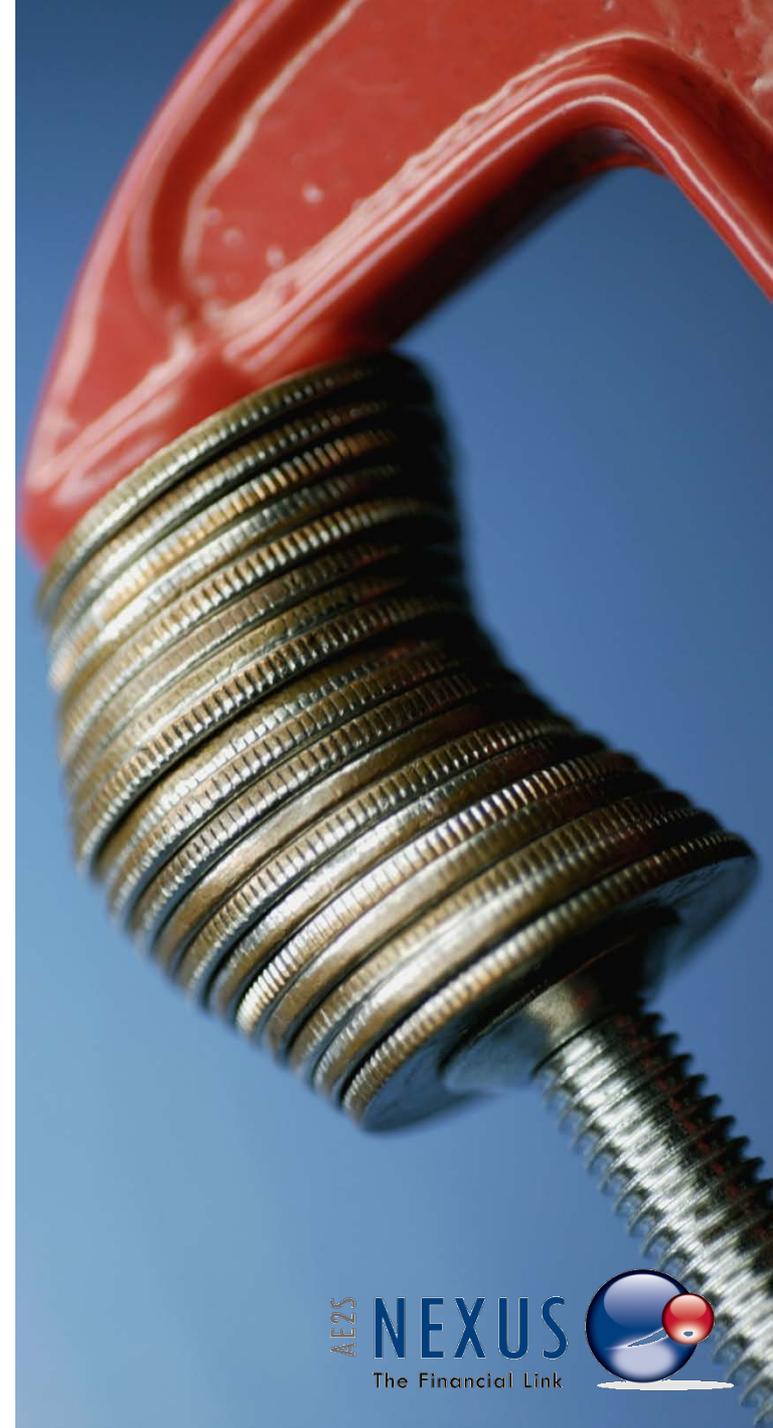
POLITICAL Challenges

- **How do we Justify Rate Adjustments?**
- **Will Policy makers Support our Decision?**
- **How do we Compare to Similar Communities?**
- **Are we Competitive?**



FINANCIAL Challenges

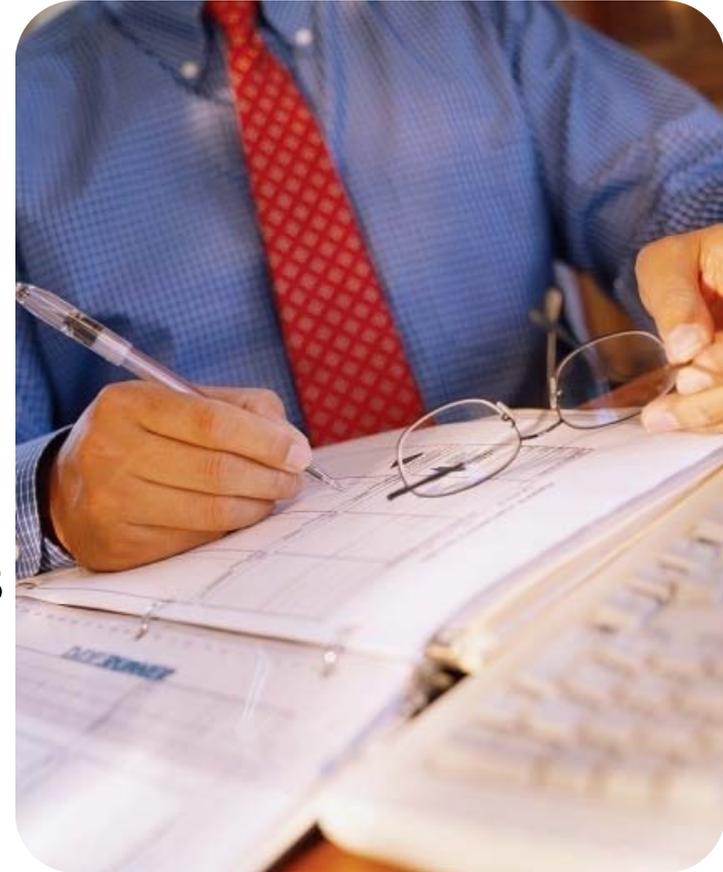
- **Increasing Operational Expenses**
- **Inflation**
- **Reserves**
- **Funding Availability**
- **Affordable Service**
- **Rate Equitability**
- **Revenue Stability**



Meeting the Challenge

PLANNING PROCESS

- **Strategic Planning Tool**
- **Capital Planning Tool**
- **Financial Tool for Decision Making**
- **Assure Financial Viability**
- **Allocate Costs to Appropriate Users**
- **Basis to Develop and Minimize Rates**
- **Communicate with Customers**



Developing **EQUITABLE** Utility Rates

- **Interclass Equity** (Residential vs Commercial)
- **Intraclass Equity** (Single vs Multi-Family)
- **Intergenerational Equity** (New vs Existing)



Developing

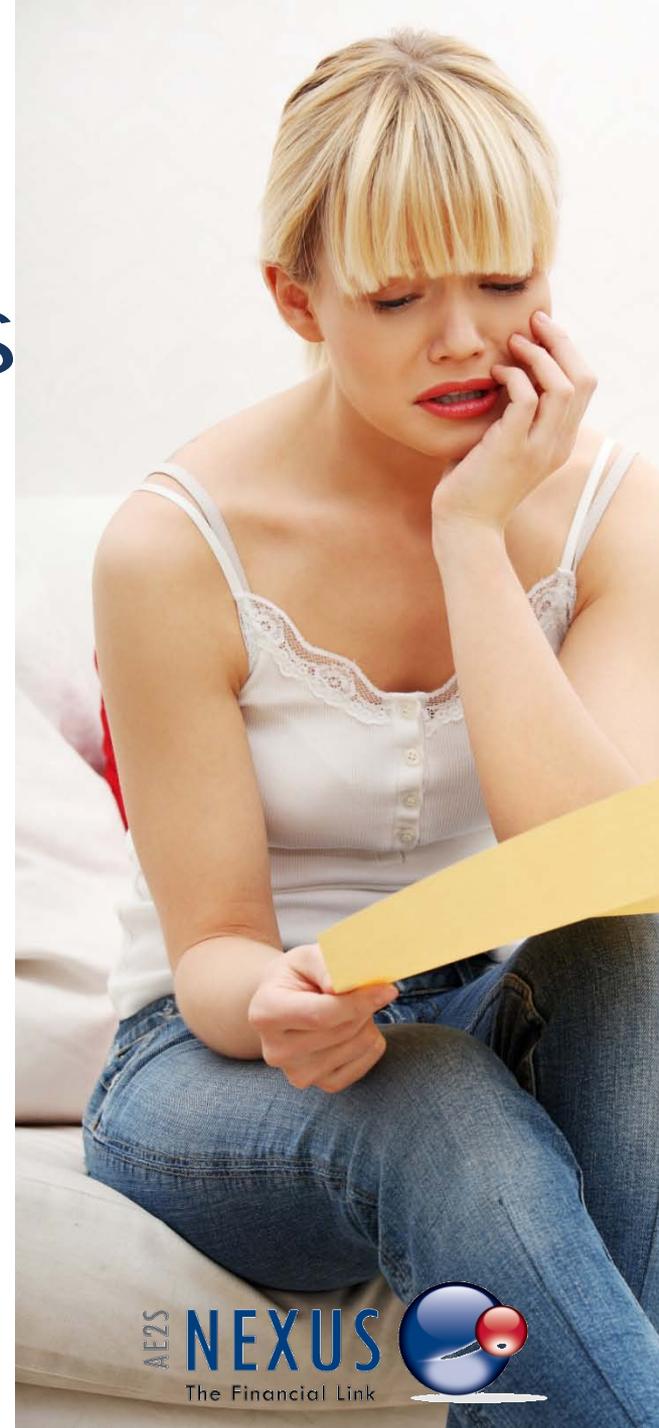
DEFENDABLE

Utility Rates



Developing **DEFENDABLE** Utility Rates

- **Reasonableness**
 - Objective
 - Not Arbitrary
 - Not Capricious
- **Rational Basis Concept –
Cost of Service**
- **No Unjust Discrimination**



Developing **ADEQUATE** Utility Rates

- **Aim for Full-Cost Pricing**
- **Allow for Prudent Planning for Reserves/Capital Renewal**

A hand in a white shirt sleeve is shown dropping a coin into a pink piggy bank. The piggy bank is positioned in the lower right quadrant of the slide. The background is white with a faint, light gray circular pattern behind the piggy bank.

Address **Considerations**,
Establish a Basis with a **Rate Study**

What Makes UP A RATE STUDY?



COST^{OF} SERVICE Analysis

What is a COSA?

- Allocation of Costs to Customer Classes
- Intended to compare User Classes
- Follows the Principles of Cost-Causation

ANALYSIS
SOLUTION
PROCESS
OBJECTIVES
TEAMWORK
VISION
SALES

A hand holding a white marker is shown circling the word 'ANALYSIS' in a list of business terms. The list includes 'ANALYSIS', 'SOLUTION', 'PROCESS', 'OBJECTIVES', 'TEAMWORK', 'VISION', and 'SALES'. The hand is positioned at the bottom right of the list, with the marker tip touching the letter 'S' in 'ANALYSIS'.

COST^{OF} SERVICE Analysis

Applicability

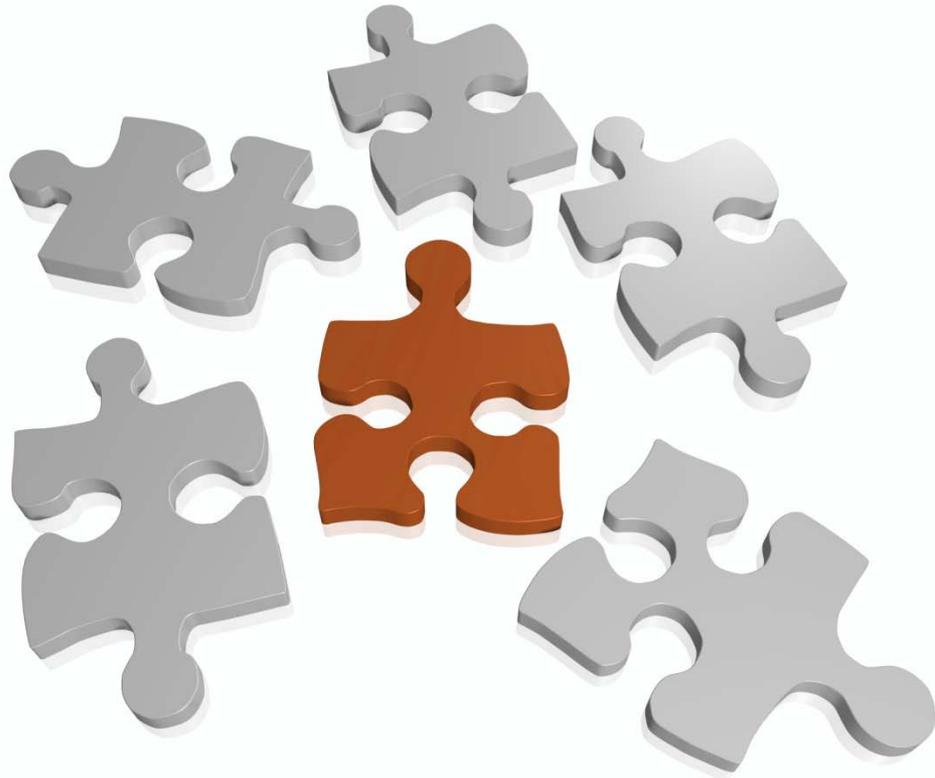
Consider Make-up of User Classes:

- Residential/Rural
- Commercial
- Bulk/Municipal
- Large Volume/Industrial
- Other Special User Classes



COST^{OF} SERVICE Analysis

Methodology



Industry Standards

- Commodity-Demand
- Base Extra Capacity
- Design-Basis
- Hybrid

COST^{OF} SERVICE Analysis

Process

Develop Test Year Revenue Requirements

- 1 O&M
- 2 Debt Payments
- 3 Required Debt Reserves
- 4 O&M Reserves
- 5 Rate-Funded Capital
- 6 Capital/Other Reserves

COST^{OF} SERVICE Analysis

Process

Test Year Revenue Requirements



1. Functionalization

2. Classification

3. Allocation



COST^{OF} SERVICE Analysis

Functionalization

Categorization of Line Item Revenue Requirements into Major Functional Components, Activities, or Parts of Operation

Utility Budget	2010
Operation & Maintenance	\$
Capital Related (Debt Service, Depreciation)	\$



- Administrative
- Supply
- Treatment
- Pumping
- Transmission
- Distribution
- Engineering
- Assigned

COST^{OF} SERVICE Analysis

Classification

“Functionalized” Costs Based on how Costs Vary within the Utility

Expense by Function	2010
Administrative	\$
Supply	\$
Treatment	\$
Pumping	\$
Transmission	\$
Distribution	\$
Engineering	\$
Assigned	\$



- Commodity Costs
- Capacity Costs
- Customer Costs

COST^{OF} SERVICE Analysis

Allocation

“Functionalized” and “Classified” Costs to Customer Classes based on Flow Volumes and Flow Characteristics of each User Class

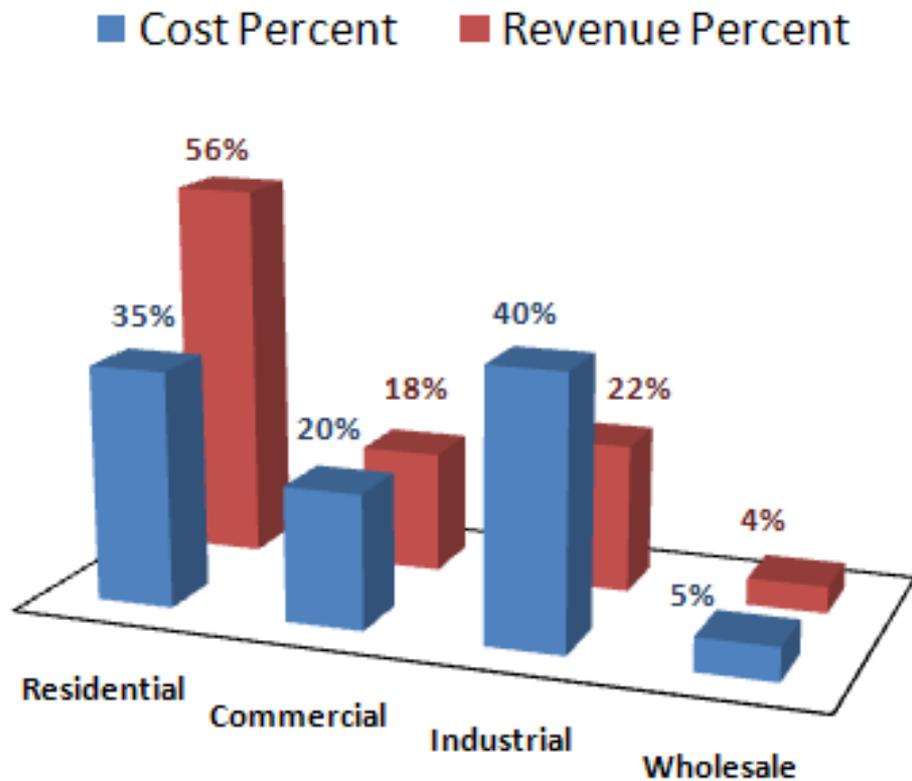
Expense by Class	2010
Commodity	\$
Capacity	\$
Customer	\$



- Residential
- Commercial
- Industrial
- Wholesale

COST^{OF} SERVICE Analysis

Results



- Cost by user class is compared to revenue generated from each user class
- Ideally, cost percentages will closely resemble revenue percentages
- If not, conducting Rate Design may be appropriate

Rate DESIGN



- Existing Rate Structure is Reviewed for Potential Changes that could be made to Correct Existing Inequities and generally Improve the Performance of the Rate Structure
- Compare Cost by Customer Class with Revenue Generated through Current Rate Structures
- Develop Rate Structure Adjustments, if appropriate, *based on overall Utility Objectives*

Rate DESIGN

- **Monthly Minimum (meter or fixed charge)**
 - Include or exclude flow
- **Volume Charge (per unit of flow)**
 - Uniform Block
 - Increasing Block
 - Declining Block
 - Strength Charge
 - BOD, TSS, TKN

Rate DESIGN

Structures



Rate DESIGN

What Cost Goes Where?

- **Fixed Charge**
 - Cost of Meter and Billing
 - Overhead?
 - Debt?
- **Consumption (Variable Charge)**
 - Depends upon structure
 - Consider winter water use
 - Consider affordability



Rate DESIGN



Recall the Classes of Costs:

Expense by Class	2010
Commodity	\$
Capacity	\$
Customer	\$



- Residential
- Commercial
- Industrial
- Wholesale

Practical Rules of Thumb:

Customer → Meter Charge – AWWA Equivalent Meter Concept

Commodity → Variable Charge

Capacity → Portion in Meter Charge? Majority in Variable?

Rate DESIGN

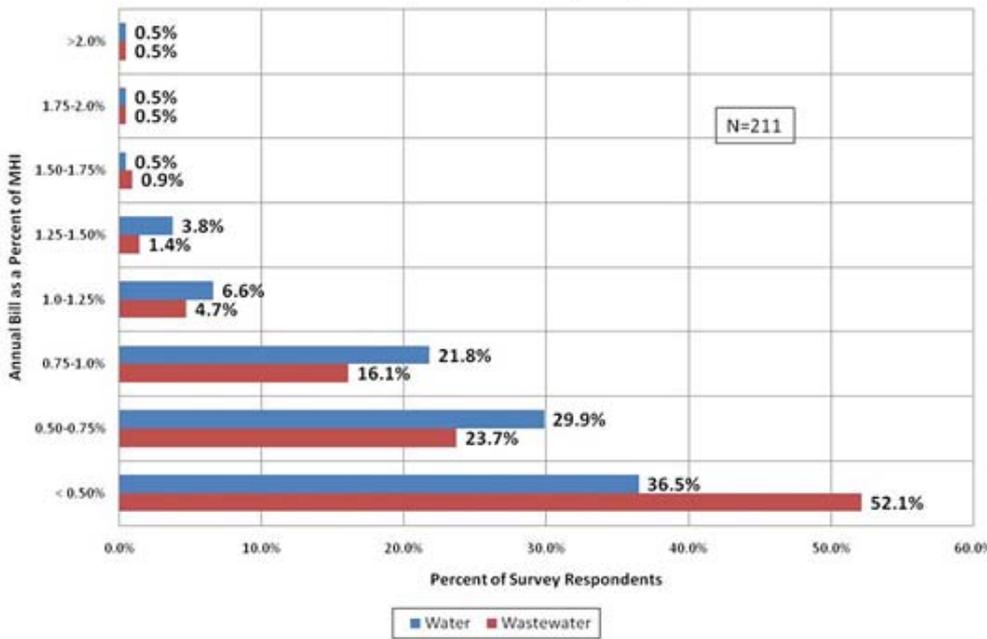
Revenue Stability

- Weather Patterns
- Conservation Measures
 - Can reduce indoor water use 5 to 20 percent

Affordability

- EPA Guidelines
- Varies by Community

Comparison of Residential Water and Sewer Bill as Percent of Median Household Income (MHI)



Rate DESIGN

Considerations

- **Affordability**
- **Conservation Incentives**
- **Conservation Effects**
- **Sustainability**
- **Revenue Stability**
- **Competing Objectives**
- **It's a Balancing Act**
- **Approach Change Cautiously, Educate Policy Makers and Users**



Rate DESIGN

Goals

Development of a Rate Structure that is:

- **Easy to Understand and Administer**
- **Effective in Yielding Total Revenue Requirements**
- **Able to Generate a Stable Revenue Stream**
- **Structured to Charge the Appropriate Customers based on Level of Service**
- **Fair and Equitable, as well as Defendable**

REVENUE Adequacy Evaluation

Comparison of Total Projected Revenue Requirements to Total Projected Revenues to Ensure Sufficient Revenue is Generated to Provide Revenue Stability

REVENUE Adequacy Evaluation Objectives

- ✓ Fund Recurring Operating & Maintenance Expenses
- ✓ Develop/Maintain Adequate Working Capital and Required Reserves
- ✓ Provide for Annual Capital Costs
- ✓ Monitor Debt Service Coverage to Ensure Loan Covenants are Met
- ✓ Determine the Adequacy of Existing Rates and Identify the need for Future Rate Increases

REVENUE Adequacy Considerations

✓ Reserves

- Working Capital (O&M)
- Rate Stabilization
- Capital Renewal
(Renewal and Replacement)
- Emergency
- Debt Service Reserve Requirements

✓ Loan Covenants



REVENUE Adequacy Evaluation Shortfalls

- **Adjustments to Budget**
- **Delaying Capital Investment**
- **Increasing User Fees**



Rates must be Adequate to Meet Needs

REVENUE Adequacy

Figure 2: Illustration of Revenue Adequacy with No Revenue Increase

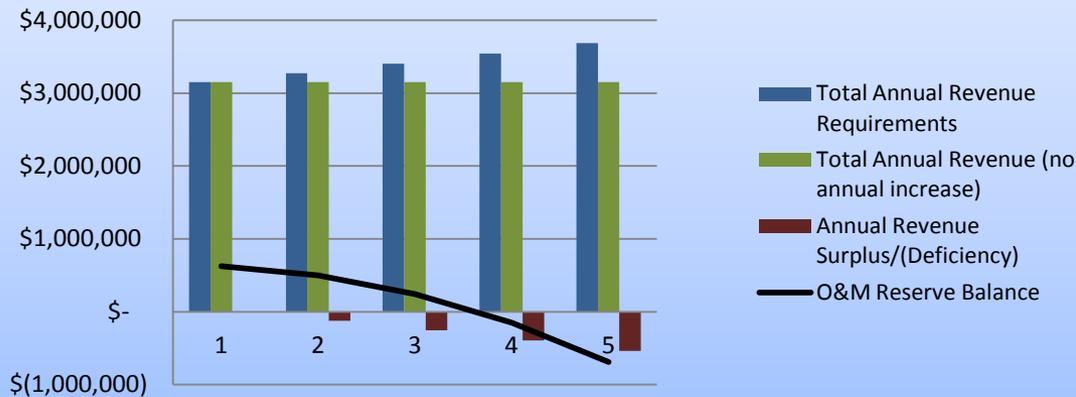
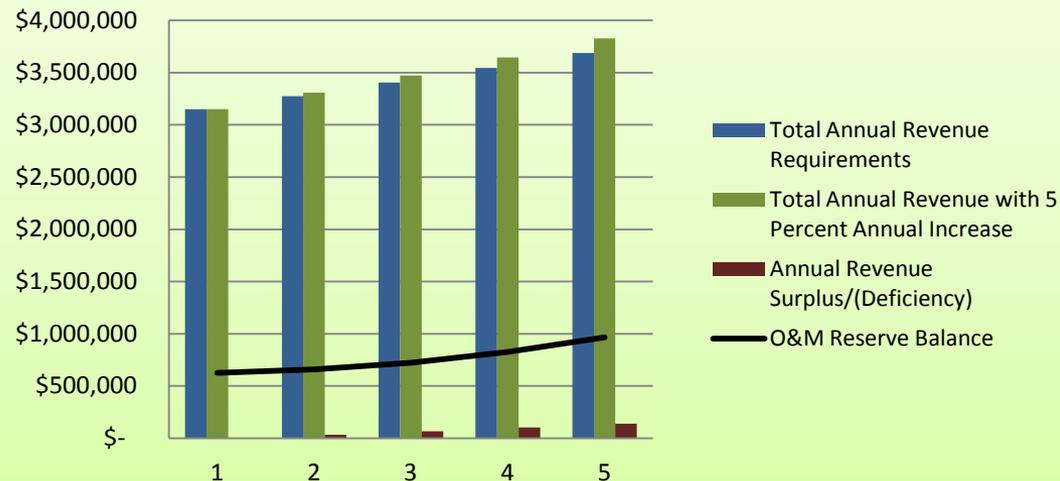


Figure 3: Illustration of Revenue Adequacy with Annual Revenue Increase



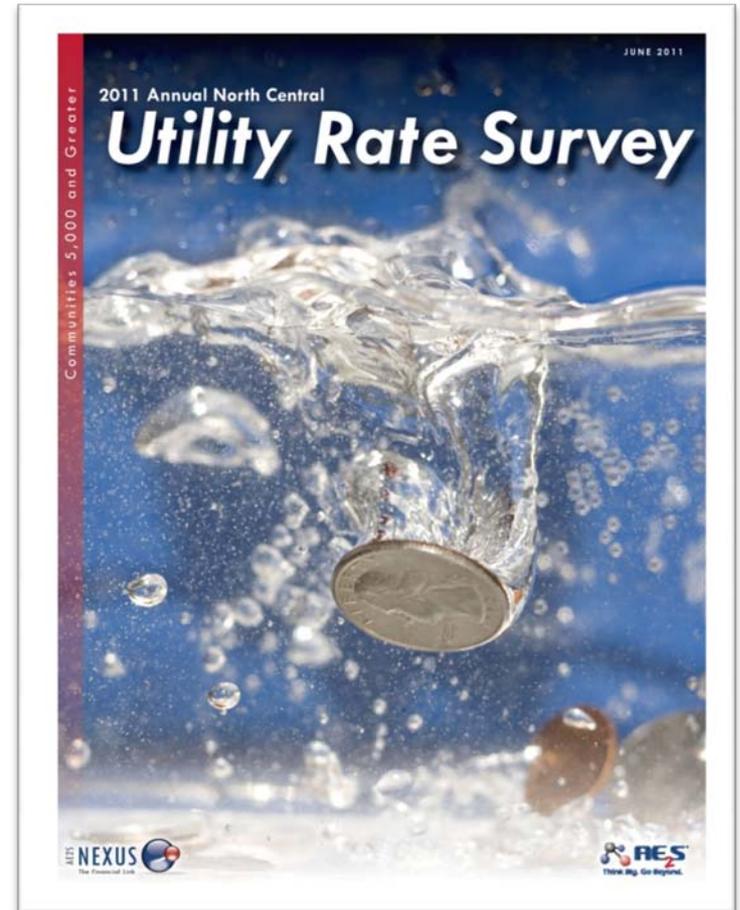
Need ^{FOR A} RATE INCREASE

- How do we justify to our users?
- Will the policy makers support the decision?
- How do we compare to similar communities?
- Are we competitive?



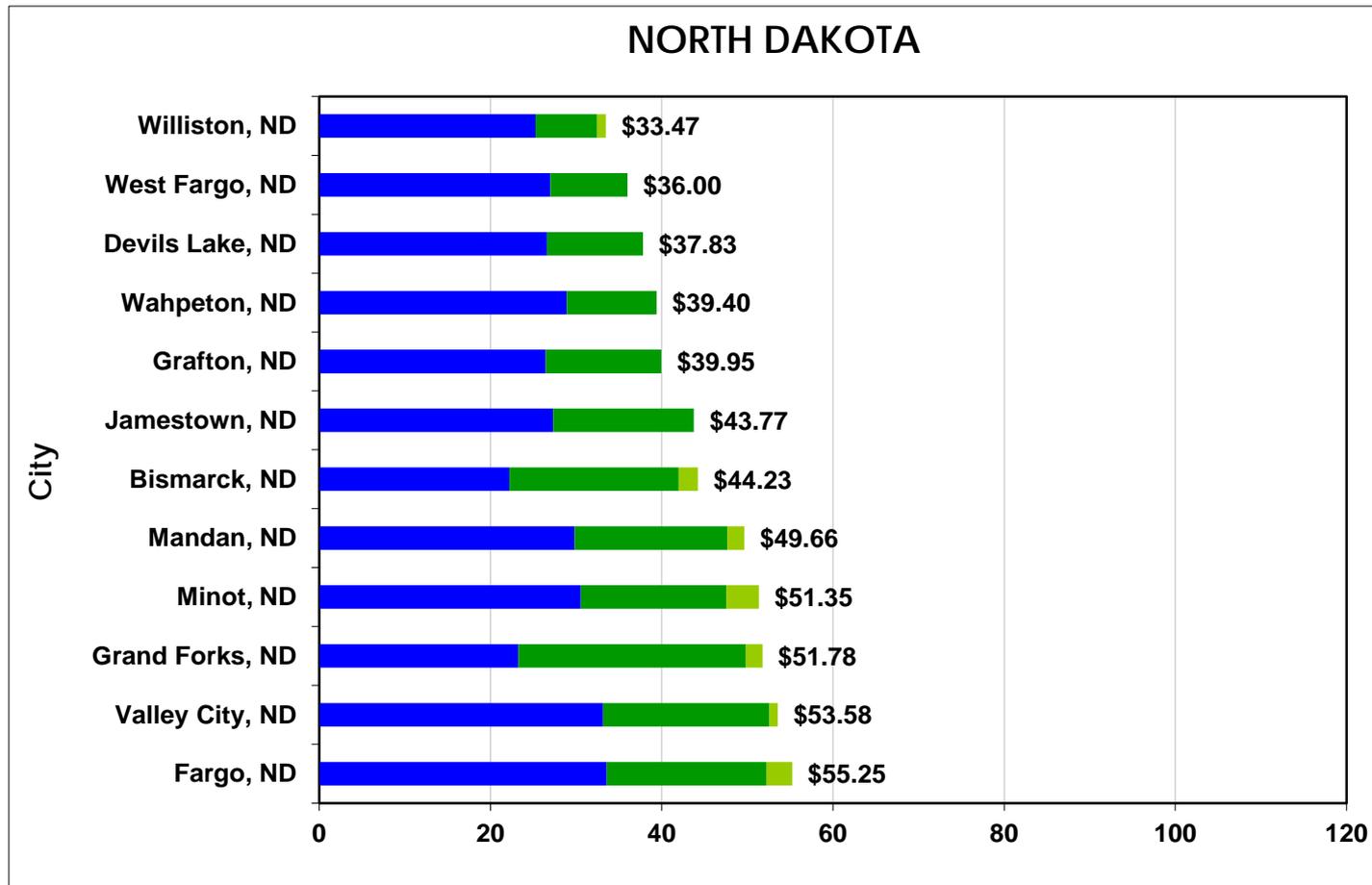
NORTH CENTRAL Utility Rate Survey

- **Driven by Client Questions**
- **Initiated in 2002**
- **Generated Significant Interest**
- **Completed Annually**



2011 Rate Survey RESULTS

Population of 5,000 or greater



**Monthly Bill for
6,000 gallons:**

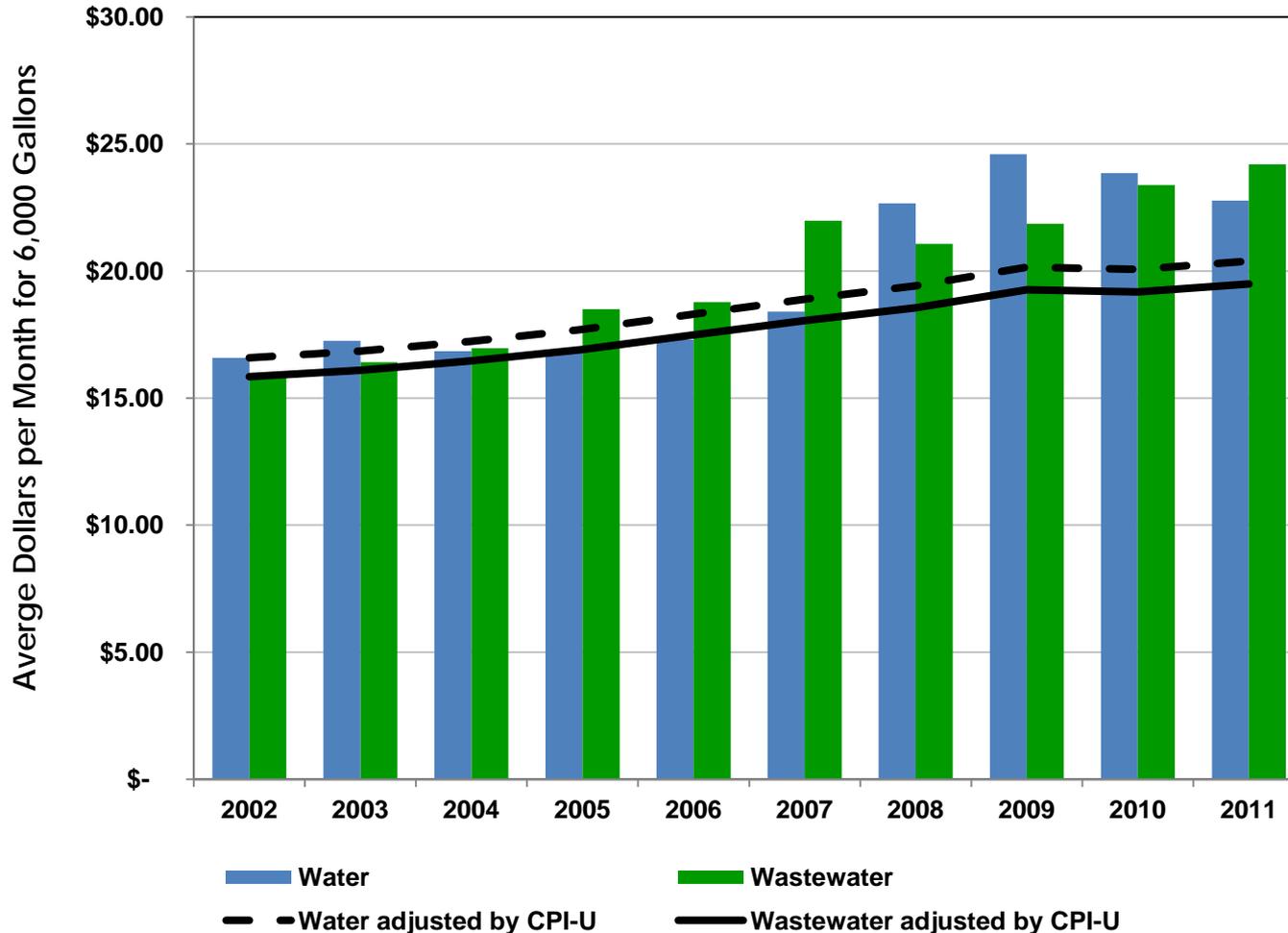
Water Charge

Wastewater Charge

Stormwater Charge

2011 Rate Survey RESULTS

Average Monthly Residential
Water/Wastewater Charge
Metro and Non-Metro Survey Respondents
Systems Serving Greater than 5,000



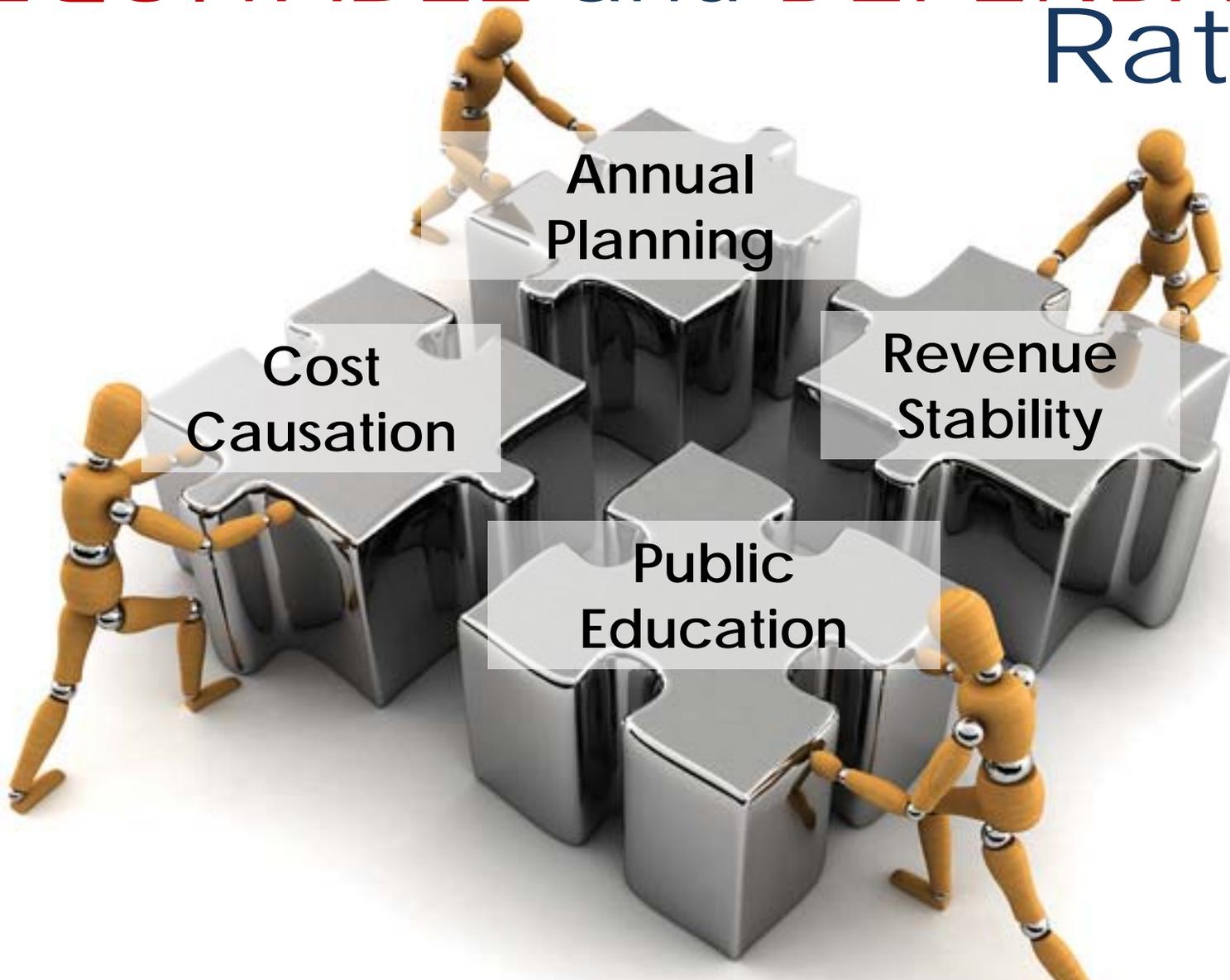
Effective Annual
Increases:

Water = 3.6%

Wastewater = 4.8%

CPI-U = 2.3%

Building ADEQUATE, EQUITABLE and DEFENDABLE Rates



Acknowledgements

- North Dakota Water Pollution Control Conference
- American Water Works Association (AWWA)
- 2011 Rate Survey Participants
- AE2S



Questions

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