

## FINANCIAL CAPACITY PLANNING SERIES

- Asset Management
- Capital Improvement Planning
- **Rate Structure**

**F**inancial capacity is the ability to acquire and manage sufficient funds to effectively operate and maintain your water system. This handout series is designed to help you develop the basic tools needed to ensure revenue sufficiency and planning ability to meet future water system needs.



### DRINKING WATER SERVICES

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DRINKING WATER SERVICES

# DEVELOPING A RATE STRUCTURE

Charging the full cost to deliver safe water to your customers every day ensures your water system's financial health. Finding the proper amount to bill puts you in a better financial position to serve your customers. Water systems are one of the most capital-intensive sectors in the economy, and lack of financial planning can result in significant costs for your community in the future.

In setting the right price to charge, a carefully designed rate structure will provide the revenue your system needs to operate and will spread the financial burden equally. In this handout we walk you through six essential steps in determining the right rate structure.

“Cut Rates!” is a common board member candidate’s promise to voters. And maybe that’s a great idea if reserve accounts are overflowing. But rates can quickly become outdated once they are not generating the revenues necessary to cover all costs and satisfy other rate setting objectives (e.g., promoting water conservation, or being business friendly). For that reason, rates should be examined annually during the budget development process to determine if it is time to adjust them. In choosing the right rate structure you must both look at the past, and forecast the future. The following six steps will guide you to the right answer.

### STEP 1: KNOW YOUR HISTORY

Put the last 3-5 years of historical data into three small tables to see your system’s trends in population(s), water use, and operating costs.

Customer Class	No. of Customers			Water Use [Mgal]			Annual Operating Costs		
	2014	2015	2016	2014	2015	2016			
Residential	250	255	265	14.50	14.79	15.37	2014	2015	2016
Commercial	5	5	6	0.50	0.50	0.60			
*Other	2	2	2	0.15	0.15	0.15			
Total	257	262	273	15.15	15.44	16.12			

\*Industrial, Wholesale, Fire, etc.

### STEP 2: FORECAST YOUR REVENUE REQUIREMENT

Determine your system’s necessary income to cover its future costs by defining your revenue requirement. To help quantify revenue and costs, use existing - and accurate - financial documents (Budget, Capital Improvement Plan, Asset Management Plan). The example below lays out revenue requirements and revenues for the next 5 years.

	2017	2018	2019	2020	2021
Annual Op. Costs	\$120K	\$125k	\$127k	\$130k	\$135k
+Reserves, Capital Costs, Depreciation, etc	\$12k	\$12.5k	\$12.7k	\$13k	\$13.5k
<b>Annual Revenue Requirement</b>	<b>\$132k</b>	<b>\$137.5k</b>	<b>\$139.7k</b>	<b>\$143k</b>	<b>\$148.5k</b>

<b>Revenue</b>	\$122k	\$115k	\$114.4k	\$118k	\$127k
-Annual Revenue Requirements	\$132k	\$137.5k	\$139.7k	\$143k	\$148.5k
<b>Surplus/Deficit</b>	<b>-\$10k</b>	<b>-\$22.5k</b>	<b>-\$25.3k</b>	<b>-\$25k</b>	<b>-\$21k</b>
Cumulative Surplus/Deficit	<b>-\$10k</b>	<b>-\$32.5k</b>	<b>-\$57.8k</b>	<b>-\$82.8k</b>	<b>-\$104.3k</b>

This table shows you how the surplus/deficit increases with time. A small shortfall in revenue this year can mean big problems in 5 to 10 years.

### STEP 3: CREATE THE RIGHT RATE STRUCTURE FOR YOUR SYSTEM

Once you have defined your revenue requirement you can then start figuring *how* to charge that amount to your customers. The basic framework of many rate structures distinguishes between fixed and variable charges:

*Base Charge* -What to charge your customers even if they use no water at all is the base charge (or fixed regular service charge). Most of your water system’s costs are fixed, so it makes sense that the base charge makes up most of a customer’s bill.

*Commodity Rate* -The variable portion of a customer’s bill that tracks water consumption is the commodity rate. There are many ways to structure this rate to meet your goals and tailor it to your customer base. However, it is simplest to set one price per gallon for any amount of water used.

Consider other fees, too, like a connection fee or a *System Development Charge (SDC)*. An SDC is a one-time charge paid by a new customer applying for a new water connection. It is used to off-set the impact of new development on the system’s infrastructure and to recoup a portion of the community’s investment in infrastructure already in place.

### STEP 4: EVALUATE AFFORDABILITY

Affordability calculations can provide a general idea of the water bill’s impacts on a customer’s monthly budget. And these calculations can help determine eligibility for grants or low-interest loans. The simple calculation below can be used as a good starting point in assessing what your average customer can afford:

$$\text{Affordability Rate} = (\text{Median Annual Household Income} * 1.25\%) / 12$$

MHI can be found at: <http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>  
Percent MHI can range from 1.25% - 2.0%. Use what best fits your community.

### STEP 5: REVIEW THE IMPACTS AGAIN

No rate structure is perfect. Each time you choose a rate structure, you should calculate customer fees and charges and then estimate the overall effect. If the economic burden is too heavy, you can consider either adjusting the rate structure or changing your (overly ambitious?) capital improvement plan. Rates, however, are typically far too low. While increased rates are painful, they may be necessary to cover the true cost of water. *Do not raid reserve funds. This only passes the buck to the next generation.*

### STEP 6: MAKE IT EASY & SHARE WITH EVERYONE

Roll out the new rate structure (and the cost-driving capital improvement plan) openly, in an effort to engage your community and the customers. Make it easy to understand, easy to update, easy to implement. It is often hard to please everyone, so it needs to be reasonable and defensible. By creating a rate structure that fits your community’s needs, and by reviewing and adjusting it on a regular basis, your water system will have the resources it needs for generations to come.