Outline of Session

- Promoting Resiliency vs. Affordability
- Strategic Goalsetting in Rate Structures
- Lifeline Structural Features in Rates
- Examples of Enhanced Affordability Through Rate Structuring
- Conclusions
Regional planning efforts have focused on preparing water systems for potential disruptions:

- Natural Disasters
- Drought/Climate Change

Initiatives to enhance resiliency include:

- Building/retrofitting infrastructure
- Expanding/developing other supply sources
- Investing in training and public outreach
- Promoting water demand reductions

These initiatives come with an additional cost burden; need to keep affordability in mind
A Root Cause of Water/Sewer Affordability Concerns

FIGURE 1  Growth in key inflation and income measures, 2000–2015

CPI—consumer price index
# Further Factors Impacting Affordability

<table>
<thead>
<tr>
<th>Ratemaking Phase</th>
<th>Features/Factors Enhancing Affordability</th>
<th>Features/Factors Diminishing Affordability</th>
</tr>
</thead>
</table>
| Revenue Requirements | • Full Cost Recovery Through SDCs and Other (Non-Rate) Fees  
  • Smoothing Rate Increases  
  • Less Aggressive Capital Funding Policies | • Frontloading Rate Increases  
  • More Aggressive Capital Funding Policies |
| Cost Allocations | • Delineation of Customer Classes  
  • More Detailed Cost Structure Information | • Aggregation of Customer Classes  
  • Less Detailed Cost Structure Information |
| Rate Design | • Low Fixed Charges  
  • Usage Allowances  
  • Inclining-Block Volume Charges | • Flat Charges  
  • High Fixed Charges  
  • Declining-Block Volume Charges |
Recognizing the Need to Balance Policy Objectives

- Sound water/sewer rate structures balance a variety of objectives*:

  Revenue/Rate-Related | Cost-Related | Practical-Related
  Revenue Sufficiency   | Consistency with Costs | Legal Defensibility
  Revenue Stability     | Conservation & Efficiency | Simplicity
  Philosophical Continuity | Fairness & Equity | Feasibility
  System Sustainability |                        | Affordability

* Per Bonbright, Danielsen, and Kamerschen in *Principles of Public Utility Rates*

- Many utilities review their rates regularly to ensure that they:
  - Are cost-based and legally defensible
  - Generate sufficient revenue
  - Equitably recover costs from customer classes
Prioritizing Policy Objectives

**Pairwise Comparison:**
- Compare two objectives at a time
- Assign weighting “points” to each objective
- Evaluate relative priority of objectives

**Our Version:**
- For each comparison, assign 1 – 5 points to each objective
  - The points assigned to both objectives should add up to 6
  - Relative ranking is determined by adding up all points
Various factors may impact the results:

- Participant role/objectives
- Participant personality traits (e.g. risk aversion)
- When the comparison is performed
## Case Studies in Prioritizing Objectives

<table>
<thead>
<tr>
<th>Agency</th>
<th>Year of Study</th>
<th>Weighting of Objectives</th>
<th>Revenue Stability</th>
<th>Conservation &amp; Efficiency</th>
<th>Affordability</th>
<th>Understandability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Woodinville Water District</td>
<td>2012</td>
<td></td>
<td>28%</td>
<td>25%</td>
<td>30%</td>
<td>17%</td>
</tr>
<tr>
<td>City of Bellevue</td>
<td>2012</td>
<td></td>
<td>42%</td>
<td>16%</td>
<td>29%</td>
<td>13%</td>
</tr>
<tr>
<td>Water Supply Forum</td>
<td>2013</td>
<td></td>
<td>32%</td>
<td>19%</td>
<td>27%</td>
<td>22%</td>
</tr>
<tr>
<td>Covington Water District</td>
<td>2013</td>
<td></td>
<td>31%</td>
<td>11%</td>
<td>39%</td>
<td>19%</td>
</tr>
<tr>
<td>East Wenatchee Water District</td>
<td>2016</td>
<td></td>
<td>31%</td>
<td>8%</td>
<td>28%</td>
<td>33%</td>
</tr>
<tr>
<td>City of Redmond</td>
<td>2017</td>
<td></td>
<td>32%</td>
<td>26%</td>
<td>22%</td>
<td>20%</td>
</tr>
</tbody>
</table>
Introducing/Enhancing Lifeline Rate Features

Features Highlighted Earlier:

- Proportionality (Ability to Control One’s Bill)
- Low Fixed Charges
- Usage Allowances
- Increasing Block Volume Charges
- Delineation of Customer Classes; Class-Specific Rate Structures
How Rates Can Frustrate Cost-Conscious Customers

Sample Water Bill: Unit Cost vs. Amount of Water Used

Sample Water Rate:
Fixed: $15.00 per Month
Volume: $4.00 per ccf
How Rates Can Really Frustrate Cost-Conscious Customers

Sample Water/Sewer Bill: Unit Cost vs. Amount of Water Used

Sample Water & Sewer Rates:
- Water
  - Fixed: $15.00 per Month
  - Volume: $4.00 per ccf
- Sewer: $50.00 per Month
Ways to Enhance Lifeline Features

- Introduce/Enhance Volume-Based Sewer Charges
  - Based on average winter (indoor) water use

- Reduce Fixed Charges
  - Include a moderate volume allowance

- Increase Block/Seasonal Volume Charges

- Create Separate Lifeline Customer Class
  - Benefits lifeline customers to the extent that they use less and peak less

- Targeted Assistance for Low-Income Customers
  - “No hurdle” conservation program
  - On-call plumbing repair
  - Forgiving leak adjustments
Benefits of Enhanced Lifeline Features

- Improves customer acceptance by offering greater control over bills
- Reduces affordability hurdle; assistance dollars can go farther
- Related water efficiency programs can target impacted sectors
- Enhanced customer class differentiation can improve equity
- Usage allowances can stabilize bills/revenues, addressing snowbird/vacancy issues
- Synergy of rates, programs, customer relations, and finance improve utility presence and climate
## Some Real-World Examples

<table>
<thead>
<tr>
<th>Agency</th>
<th>Affordability-Enhancing Features</th>
</tr>
</thead>
</table>
| Cascade Water Alliance        | - Recovers most costs based on summer usage  
                                  - Fixture-replacement program for low-income residents |
| City of Blaine                | - Separate low-income senior/disabled rate class; commercial strength classes  
                                  - Considered volume-based sewer rate structure |
| King County                   | - Considering redefining residential equivalents based on square footage |
| City of Olympia               | - Offers discounted sewer rate for homes using $\leq$ 500 cubic feet bimonthly  
                                  - System development charge (SDC) incentives in urban core areas to recognize infrastructure density/age; could also apply to ongoing rates |
| City of Redmond               | - Reduced volume built into residential sewer rate  
                                  - Imposes residential water SDCs based on home size |
| Woodinville Water District    | - Includes 2 ccf per billing period in fixed charge  
                                  - Imposes rate surcharge on high usage based on “carrying cost” of SDC |
# How to Fund a New Initiative?

<table>
<thead>
<tr>
<th>Funding Mechanism</th>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rates – Fixed Charges</td>
<td>– Greater revenue stability/reliability</td>
<td>– Diminishes conservation incentives</td>
</tr>
<tr>
<td></td>
<td>– Consistency with fixed cost structure</td>
<td>– Less affordable for low users</td>
</tr>
<tr>
<td>Rates – Volume Charges</td>
<td>– Promotes conservation incentives</td>
<td>– Greater exposure to revenue risk</td>
</tr>
<tr>
<td></td>
<td>– More affordable for low users</td>
<td>– Less consistent with fixed cost structure</td>
</tr>
<tr>
<td>System Development Charges (SDCs)</td>
<td>– Alleviates burden on ratepayers</td>
<td>– Reliant on system growth</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Limited to capital investment/debt</td>
</tr>
<tr>
<td>Capacity Surcharges</td>
<td>– Alleviates burden on low users</td>
<td>– More complicated to administer</td>
</tr>
</tbody>
</table>
Continued utility cost pressure likely requires direct customer assistance to mitigate impacts on low-income customers.

Rational cost-based ratemaking offers tools to ensure that we are not mitigating a self-inflicted problem.

Lifeline features offer customers greater control of their bills, improving customer acceptance and providing some surprising fringe benefits for the utility.

An integrated approach (rates, assistance, conservation, etc.) can enhance outcomes for low-income households.
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