Working Smarter to Save Money: Finance and Management Tools and Techniques for Small Water Systems

Rates/Rate Setting

Dawn Nall
Program Manager
Southwest EFC

Southwest Environmental Finance Center

"This part of the plan will be funded with all the unused money we must have laying around someplace."

What Goes Into Reviewing Rates for the Next Year?

Are we following State law?

What exactly does this include?

Are we allocating the costs to the right customers?

Do these rates send the right signals to our customers, based on our objectives?

Will our customers understand these rates?

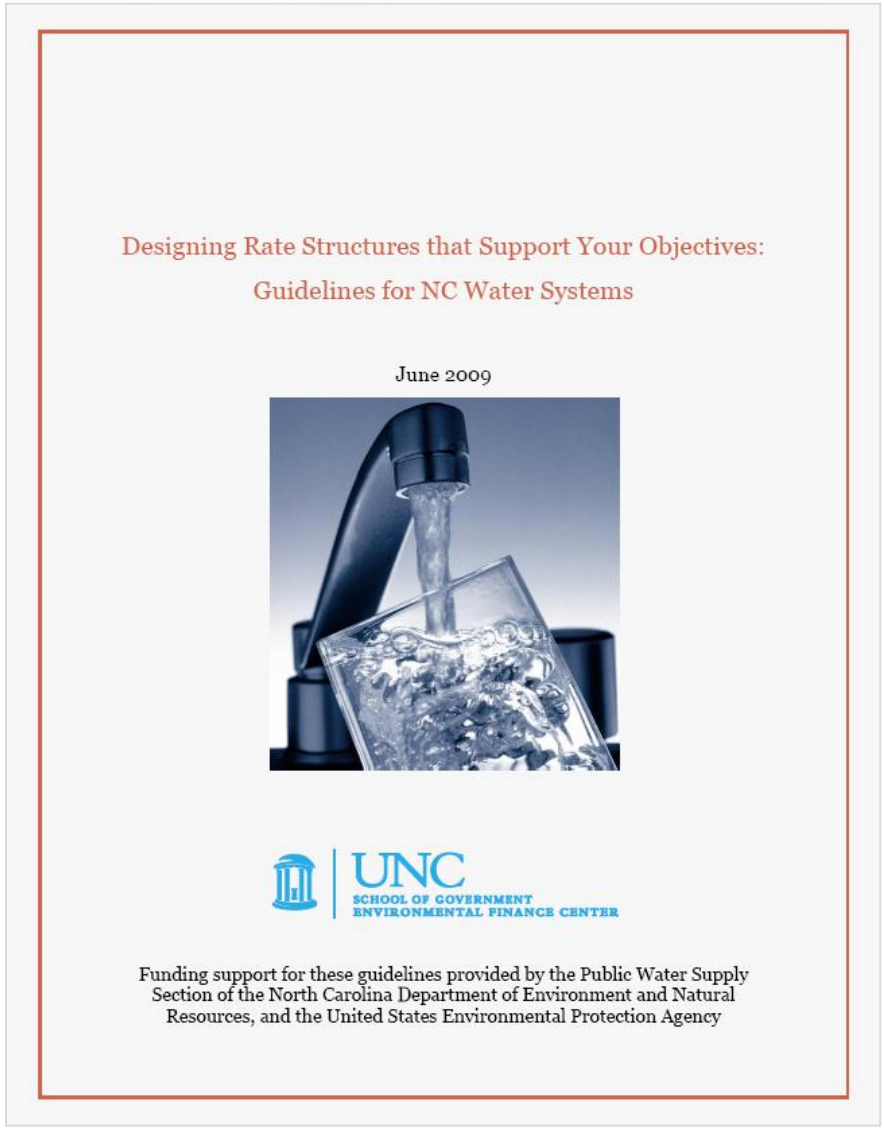
Will it provide sufficient cost recovery?

Will our customers be able to pay these rates?

Resource

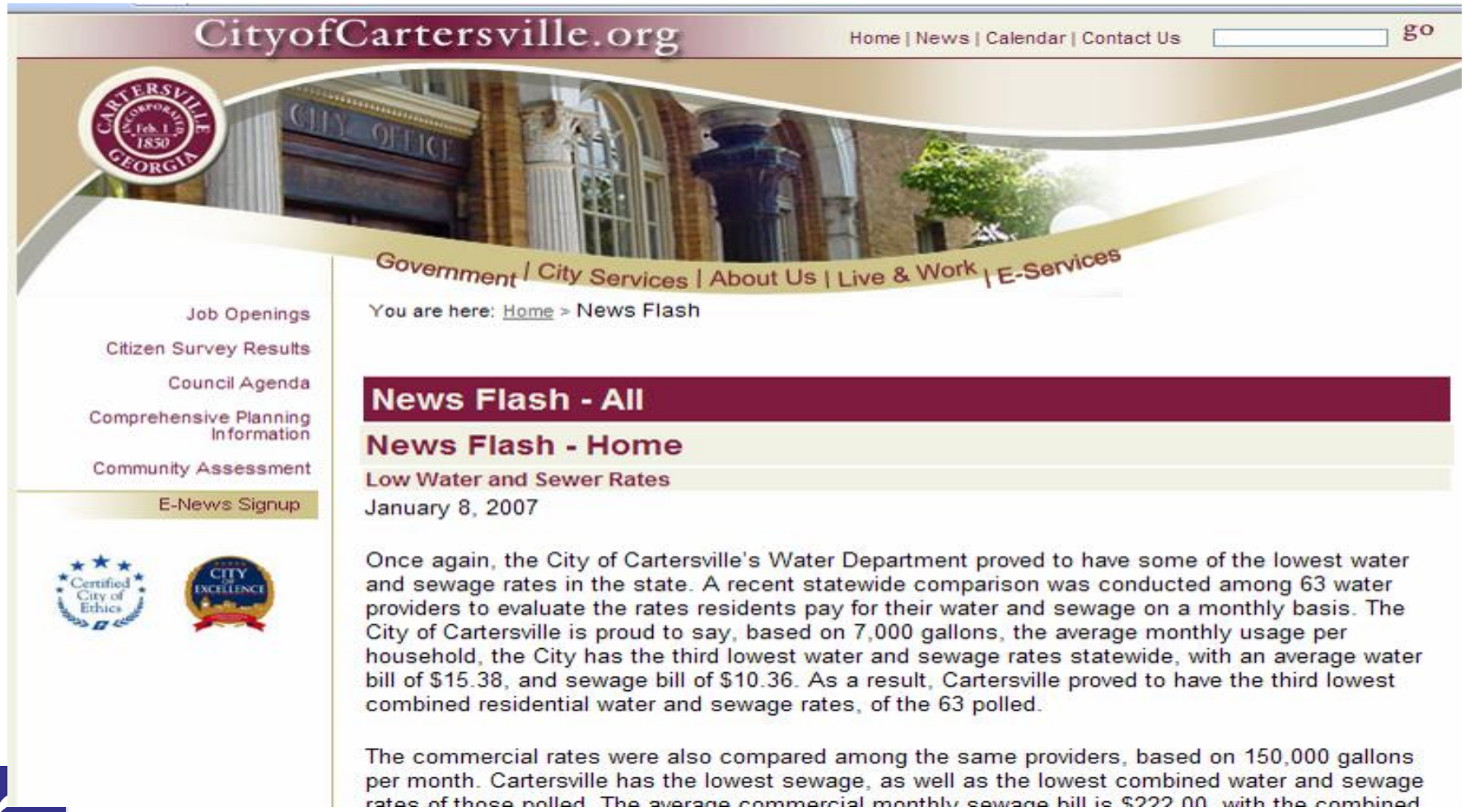
Free guide written for utility managers in June 2009

http://www.efc.unc.edu/publications/2009/GuidelinesDesigningRateStructures.pdf



How much money do you need?

Not This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Low Water and Sewer Rates
January 8, 2007
Once again, the City of Cartersville's Water Department proved to have some of the lowest water and sewage rates in the state. A recent statewide comparison was conducted among 63 water providers to evaluate the rates residents pay for their water and sewage on a monthly basis. The City of Cartersville is proud to say, based on 7,000 gallons, the average monthly usage per household, the City has the third lowest water and sewage rates statewide, with an average water bill of $15.38, and sewage bill of $10.36. As a result, Cartersville proved to have the third lowest combined residential water and sewage rates, of the 63 polled.
The commercial rates were also compared among the same providers, based on 150,000 gallons per month. Cartersville has the lowest sewage, as well as the lowest combined water and sewage

Rates & “Full Cost Pricing”

- Operations & maintenance expenditures
- Taxes and accounting costs
- Contingencies for emergencies
- Principal and interest on long-term debt
- Reserves for capital improvement
- Source water protection

Determining Your Financial Needs

- Your current O&M costs
- Your planned capital projects
- Your “rainy day fund” or reserves in case of major budget shortfalls

Determining Financial Need

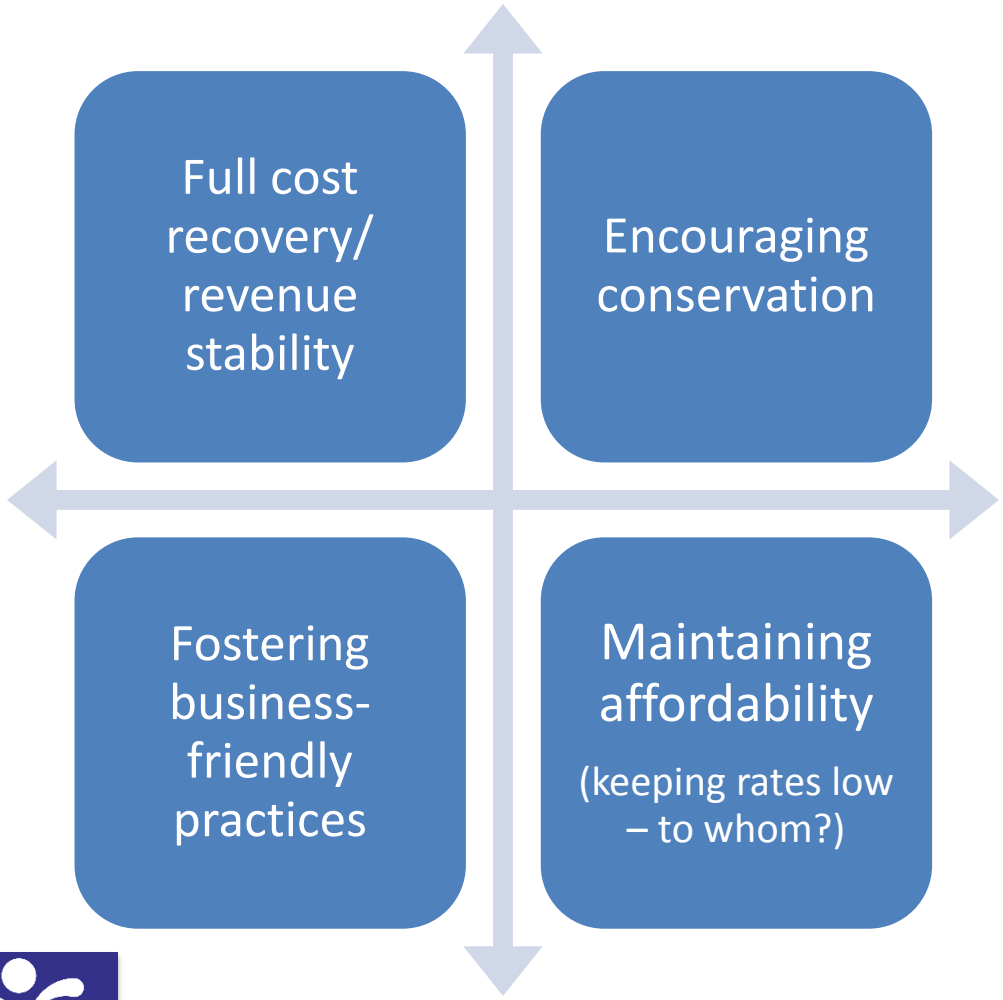
- Start with your current budgets. How have they changed over time? What is the cost per customer?
- Then include any known future expenses
- Remember inflation, changes in customer levels, etc.

Things to Watch Out For

- Do you have good detail on your O&M costs?
- Is your capital planning complete? Realistic?
- What is your goal for your utility (four squares presented in next section)

Understanding The Community's Goals

Understanding Your Rate Setting Goals



1. _____
2. _____
3. _____
4. _____

Refer to this list and focus on the highest ranked objectives when following the guidelines for selecting the appropriate rate structure design.

Elements of Rate Design

Elements of Rate Structure Designs

1. Customer classes/distinction
2. Billing period
3. Base charge
4. Consumption allowance included with base charge
5. Volumetric rate structure
6. (If applicable) Number of blocks, block sizes and rate differentials
7. (Optional) Temporal adjustments
8. Frequency of rate changes

1. Customer Classes/Distinction

Alternative	Targets
One rate structure for all	All are equal
Separate rate structure for residential, irrigation, commercial, industrial, governmental, or wholesale customers	Specific type of customer
One rate structure, but with different base charges based on meter size	Non-residential or multi-family housing
One rate structure for all, but with blocks that implicitly only target non-residential use	Non-residential
Negotiated rate structure with individual high-use customers (typically an industrial customer)	Only one customer
Different rates for customers outside municipal limits/service area boundaries	“Outside” customers

2. Billing Period

	More Frequently (e.g.: Monthly)	Less Frequently (e.g.: Quarterly)
UTILITY	Steady monthly revenue stream; Rate changes effected quicker; Lost revenues from unpaid bills smaller; Communicate with customer more frequently	Less staff and lower billing costs; Possibly fewer late payments and cutoffs to deal with
CUSTOMER	Smaller, more regular bills (easier to pay); Higher and faster sensitivity to usage and rate changes (leaks, conservation); More sensitive to rate structure design and less confusion	None beyond sending fewer checks in the mail

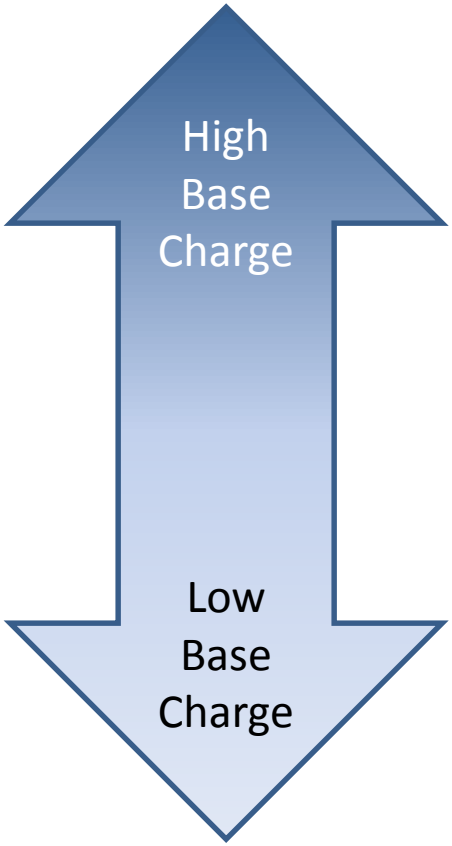
Suggestion: Use a monthly billing period if you can afford it

3. Base Charges

PROS

Higher "guaranteed" revenue to pay off the fixed costs;
Higher month-to-month revenue stability

Provides strong incentive to keep usage low;
Customers more likely to notice month-to-month change in bill due to change in usage



CONS

Customers with very low usage are paying a high unit price;
Customers do not witness a significant change in bill if conserve water

Revenues less stable for utility;
Revenues are highly seasonal

Suggestion: Smaller utilities should lean towards higher base charges

4. Consumption Allowance with Base Charge

Bills and revenues are more sensitive to usage changes

Provides a lifeline amount of water to offset some of the effects of high base charges

Provides a greater offset for the customer, but discourages conservation

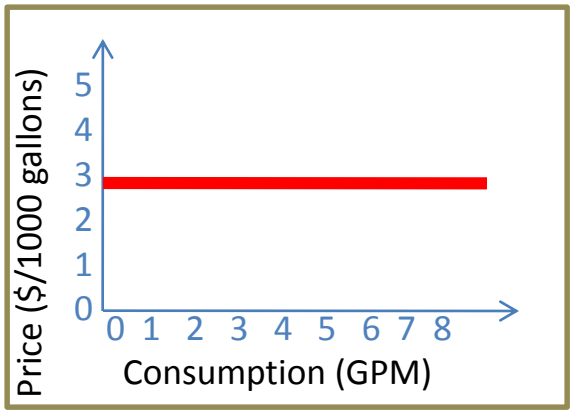
Do not include any
(0 gallons)

Include some amount
(e.g.: 1,000 GPM)

Include high amount
(e.g.: 3,000 GPM)

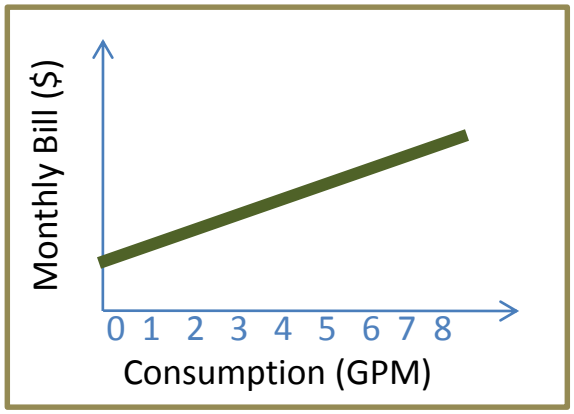
Suggestion: For systems with low base charges, do not include any consumption allowance. For systems with high base charges but wish to encourage conservation, keep consumption allowance low, if any.

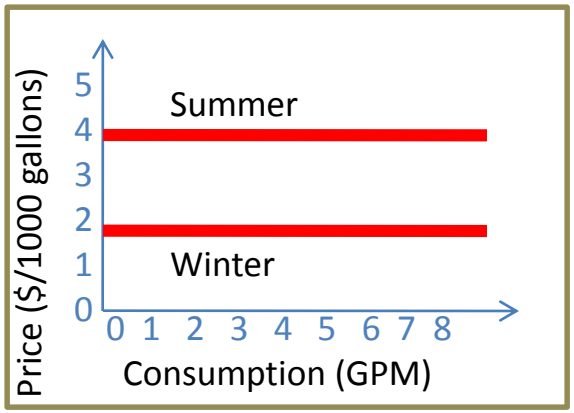
5. Volumetric Rate Structure



Uniform ("Flat") Rates

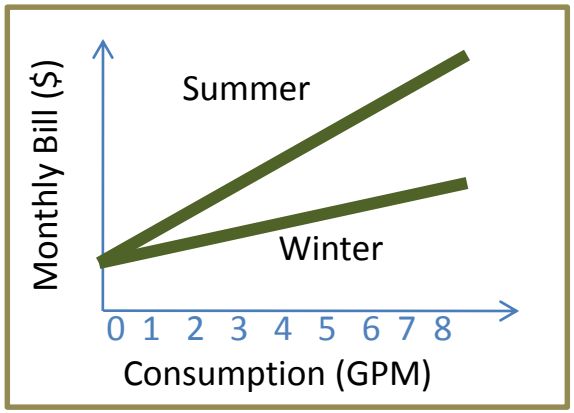
Simple and Fair





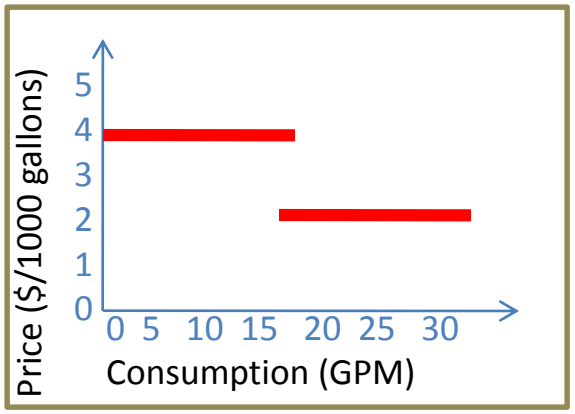
Seasonal (Uniform) Rates

Conservation-oriented, good for seasonal communities



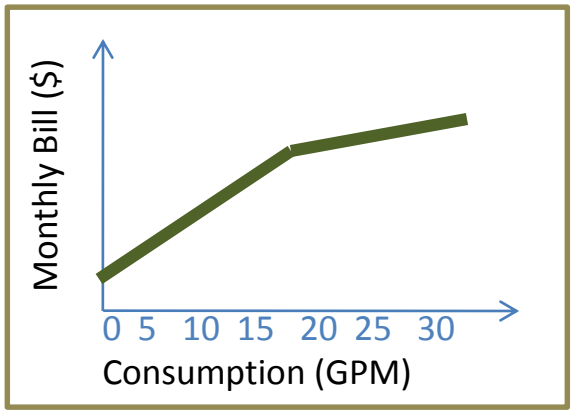
Suggestion: Pick the volumetric rate structure that fits your stated primary objectives best. Do not use decreasing blocks for residential consumption.

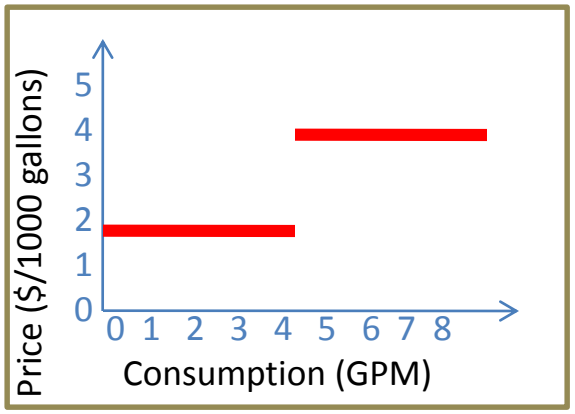
5. Volumetric Rate Structure (Cont.)



Decreasing Block Rates

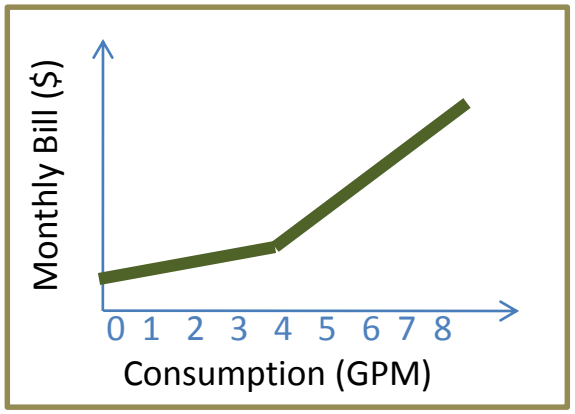
Provide price break for large users (e.g.: commercial). Do not use for residential.





Increasing Block Rates

Conservation-oriented. Consider large families.



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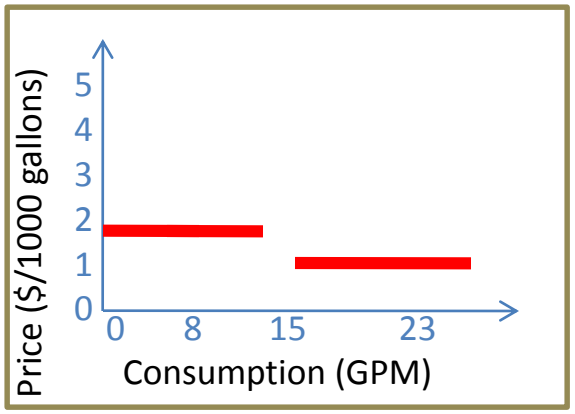
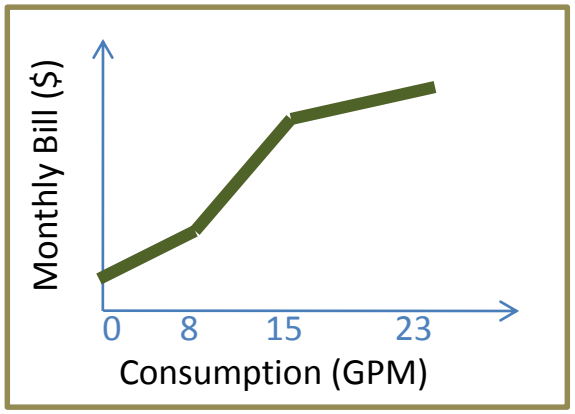
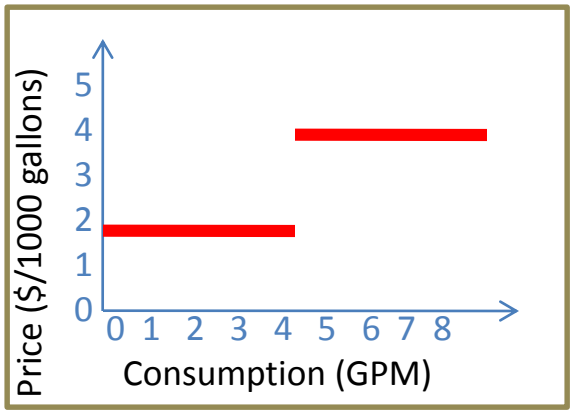
5. Volumetric Rate Structure (Cont.)



Targeted Block Rates

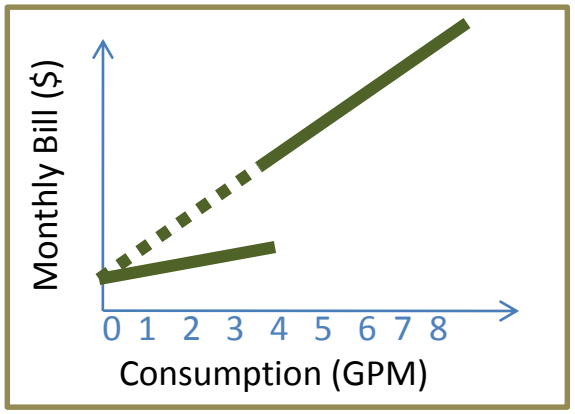
Increase *and* decrease based on desired targets: increasing for residential, decreasing for commercial





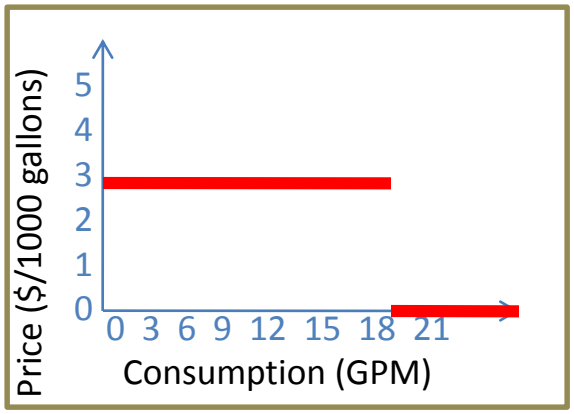
Uniform At One Block

Complex, but greater price incentives over traditional block rate structures



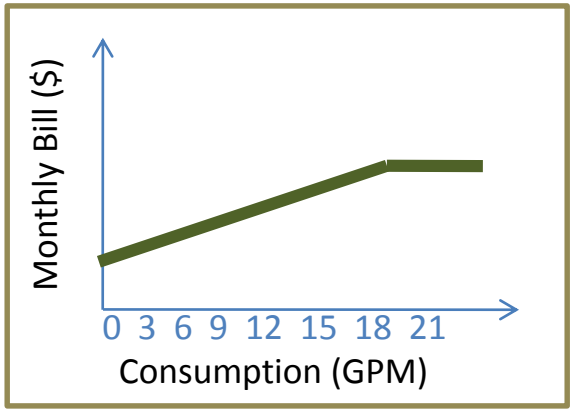
Suggestion: Pick the volumetric rate structure that fits your stated primary objectives best. Do not use decreasing blocks for residential consumption.

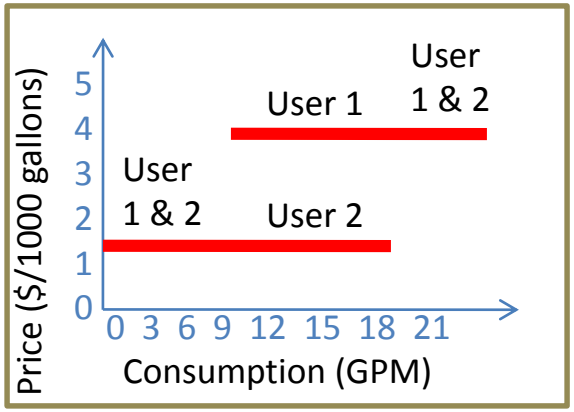
5. Volumetric Rate Structure (Cont)



Uniform Rates with Cap

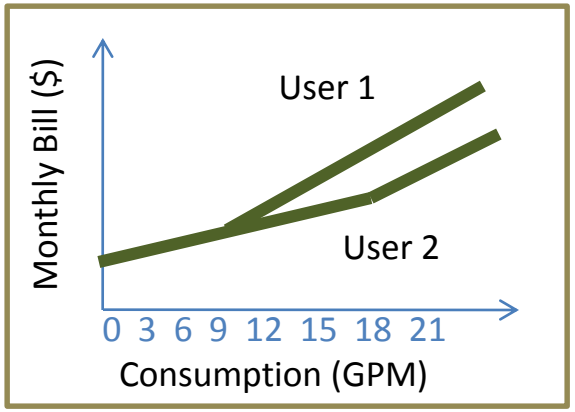
Only appropriate for residential sewer, cap at max. indoor usage level





Budget-based Rates

Tailored to each customer, most equitable, accounts for family size and industry, conservation-oriented, but complex



Suggestion: Pick the volumetric rate structure that fits your stated primary objectives best. Do not use decreasing blocks for residential consumption.

6. Block Designs (If Applicable)

For block rate structures to be effective:

- Decide on the correct number of blocks

  How many targets should you set on residential usage? Do you want all non-residential use to be charged at a uniform rate, or provide blocks for non-residential use as well?

- Decide on where the blocks should end/start

  Start the second block only where summertime residential use ends and non-residential use continues (i.e.: charge residential use at uniform rates)? Set increasing block rates for residential customers where the blocks end at average use (e.g.: 5,000 GPM), then double it (e.g.: 10,000 GPM), and then over that (to target irrigation use more specifically)?

6. Block Designs (If Applicable)

For block rate structures to be effective:

- Set significant rate differentials between blocks

  Charging only 50 cents/1,000 gallons more in one block than in the preceding block defeats the purpose of using an increasing block rate structure. If you select a block rate structure, select significant rate differentials to see any added value of your rate structure.

- Keep in mind your base charge and consumption allowance

  High base charges and consumption allowances may be significant portions of the total bill, greatly diluting the effect of an increasing block rate structure on providing incentives to conserve. Offset high base charges by reducing the consumption allowance, or setting high block rates.

6. Block Designs (If Applicable)

For block rate structures to be effective:

- Meter reading must be punctual

  If the meter is read a few days too late, it may unjustly place the last few days' of a customer's use in a higher block.

- Replace meters frequently and repair lines quickly

  Faulty meters or leaking pipes will cause the customer to be billed at the wrong block levels, costing either the utility lost revenue or the customer more.

6. Block Designs (If Applicable)

For block rate structures to be effective:

- Consider the adverse effect on large families

  Large families consistently use high amounts of water throughout the year and may not have capacity to conserve. An increasing block rate structure therefore negatively affects the customer, without achieving any conservation objectives. Investigate your billing records to estimate the number of residential accounts that consistently use high amounts of water and use this knowledge to select the appropriate block sizes to mitigate this effect. Consider using uniform rates or budget-based rate structures if the community has many large families.

7. (Optional) Temporal Adjustments

- Prepare for drought in advance: create an ordinance *in advance* to give the utility the ability to raise rates temporarily during a water shortage scenario (sometimes called “drought surcharges”).
- Specify the potential rate increases precisely.
- Rate increases should be substantial to encourage conservation.
- Explicitly state the conditions that would trigger the temporary rate changes on and off. Tie the triggers to your water shortage response plans and water reservoir/well levels.

Note: Temporary rate increases that are significant in magnitude have been shown to be effective methods of encouraging conservation while recovering lost revenue.

8. Frequency of Rate Changes

Decide when and how often you will review your rates. Some alternatives:

- Always review your rates annually (recommended)
- Review your financial health indicators annually, and then review your rates if any of the indicators reflect poor financing
- Pass an ordinance or internal policy to raise rates each year automatically based on inflation

Elements of Rate Structure Designs: 8. Frequency of Rate Changes

- *Important: Avoid maintaining low rates at the expense of your utility's financial health. It will either lead to a sudden, massive rate increase in the future or to failing systems and endangering public health.*