



Setting Small Drinking Water System Rates for a Sustainable Future

One of the Simple Tools for Effective Performance (STEP) Guide Series



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Key Terms

Affordability	The ability to pay a water bill without affecting your ability to pay for other essential goods and services.
Amortization	The gradual elimination of a liability, such as a mortgage, in regular payments over a specified period of time. These payments must cover both principal and interest. Or, writing off the cost of an intangible asset investment over the projected life of the asset.
Asset Management	A planning process for maintaining and replacing your system's infrastructure in the most efficient manner. Data on infrastructure (criticality and condition) are used to prioritize capital investments.
Capacity Development	A process through which your water system can acquire and maintain technical, managerial, and financial capabilities to consistently provide a safe and reliable source of drinking water.
Capital Expenditure	The amount your system spends to acquire or upgrade your system's assets.
Capital Improvement Plan (CIP)	A budgeting and financial tool that a system can use to establish asset rehabilitation and maintenance priorities and to establish funding for repairs and improvements.
Community Water System (CWS)	A public water system that serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.
Debt Service	Principal or interest payments on an outstanding debt (e.g., a mortgage or loan).
Decreasing Block Rate	A rate structure under which the price of water per unit (block) decreases as the amount used increases. Blocks are set according to consumption (e.g., up to 2,000 gallons used, 2,000 to 6,000 gallons, etc.).
Depreciation	An estimate of the reduction in the value of an asset due to wear and tear, obsolescence, or impairment. Also, the allocation of the cost of an asset over time for accounting and tax purposes—an annual depreciation charge in accounts represents the amount of capital assets used up in the accounting period.
Fixed Costs	Costs that remain the same regardless of variations in how much water your system pumps, treats, and delivers (e.g., debt service on loans, rent, etc.).

Flat Rate/Fixed Fee	Rate structure under which all customers pay a set fee (monthly, quarterly, etc.) for water service that is not tied to the amount of water used.
Increasing Block Rate	Rate structure under which the price of water per unit (block) increases as the amount used increases. Blocks are set according to consumption (e.g., up to 2,000 gallons used, 2,000 to 6,000 gallons, etc.). This type of rate structure encourages water conservation.
Net Revenue	The difference between total revenue and costs.
Public Water System (PWS)	A system that provides water for human consumption to the public through pipes or other constructed conveyances. These systems have at least 15 service connections or regularly serve an average of at least 25 individuals daily at least 60 days out of the year.
Rate	The charge a system assesses its customers for use of the system's services, usually billed monthly.
Rate Structure	A set of fees and rates that a water system uses to charge its customers for water.
Reserve Account	An account used to hold funds set aside to finance future system expenses such as infrastructure rehabilitation or replacement, or to address system emergencies.
Revenue	Funds earned by the system through the sale of water or by other means.
Seasonal Rate	A rate that varies depending on the time of the year. Seasonal rates can be used in conjunction with any rate structure, including flat rates and uniform, decreasing, or increasing block rates.
Single Tariff Rates	A unified rate structure for multiple water systems (or other utilities) that are owned and operated by a single utility but that may or may not be contiguous systems or physically interconnected. Under single-tariff pricing, all customers of the utility pay the same rate for service, even though the individual systems providing service may vary in terms of the number of customers served, operating characteristics, and stand-alone costs.
Strategic Planning	A process through which an organization defines what it does and why. A strategic plan defines an organization's long-term goals and objectives and provides a framework through which to meet these goals. Strategic plans should be flexible to make them adaptable in response to unexpected changes.

Transfer Payment	Payment made by a government as a gift or aid, not as payment for any good or service nor as an obligation.
Uniform Rate	A rate structure under which customers pay a single charge per unit of water. For example, customers may pay \$2 per thousand gallons. The cost per thousand gallons remains constant even if usage changes. A uniform rate may be combined with a fixed fee so customers would pay a fixed monthly fee plus a charge per unit of water purchased.
Variable Costs	The costs of operating your system that change as the amount of water that you pump, treat, and sell increases or decreases. Examples include chemicals and maintenance.

Is This Guide for Me?

As a water system owner or manager, one of your most important jobs is making sure that your system brings in enough money to cover the full costs of doing business now and in the future. This guide is designed to help owners, operators, and managers of community water systems (CWSs) serving 3,300 or fewer persons understand the full costs of providing a safe and adequate supply of drinking water to their customers and how to set water rates that reflect those costs. Systems that will find this guide useful are small publicly or privately owned entities whose primary business is providing drinking water.

Many states have rate setting requirements and restrictions. Check with your state for specific requirements. Contact information can be found in Appendix B (State Drinking Water Primacy Agencies), Appendix C (Tribal Drinking Water Contacts), and Appendix D (State Public Service Agencies).

Why is the Rate Setting Process Important?

This guide will help you determine how much money you need to collect annually from customers through rates to fully cover your expenses and help you think through how to determine an appropriate rate structure. Doing so involves taking a detailed look at your current and future costs and expenses, your rate structure options, and the amount of water your customers use. Although the process takes time, the benefits are significant—you will gain the tools you need to:

- Maintain your system's financial stability by ensuring a sufficient revenue stream.
- Collect and reserve the funds needed to cover the costs of future asset rehabilitation and repair projects, security upgrades, and compliance with future regulations, among other things.
- Plan ahead for reasonable, gradual rate increases when necessary.
- Deliver fairly priced, high-quality drinking water to your customers now and in the future.

Additional copies of this guide may be obtained by calling the Safe Drinking Water Hotline at (800) 426-4791. You may also download the guide from EPA's Safe Drinking Water Act Web site at <http://www.epa.gov/safewater/smallsys/ssinfo.htm>.

What Will I Learn?

As the manager or operator of a drinking water system, your most important job is delivering safe drinking water to your customers. If your system does not have the resources to cover the full cost of producing and delivering water, your job will be all the more difficult. (The full cost of water service includes the costs of production, treatment, storage, distribution, debt service, capital expenditures, regulatory compliance, and other operation and maintenance costs.)

This guide's information and worksheets will help you understand the importance of recovering the full cost of running your system through customer charges and how to structure your rates to achieve full recovery. Structuring your rates in this way will ensure that you have the financial resources to operate effectively and efficiently now and in the future. This process has seven steps:

- Step 1:** **Determine** the full cost of doing business by calculating your costs.
- Step 2:** **Determine** your current revenues.
- Step 3:** **Consider** your reserve requirements to ensure you have enough funds to cover your asset rehabilitation and repair costs as well as unexpected costs during the next 5 years.
- Step 4:** **Calculate** how much money you need to collect from customer charges to cover your costs and fully fund your reserve account.
- Step 5:** **Evaluate** appropriate rate structures and design an appropriate rate.
- Step 6:** **Implement** the rates.
- Step 7:** **Review** your rates and make changes when appropriate.

This guide is designed to help you plan financially for the next 5 years. However, once you have a better understanding of your system's finances and future needs, it will be to your advantage to plan even further ahead—at least 20 years in advance, if possible. EPA's *Strategic Planning: A Handbook for Small Water Systems* (EPA 816-R-03-015) will give you the information and tools you need to develop long-term plans for managing and operating your system.



What is Full-Cost Pricing?

Charging customers for the actual cost of water service will guarantee you the revenue needed to cover the costs of operation, treatment, storage, and distribution and will provide funds for future investments. This concept of recovering the costs of running your system through user charges is called “full-cost pricing” and is discussed throughout this guide.

Ideally, full-cost pricing:

- Ensures rates are a sufficient and stable source of funds. Charging for the full cost of delivering water will ensure your system's financial health, enabling you to provide safe water now and in the future.
- Provides information on costs to customers. How much you ask your customers to pay sends a signal to them about the value of the product they are purchasing. Charging for the full cost of the service your system provides will help customers recognize the value of the service and be more mindful of their water use.

Planning for the Future

EPA encourages water systems to plan for the future. **Strategic planning** helps you address and prepare for anticipated and unexpected problems by evaluating your system's current physical, managerial, and financial condition. It also requires you to make important decisions about your water system's purpose, structure, and function.

What are the Benefits of Recovering Your Costs Through Revenues?

Evaluating your costs annually and adjusting customer charges to cover your costs does take time and may sometimes result in a rate increase for your customers. The benefits to your system and your customers, however, will be worth the effort. The most important benefit will be financial stability and security, which will ensure that your system has adequate capacity and long-term sustainability.

Water system capacity is the ability to plan for, achieve, and maintain compliance with drinking water standards, thereby ensuring the quality and adequacy of the water supply. Capacity has three components:

1. **Financial capacity** – the ability to acquire and manage sufficient financial resources. Recovering costs through revenues increases your financial capacity by increasing your available resources and improving your credit worthiness. Some loan and grant programs, including the Drinking Water State Revolving Fund (DWSRF), assess capacity during the loan application process. You might not qualify for a loan if you do not have adequate capacity.
2. **Technical capacity** – a system's physical infrastructure and operational abilities. Recovering costs through revenues increases your technical capacity by giving you the means to invest in your system's physical infrastructure and to make necessary repairs.
3. **Managerial capacity** – a system's management and administrative capabilities. Recovering all costs through revenues will increase your managerial capacity by enabling you to attract, retain, and continually train certified operators and other working staff.

The following pages describe the seven steps to recovering the full cost of running your system through water rates and ensuring that your system has the capacity to operate effectively and efficiently now and in the future.



Step 1 – Determining Your Costs

It may sound obvious, but the first step in setting rates that reflect the true cost of delivering safe drinking water is determining how much it costs to operate your system every year (your annual costs).

In determining your costs, you need to consider all aspects of your system, such as physical equipment, staff, outstanding loans, and mortgage payments. Knowing what your costs are and understanding how they have changed in the past and can change in the future is key to knowing how much money you will need to collect from your customers every year.

Annual Costs Worksheet

The Annual Costs Worksheet helps you determine the annual costs of running your water system. To make sure that you collect enough revenue to cover the full cost of delivering water to your customers, you need to know your full annual operating costs.

There are many ways to account for your system's costs. You should pick one that works well with your current accounting system and that supports the rates you plan to use. Any approach you use must fully account for your costs. To estimate these costs, review records of last year's expenditures and take into account anything that might change over the next 5 years (e.g., increased energy costs). Remember to include only costs related to the provision of water.

You should complete the Annual Costs Worksheet every year.

Two copies of the worksheet are provided. The first worksheet is a completed example. The second copy includes instructions on how to complete the worksheet.

Explanation of Example Annual Costs Worksheet

To better understand this system's financial condition, the water system's manager has completed an annual cost worksheet that estimates costs for the upcoming year. To develop the estimates, the manager reviewed records of the system's costs from the past year. In doing so, the manager included:

- personnel costs such as salaries, wages, and benefits;
- non-personnel costs for things like equipment, supplies, utilities, the purchase of water, waste disposal, laboratory costs, and taxes and franchise fees; and,
- costs for debt service and other interest owed by the system.

Note that most costs are for maintenance, salaries and benefits, and chemicals.

Example Annual Costs Worksheet

Date Worksheet **Completed/Updated:** *6/19/05*

Personnel Costs \$126,627

Non-Personnel Costs (excluding debt service) \$84,857

Debt Service \$25,570

Total Costs \$235,054

Using the Annual Costs Worksheet

This section presents instructions for completing the Annual Costs Worksheet. Each step presented here corresponds to a numbered section of the sample worksheet on page 15.

Step 1: Enter the date. Circle whether you are completing or updating the worksheet and fill in the date. You should update this worksheet once a year. You can either make minor adjustments to the worksheet or start a new worksheet each year.

Step 2: List your annual costs. Fill in your costs on the lines provided. Divide your costs into three categories:

Personnel costs for costs such as salaries and wages for administrative staff and functions, for operations and maintenance staff and functions including labor costs for treatment, monitoring, maintenance, and testing; and benefits paid on their behalf, including medical insurance, retirement, vacation, etc. Also include billing operations, including meter reading, mailing of bills, and processing of returns. Note that costs for billing operations, meter reading, and processing of returns can be contracted to a third party. If your system contracts these services, include them as non-personnel costs (excluding debt service).

Non-personnel costs (excluding debt service) for costs of operating the office, including rent and utilities; property, general, and liability insurance, workers' compensation, insurance on vehicles; accounting, legal, engineering, and other professional services; annual principal and interest payments on mortgages; office supplies, computer software, etc.; utilities for the operation of the system, including electricity and telephone charges; supplies used in the day-to-day operations of the system and maintenance of the system (not including major capital purchases); purchase of treated and untreated water that is resold to customers; chemicals; annual expenses on equipment leased to operate the system; cost of regular maintenance and repair of equipment (not including major repairs); cars, trucks, etc. used in daily operations; certification and training of operations staff; removal or disposal of waste residuals from water treatment; testing associated with water quality monitoring; equipment used for security, like locks and video tapes; other miscellaneous costs, taxes paid on annual profits, and franchise fees. (Public systems may include payments made in lieu of taxes not including indirect taxes like sales taxes charged by the utility, amounts withheld from employees for federal or state income tax liability, or amounts withheld from employees for their social insurance contributions).

Debt service for cost of annual principal and interest payments on debt of the system incurred to finance investment, other than mortgages. Also, include any other interest owed by the system.

Step 3: Calculate total annual costs. Calculate your total costs by adding the annual costs you listed in Step 2. Enter this number in the box marked "Total Costs."

Annual Costs Worksheet	
Date Worksheet Completed/Updated:	
Personnel Costs	
Non-Personnel Costs (excluding debt service)	
Debt Service	
Total Costs	

1

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Step 2 – Determining Your Current Revenue

After determining your costs, you need to calculate how much money you collect every year (your annual revenue).

Annual Revenue Worksheet

The Annual Revenue Worksheet will help you account for your annual revenue and includes detailed instructions for determining:

1. Your system's annual revenues from **current rates, interest, and other sources of revenue.**
2. Any **additional revenue** including how much money you save every year as a result of **subsidy** and **transfer payments** (e.g., the portion of your town's property tax revenue that is allocated to your system).

Two copies of the worksheet are provided. The first worksheet is a completed example. The second copy includes instructions on how to complete the worksheet.



Explanation of Example Annual Revenue Worksheet

After completing the Annual Costs Worksheet, the water system manager completes the Annual Revenue Worksheet to get an accurate picture of the money the system will likely spend in the upcoming year versus the amount of money it will take in. When accounting for annual revenue, the manager includes the additional revenue, including revenue from a grant and transfer payment the system expects to receive to complete a capital improvement project. Note that in the example worksheet almost all revenue (97 percent) comes from water sales.

Looking at the total costs identified in the Annual Costs Worksheet (\$235,054) and subtotal of operating revenue and interest listed in the Annual Revenue Worksheet (\$228,024), it appears that this water system's costs and revenues are fairly even (taking into account the total additional revenues). However, this worksheet does not account for the money that the system will need to set aside every year to cover the infrastructure rehabilitation and replacement costs that most likely will arise. By calculating how much money the system should contribute annually to a reserve fund in Step 3, the system manager will have a much better picture of the system's financial situation.

Example Annual Revenue Worksheet

Date Worksheet Completed/Updated: 6/19/05

Operating Revenue and Interest

Water Sales	\$221,465
Fees and Service Charges (include late fee, connection fee, fire fee, system development fee, etc).	\$4,881
Interest	\$967
Other	\$711

Subtotal Operating Revenue and Interest \$228,024

Additional Revenue (Subsidies)

Grants	\$1,824
Transfer Payments	\$4,000
Other	\$432

Subtotal Additional Revenue (Subsidies) \$6,256

Total Annual Revenue \$234,280

Using the Annual Revenue Worksheet

This section presents instructions for completing the Annual Revenue Worksheet. Each step presented here corresponds to a numbered section of the sample worksheet on page 21.

- Step 1: Enter the date.** Circle whether you are completing or updating the worksheet and fill in the date. You should update this worksheet once a year. You can either make minor adjustments to the worksheet or start a new worksheet each year.
- Step 2: List your operating revenue and interest.** Fill in your revenue in the lines provided. If your system has other sources of revenue not listed on the worksheet, enter them on the “Other” line provided. Do not include funding you expect but have not yet secured.
- Step 3: Calculate total operating revenue and interest.** Calculate your total operating revenue and interest by adding all the operating revenue and interest you listed in the previous step. Enter this number in the box marked “Subtotal Operating Revenue and Interest.”
- Step 4: List any additional revenue (subsidies).** Fill in additional revenues on the lines provided. This category should include subsidies such as any grants to support day-to-day operations of the system, transfer payments, or other subsidies you receive that are used to support day-to-day operations of the system.
- Step 5: Calculate the subtotal of additional revenue (subsidies).** Calculate your total additional revenue by adding all the additional revenue (subsidies) you listed in the previous step. Enter this number in the box marked “Subtotal Additional Revenue (Subsidies).”
- Step 6: Calculate the total annual revenue.** Calculate your total annual revenue by adding the operating revenue and interest you listed in Step 3 to the additional revenue (subsidies) you listed in Step 5. Enter this number in the box marked “Total Annual Revenue.”

Annual Revenue Worksheet	
Date Worksheet Completed/Updated:	
Operating Revenue and Interest	
Water Sales	_____
Fees and Service Charges (include late fee, connection fee, fire fee, system development fee, etc).	_____
Interest	_____
Other	_____

Subtotal Operating Revenue and Interest	_____
Additional Revenue (Subsidies)	
Grants	_____
Transfer Payments	_____
Other	_____

Subtotal Additional Revenue (Subsidies)	_____
Total Annual Revenue	_____

1

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Step 3 – Setting Aside a Reserve

Having enough revenue to cover your costs is the first step in ensuring that you can consistently provide high-quality drinking water. Two more critical components to providing safe drinking water are taking care of your facilities and equipment and planning for any needed repairs and replacements.

You should set aside money every year in a reserve account to help fund asset replacement and rehabilitation. The amount that you need to save must be factored into your system's rates because rehabilitation and repair costs are part of the overall cost of providing service. If you do not already have a reserve account, consider establishing one as soon as possible; having a reserve account is critical to developing financial capacity.

To establish and properly fund a reserve account you will need to rely on your capital improvement plan, in which you establish your asset rehabilitation and maintenance priorities and determine the funding required for these improvements. Asset management will be an important tool to help you do this. Asset management can be a lengthy process, but it involves five basic steps that will help you determine how much you should set aside in a reserve fund each year:

1. **Develop an inventory** of all of your assets by listing them and collecting information on the condition, age, service history, and useful life of each one.
2. **Prioritize your assets** to help you decide how best to allocate your limited resources. Priority should be based on the asset's importance to the operation of your system and the protection of public health. Other factors to consider include how soon you will have to replace the asset (its remaining useful life) and whether other pieces of equipment can do the same job (its redundancy).
3. Determine the **costs of asset rehabilitation and replacement**.

Asset Depreciation

Each time you operate a piece of equipment, you subject it to wear and tear, thereby reducing its value. This loss in value is called *depreciation*. Some water systems include depreciation in their budget as a cost of operation. Depreciation can be a useful guide for determining the annual contribution to your reserve fund. Additional information is available in Appendix F.

4. Decide what **percentage** of these costs you will cover with cash (i.e., money you set aside in the reserve account), and how much you will cover through grants or loans. (In some cases, it may make more financial sense to borrow money to cover the cost of the project.)
5. **Review and revise your plan.** Your asset management plan should be used to help you shape your system's operations. It should evolve as you gain more information and as your priorities change.

This process will help you determine how much money you need to raise every year through rates to generate the cash necessary to implement your capital improvement plan. While this is a very brief description of how to determine how much you need to save in your reserve fund every year, if you do not already have a reserve account in place, it is a good first step towards thinking about how you will prepare your system to cover the costs of expensive repair and replacement projects.

There are other resources available to help you develop an asset management plan. EPA's *Asset Management: A Handbook for Small Water Systems* (EPA 816-R-03-016) will guide you through inventorying and prioritizing your assets using a series of worksheets and examples. For more information on long-term planning, you also can consult EPA's *Strategic Planning: A Handbook for Small Water Systems* (EPA 816-R-03-015).

Determining Your Required Reserve: An Example

Using *Asset Management: A Handbook for Small Water Systems*, the water system manager completes an asset management plan that prioritizes the system's assets and determines what rehabilitation and replacement projects will be necessary during the next five years. The manager also determines what large longer-term capital improvement projects the system needs to start saving for now. Using engineering reports and historical cost data, the manager estimates the total cost of the capital improvements required. The manager then determines how much cash the system will use to make these improvements and the amount it will need to borrow. For this example, the manager determines the system must contribute \$87,400 to a reserve fund in the first year to implement its plan. The water system manager completes his asset management plan each additional year and adjusts the annual reserve contribution to account for changing priorities and water system needs. The system manager will use the first year's reserve contribution in the calculation of the annual revenue that must be recovered from customers in Step 4: Determining Actual Revenue Required from Your Customers.

Step 4 – Determining Actual Revenue Required from Your Customers

Now that you have a better sense of what your costs and revenues will be and how much money you will need to put in your reserve account over the next few years, you are ready to determine the total revenue that you will need to collect from customers each year. To cover the full cost of doing business (i.e., to meet the goals of full-cost pricing), the amount of revenue that you receive from your customers should equal your total annual costs including your annual reserve contribution minus any subsidies or transfer payments you receive.

You will need to calculate your required revenue annually, taking into account your budget for the upcoming year. In addition, you will need to think beyond your needs for the next year. Variable costs, changes in subsidies, debt service costs, and other factors can affect your required revenue from year to year. Estimating costs for the next several years based on your fixed costs, operating expenses, asset rehabilitation and repair needs, and existing grants or loans can help avoid a significant gap between revenue and costs. Once you have a better idea of actual costs for future years, you can revise your estimates accordingly.

The next worksheet will help you with short-term planning. Use the worksheet to calculate your revenue requirements for the upcoming year and to estimate how much revenue you need to generate over the next 5 years.



Short-term Revenue Required from Your Customers Worksheet

The Short-term Revenue Required from Your Customers Worksheet will help you calculate how much revenue you need to generate every year from customer charges. This activity will take into account the annual costs and revenues that you calculated in the Annual Costs Worksheet on and the Annual Revenue Worksheet and the amount you need to reserve every year to replace and rehabilitate assets, as determined in Step 3.

Financial planning is an important step in avoiding large revenue shortfalls. Knowing what your costs and revenues will be over the next several years will help you decide now whether you will be able to recover your costs through customer charges, whether rate increases will be necessary to cover costs over the next few years, how your surplus or deficit will change over time, and whether you will need to consider restructuring your system, as described later in this guide.

The Short-term Revenue Required from Your Customers Worksheet will help you develop a detailed estimate of your costs and revenue for the next 5 years. This, in turn, will help you understand the need for and impact of rate increases over the next few years as you work towards recovering costs through water rates. This worksheet displays information for the current year and can be used to develop long-term estimates as well.

Long-term planning is another important step to ensuring the financial health of your system. Estimating your costs for the next 15 to 20 years will help you identify future large capital improvement projects that you should start saving for now. You may want to use a worksheet similar to the Short-term Revenue Required from Your Customers Worksheet to evaluate your long-term revenue needs. You can estimate your operating costs, reserve contribution requirements, revenue needs, and surplus or shortfall for five-year increments rather than each year.

EPA's *Strategic Planning: A Handbook for Small Water Systems* (EPA 816-R-03-015) is a good source of information that will guide you through the long-term planning process using worksheets and examples.

Two copies of the worksheet are provided. The first worksheet is a completed example. The second copy includes instructions on how to complete the worksheet.

Explanation of Example Short-term Revenue Required from Your Customers Worksheet

After factoring in the amount the system needs to put into its reserve account in the first year (\$87,400), the system manager determines that the system's actual revenue will not be enough to cover its costs. The manager has to decide how the system will begin to cover those costs. The manager also needs to estimate costs and revenue for the upcoming years to determine whether this problem will continue and to determine whether it is possible to increase customer charges at a reasonable rate to eliminate this shortfall. To do this the system manager:

- Estimated the system's annual cost are \$235,054 (page 13).
- Adds the estimated annual costs to the system's reserve fund contribution (\$87,400) determined on page 23.
- Subtracts the total additional revenue (subsidies) calculated on page 19 from the sum of the system's total costs and total reserve fund contribution.
- Estimates the amount of money the system needs to cover its costs in the first year is \$316,198. The manager will use this amount to determine its rates.

Looking out a few years the manager realizes that despite a fairly small deficit in the first year, the system's failure to recover costs could become a much bigger problem as early as five years from now. The system's operating costs are expected to increase every year, and the amount the system needs to contribute to the reserve fund may change because the system manager completes Step 3 annually and realizes repair and replacement needs and priorities change. The manager realizes that, to make a dent in the growing deficit while avoiding customer rate shock, the system must seriously consider cutting operating costs, rethink how often and how much water rates should be increased, and consider changing the way customers are charged.

Example Short-term Revenue Required from Your Customers Worksheet

Date Worksheet Completed/Updated: 6/29/05

	Year: 2006	Year: 2007	Year: 2008	Year: 2009	Year: 2010
Annual Operating Costs:	\$235,054	\$258,555	\$284,250	\$312,000	\$342,850
Annual Reserve Fund Contribution:	\$87,400	\$89,350	\$83,300	\$85,670	\$82,670
Total Annual Cost of Business:	\$322,454	\$347,905	\$367,550	\$397,670	\$425,520
Total Additional Revenue (subsidies):	\$6,256	\$8,100	\$7,900	\$8,000	\$8,600
Total Annual Revenue Needed: (Total Annual Cost of Business - Total Additional Revenue)	\$316,198	\$339,805	\$359,650	\$389,670	\$416,920
Projected Revenue:	\$228,024	\$230,500	\$235,820	\$239,600	\$245,200
Revenue Surplus or Deficit:	(\$88,174)	(\$109,305)	(\$123,830)	(\$150,070)	(\$171,720)
Cumulative Surplus/Deficit:	(\$88,174)	(\$197,479)	(\$321,309)	(\$471,379)	(\$643,099)

Using the Short-term Revenue Required from Your Customers Worksheet

This section presents instructions for completing the Revenue Required from Your Customers Worksheet. Each step presented here corresponds to a numbered section of the sample worksheet on page 29.

- Step 1:** **Enter the date.** Circle whether you are completing or updating the worksheet and fill in the date. You should update this worksheet once a year. You can either make minor adjustments to the worksheet or start a new one each year.
- Step 2:** **Enter the year(s).** Enter the year(s) for which you are calculating your estimates.
- Step 3:** **List total annual operating costs.** Enter your estimated total costs per year for the first 5 years starting with the total costs you determined in the Total Annual Costs Worksheet. For the next four years consider total annual costs from previous years and adjust them, taking into account any information you have on debt payments.
- Step 4:** **List total annual reserve fund contribution.** Enter the total annual required reserve amount as discussed in Step 3. (Use the Asset Management Step Guide to calculate your reserve fund needs.)
- Step 5:** **Sum costs and reserve fund contribution.** Add the amount entered in Step 3 (total annual costs) to the amount entered in Step 4 (required annual reserves) and enter the total in the box provided.
- Step 6:** **List total additional revenue (subsidies).** Enter the total additional revenue (subsidies) amount calculated on the Annual Revenue Worksheet (grants plus transfer payments).
- Step 7:** **Calculate total revenue needed.** Subtract the total additional revenue entered in Step 6 from the sum of your costs and reserve fund contribution calculated in Step 5. This is the estimated amount of money that your system must generate to cover its costs for each year.
- Step 8:** **Enter projected revenue.** Enter the amount you anticipate your system actually will take in from customer charges each year based on the operating and interest subtotal amount calculated on the Annual Revenue Worksheet.
- Step 9:** **Enter funding deficit or surplus.** Subtract the number in Step 7 from the number in Step 8 and enter the result. If the result is zero or greater, you are taking in enough money to fully recover your costs (and possibly more). If the result is a negative number, you will not recover all your costs and should re-evaluate your rates based on this figure.
- Step 10:** **Enter cumulative surplus/deficit.** Sum the surplus or deficit from each of the previous years.

Short-term Revenue Required from Your Customers Worksheet

Date Worksheet Completed/Updated:

	Year:	Year:	Year:	Year:	Year:
Annual Operating Costs:					
Annual Reserve Fund Contribution:					
Total Annual Cost of Business:					
Total Additional Revenue (subsidies):					
Total Annual Revenue Needed: (Total Annual Cost of Business - Total Additional Revenue)					
Projected Revenue:					
Revenue Surplus or Deficit:					
Cumulative Surplus/Deficit:					

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What if My System's Costs Exceed Its Revenue?

After determining whether you have a deficit or a surplus, you may need to re-evaluate how your system is operated and how you are generating revenue. If the actual revenue exceeds the amount needed to cover all costs, you are in good financial shape. This surplus may be due to fluctuations in demand and may disappear in future years. While your system may face a shortfall or surplus in any given year, your revenue requirement should be met over the longer-term. If your actual revenue is consistently below the amount required to cover all costs, you may need to consider options for reducing the gap between actual and required revenue.

Some options are:

- Reducing operating costs.
- Finding additional sources of revenue.
- Restructuring, which includes such options as purchasing water from another system rather than pumping and treating from your own source, consolidating your operations with a nearby water system, or contracting the operation and maintenance of your water system to another party in order to obtain increased operational efficiency and possibly reduce costs.

If the gap between your actual revenue and the revenue needed to cover your costs is as high as 50 percent, you should contact your state (see Appendix B) to discuss your restructuring options; it is unlikely that you could eliminate the deficit through customer charges alone.

Accounting for Subsidies

Many systems receive subsidies that lower the costs faced by their customers. For example, your system may receive an explicit transfer from your local municipality or a grant from the federal, state, or local government to help finance your operations. Or, your system may not pay the full cost of some of the goods and services it uses or may pay interest rates on loans that are less than the rates charged in private markets. These subsidies will reduce the amount of revenue you must generate through rates and fees. Your annual deficit would be larger (or your annual surplus would be smaller) if you did not receive these subsidies. However, keep in mind that these subsidies should be used as a way to achieve financial stability, not as a permanent solution for revenue shortfalls.

Step 5 - Designing a Rate to Cover Your Costs

Now that you know your costs and the amount of money you need to collect from your customers to fully cover those costs, Steps 5 through 7 will help you start thinking about *how* you're going to collect this money. One way is through water rates.

Considerations for Choosing a Rate Structure

Water rates can be structured in several different ways and there are a number of things to consider, in addition to recovering costs, when selecting the best rate structure for your system and your customers.

To determine which structure is best for your water system, you should evaluate the characteristics of your system, its customer base, and your options for maintaining the predictability of rates and any rate increases. In addition to recovering all your costs, you should consider:



1. **Rate Stability.** Customers are more likely to pay for rate increases if their rates are generally stable. Most systems know that the worst thing they can do is maintain a stable rate for many years, then increase it by 10 percent or more. A single, large increase can lead to "rate shock" and opposition to the increase. It is far better to increase rates by 2 percent per year for 5 years than 10 percent once every 5 years.
2. **Rate Predictability.** As the manager of a small water system, you need to know how much revenue you expect to take in next year and in the years to come. However, predicting revenue can be difficult, as water use can vary from year to year. Water use can increase significantly during a dry year and decrease during a wet year. If you promote conservation, you may see a reduction in water use, requiring a rate increase. This lack of predictability should not discourage you from experimenting with rate structures that promote a valuable public program (like conservation). Instead, you should aim to generate and keep sufficient reserves so that your system can survive a significant decrease in water use.
3. **Number of Customers.** If your system serves fewer than 500 persons, the simplest approach to rate setting might be to take the revenue you need to raise and divide it more or less equally among your customers. If you serve more customers, you might choose an alternative rate structure, e.g., increasing block rates (discussed in more detail on page 43).

4. **Customer Classes.** Some systems may serve only residential customers while others also serve industrial, commercial, or agricultural customers. Residential, industrial, commercial, and agricultural customers may have very different patterns of water use. The cost of servicing these customers may be different as well. You may want to use different rates and rate structures for different classes of customers in order to meet their specific needs.
5. **Water Use.** Examine your customers' water use habits during peak and off-peak seasons. If most of your customers use roughly the same amount of water, a flat fee might make the most sense for your system. If your customers use significantly different volumes of water, you should consider charging for the amount of water used. A family of four should not expect to receive the same water bill as a car wash or laundromat.

Water is a scarce commodity. You can structure rates so that they send a "price signal" to customers and encourage conservation. Customers who recognize the value of the service you are providing will be more likely to use that product in a way that reflects its true value.

6. **Customer Needs.** There may be differences among customers within a class that affect the cost of providing water service to them, or their ability to pay for that service. For example, some residential customers may have low fixed incomes and therefore may have difficulty paying their water bills. Faced with these types of issues, you may want to consider rate structures that allow for different rates for customers with different needs within a single customer class.

Common Rate Structures

There are six common types of rate structures, described in more detail below: **flat rate or fixed fee, uniform rate, decreasing block rate, increasing block rate, seasonal rate, and single tariff.**¹ Under each of these rate structures, systems have the flexibility to set different rates for different categories of customers (for example, different rates for residential users and agricultural users).

Flat Rate/Fixed Fee Rate Structure

Under this rate structure, your customers pay the same amount regardless of how much water they use. A flat rate/fixed fee structure may make sense for very small water systems whose customers all use about the same amount of water. It can save your system the cost of installing meters, which are necessary when implementing a rate structure that is based on water consumption. If the cost of installing meters will far outweigh the benefits of having them in place, this may be the best option for your system, for the time being.

However, in times where water use is higher than average, your system will not be generating the additional revenue needed to keep up with higher demand (e.g., additional treatment costs). In addition, this rate structure offers no incentive for customers to conserve water. Also, keep in mind that some states award additional DWSRF priority points to applicants that have meters in place. Despite the cost, meters are a worthwhile long-term investment.

Uniform Rate Structure

The uniform rate structure is similar to the flat rate/fixed fee structure, but it is based on customers' water consumption and requires meters. Under this structure, customers are charged a uniform rate per unit of water (e.g., gallon, hundred cubic feet) regardless of the amount of water used. This rate structure can also include a fixed service charge. Uniform rate structures are most appropriate for systems whose customers have similar water use patterns.

This rate structure can guarantee a stable revenue stream for your system and can help encourage conservation because the average cost of water does not decline as use increases as it does with fixed fees or decreasing block rates, discussed below. It is fairly easy to implement and easy for customers to understand.

¹Information provided on the rate structures below draws from: Janice A. Beecher, Ph.D. and Patrick C. Mann, Ph.D., with John D. Stanford, J.D., *Meeting Water Utility Revenue Requirements: Financing and Ratemaking Alternatives*, The National Regulatory Research Institute, Columbus, OH, November 1993.

Decreasing Block Rate Structure

Under this rate structure, customers are charged lower rates per unit of water for successive blocks (fixed quantities). As with uniform rates, systems may charge a fixed fee in addition to the decreasing block rates. This rate structure is especially beneficial for industrial or commercial customers who use large amounts of water.

However, this rate structure can be difficult to implement and offers little incentive for customers to conserve water. In addition, it may result in insufficient revenue for the system if demand is unexpectedly high or an unanticipated future need arises. A system must also have meters in place in order to implement this rate structure.

Increasing Block Rate Structure

Under this rate structure, customers are charged higher rates per unit of water for successive blocks (fixed quantities). Systems may charge a fixed fee in addition to the increasing block rates.

This rate structure sends a strong signal to customers about the value of the service you are providing and offers the most incentive for customers to conserve water. The reduction in water use that conservation brings can ease any potential strains on system infrastructure, potentially postponing or eliminating the need for expensive upgrades or new equipment. This rate structure's emphasis on conservation is also beneficial for systems with a limited water source or high treatment costs. The increasing block rate structure does require meters.



Seasonal Rate Structure

Changes in water use patterns from season to season due to changes in weather occur at most systems. In a smaller subset of systems, these fluctuations can be more extreme, for example, if a system serves a significant number of seasonal customers. These systems may want to consider implementing a seasonal rate structure. Under this rate structure, you would charge higher rates to customers during peak season.

A seasonal rate structure is not appropriate for all systems that experience seasonal fluctuations in water use. Consider this rate structure if: increases in usage occur over the same time period every year, the variation in usage between seasons is significant, and your system's capacity is determined by demand during peak season.

Systems can apply one of two forms of seasonal rate structure. The first option is to set one rate for the off-peak season and one for the peak season (these rates can be uniform or increasing or decreasing block rates). The second option is to set one rate (uniform or increasing block rate) and apply excess usage charges (i.e., charge for water use in excess of that used on average during off-

peak times) during peak season. In this second option, customers' rates increase in the peak season only if their use is higher than during the off-peak season.

Seasonal rates can encourage conservation, reducing peak use and therefore limiting the need to expand system capacity (as maximum capacity is determined by peak use rates). In addition, for systems in areas with a significant seasonal population, customers using water during off-peak months would not be required to shoulder the full burden of recovering system costs incurred primarily during peak season.

Setting seasonal rates may require you to increase the frequency with which meters are read, as you will need to assess average usage at the beginning and end of peak and off-peak periods and intermittently throughout each period to fairly distribute costs among peak and off-peak season customers.



Single-Tariff Rate Structure

Some small systems are consolidated into larger systems that have a single owner. This does not mean that the systems are contiguous to one another or physically interconnected, just that one utility owns all of the small utilities. In such a situation, one approach to rate design would be to allow each of the small systems to establish its own rate structure. Since systems vary in terms of their operating characteristics and their costs of operation, each would design rates to recover its own costs.

This, however, is not the only option. Under the concept of “single-tariff pricing,” the larger utility that owns all of the small utilities can use a single tariff (or single rate structure) for all of the customers it serves, regardless of the specific costs of each small system that it owns. This approach is particularly useful for large systems when they are acquiring systems, many of which may need substantial investment. Making that investment in each very small system acquired, and charging the full cost of that investment to the customers of that system, would be a burden to those customers. Spreading the costs over the entire customer base of the larger utility can make rates more stable and affordable for all customers.

Single-tariff pricing removes the direct link between a small system's cost structure and its rates, and it therefore may be less efficient than other options. It may fail to send the proper price signals to customers. On the other hand, it will stabilize rates and revenues and mitigate rate shock. It also will make rates more affordable for customers of the smallest and most expensive systems. If you are considering a single-tariff rate structure, see <http://www.epa.gov/safewater/utilities/stptitle.pdf> for more information.

Estimating the Amount of Water Used by Customers

Now that you have reviewed some of the other rate considerations and common rate structures, you need one final piece of information to set your rates. Most water rates are a charge per unit of water (except a flat rate/fixed fee). To ensure that you meet your revenue requirement, your rates must equal the amount of money you need to collect from customers based on the amount of water delivered to your customers. Therefore, unless you use a flat rate or fixed fee, information on water usage is necessary to set rates.

This information will also help you allocate costs, which will be important if you plan to use a different set of rates for each customer class. For example, if residential customers use three-quarters of the water sold by your system, you may want to collect three-quarters of your revenue from residential customers. Or if you have seasonal variation in use, you may want to allocate costs between peak and off-peak seasons.

All of the water your system draws from its sources may not be delivered to paying customers. For example, your system may not charge customers for all of the water it delivers. A common example of uncompensated usage is water provided to municipalities for firefighting. Your system also may consume some of its water during treatment. A system that filters its water, for example, may use some water to backwash its filters. Finally, your system may have water losses, due to leaks in the distribution network or elsewhere. Water meters that monitor withdrawals from the source and meters that monitor water delivered to the customer can help you identify and address that water loss. Remember that rates are calculated using the full cost of producing, treating and storing water. Therefore, it is important to have good estimates of the amount of water used by your customers in order to ensure that all of these costs are divided fairly among customers.

The best source of information to determine the amount of water used by your customers is your billing data. On average, most water systems measure the amount of water used each month. If your system does not have meters in place, you may need to estimate the amount of water used by your customers. If you have more than one class of customer, you should determine the amount of water used by each class. (If the volume of water used by customers in each customer class is similar, you may want to determine the total water use for all customers.)

In addition, you may choose to divide your customer classes into blocks based on the amount of water they use. For example, you may want to determine the number of customers and volume of water delivered to residential customers using up to 1,000 gallons



each month, 1,001–2,000 gallons, 2,001–3,000 gallons, and so on. But if you find that average usage does not vary across customers, you may not need to make these distinctions.

Average Monthly Usage Worksheet

The Average Monthly Usage Worksheet will help you summarize usage by having you determine the number of service connections served by your system in each customer class and the total amount of water used by these connections in a typical month. If you have seasonal variation in usage, you may want to divide use into peak and off-peak seasons. You can fill out a separate worksheet for each customer class if use varies by class. If usage is similar across customer classes, you can fill out one worksheet for all your customers.

The worksheet lets you divide your customers into blocks based on the amount of water they use. The number of blocks you use and the cut-offs for each block is up to you and will depend on the type of rate structure you wish to implement and the objectives you hope to achieve with your rates. If you choose to divide your customer classes into more than one block, use billing records or meter books to determine the number of customer service connections that fall into each block and the total volume used by customers in each block. If you do not have exact information on water usage, use estimates.



Explanation of Example Average Monthly Usage Worksheet

To better understand this system's customer base, the water system's manager uses information from billing records covering the past 2 years and categorizes residential customers according to their average usage habits. The manager divides the system's residential customers into usage blocks. The manager considers implementing an increasing block rate with 2 blocks. To divide the residential customers into 2 blocks, the manager sets the first block of usage between 0 and 7,000 gallons per month, and the second block at more than 7,000 gallons per month. The manager determines the total number of residential customer service connections that use no more than 7,000 gallons of water each month and the total amount of water used by these customers. The manager then determines the number of customer service connections that use more than 7,000 gallons per month and the total amount of water used by these customers. If the manager wants to use more than 4 blocks, additional rows can be added to the worksheet. The manager fills out a similar worksheet for the system's non-residential customers.

Example Average Monthly Usage Worksheet

Date Worksheet **Completed/Updated:** 6/17/05

Customer Class: Single Family Residential

Unit of measure of monthly usage: Gallons

Water Usage per Month per Customer	Number of Service Connections	Subtotal Usage per Month
<i>0-7,000</i>	<i>520</i>	<i>2,790,000</i>
<i>>7,000</i>	<i>610</i>	<i>4,902,000</i>
<i>Total</i>	<i>1,130</i>	<i>7,692,000</i>

Using the Average Monthly Usage Worksheet

This section presents instructions for completing the Average Monthly Usage Worksheet. Each step presented here corresponds to a numbered section of the sample worksheet on page 41.

- Step 1: Enter the date.** Circle whether you are completing or updating the worksheet and fill in the date. You should update this worksheet once a year. You can either make minor adjustments to the worksheet or start a new one each year.
- Step 2: Enter the customer class.** If you have a single customer class, enter the customer class on the line. If you have more than one customer class, you may want to complete one worksheet for each customer class. If you plan to charge all customers the same rate, you can enter the total number of customers and their water usage in one table.
- Step 3: Enter the unit of measure of monthly usage.** Enter the units in which you measure water volume (e.g., gallons, cubic feet, acre feet).
- Step 4: Determine a water usage block.** Divide the number of customers and the amount of water used into blocks. If you plan to use a uniform rate, you can use only one block—i.e., put the total number of customer connections and the total amount of water used by these customers on a single line. If you plan to use an increasing or decreasing block rate, you will need several blocks. Enter the cut-offs for the blocks on the lines provided. You should add rows to the table if you want to use more than four blocks.
- Step 5: Estimate the total number of service connections.** Enter the total number of service connections that your water system serves for each block of water.
- Step 6: Enter the total volume of water used each month.** Using billing records, meter records, or your estimates, enter the total usage for each block. If you plan to use seasonal rates, you should distinguish between peak and off-peak usage.
- Step 7: Enter the total number of service connections for all blocks.** Add the total number of service connections for each block of customers you listed in Step 5. Enter the total on this line.
- Step 8: Enter the total amount of water used for all blocks.** Add the total amount of water used for each block of customers you listed in Step 6. Enter the total on this line.

Average Monthly Usage Worksheet		
Date Worksheet Completed/Updated: _____		
Customer Class: _____		
Unit of measure of monthly usage: _____		
Water Usage per Month per Customer	Number of Service Connections	Subtotal Usage per Month
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

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Fixed and Variable Rates

Just as your water system has fixed and variable costs, you can set fixed and variable rates. A fixed rate is an amount that your system charges each customer every month, regardless of how much water the customer uses. Fixed rates guarantee stable, predictable revenue, regardless of how much water your customers use; they also can be used to cover your system's fixed costs. A variable rate can be based on customer usage, which is determined by routine meter readings. The more water a customer uses, the more the customer has to pay (in addition to the fixed rate). Variable rates are a good way to encourage water conservation.

If your revenue becomes too unpredictable because of aggressive conservation programs, one could place somewhat more reliance on fixed rates. You would still be sending a price signal to customers through variable rates, but fixed rates could help preserve some predictability in revenue from year to year.

Using fixed and variable rates works best in combination with a block rate or seasonal rate structure and the use of meters. Although installing meters can be expensive, the expense can be well worth it in the long run. Meters will give you a much more accurate picture of how usage varies among customers, how usage varies seasonally, and whether your efforts to encourage conservation have been successful. Meters can also help you identify any structural problems within the system. This information can help you more accurately predict future costs and, therefore, set rates that are designed to recover your costs.

Setting Your Rate

Now that you have organized your usage data, you may want to consider using the data to set rates. There are many ways to set rates; the option you choose should reflect the considerations discussed at the beginning of this step. The basic steps are the same for each approach: the revenue requirement is allocated to customers and then divided by the volume of water used by those customers. In practice, the calculations can involve many steps and can be complex. Fortunately, there are many resources available to help systems calculate rates for many different rate designs. (Appendix A provides information about some of these resources.)

The following example demonstrates how to set a uniform rate. It uses data from the previous example worksheets and assumes that the system serves only residential customers.

- Using data from the Average Monthly Usage Example worksheet (page 39), we see the system serves 1,130 single-family residential customer connections.
- The Average Monthly Usage Example worksheet (page 39) shows that total consumption is 7,692,000 gallons per month. Over the full 12 months of the year, consumption is 92,304,000 gallons.
- In the Short-term Revenue Required from Your Customers Example worksheet (page 27), we see the annual revenue the system must recover from customers is \$316,198 in 2006.
- The system chooses to recover its costs through a uniform rate. The water rate will be set per thousand gallons of water used. Water usage is reported in gallons and must therefore be divided by 1,000 to convert from gallons to thousands of gallons.

To meet its annual revenue requirement with a uniform rate, the system must divide the revenue it will need by the volume of water it will sell during the year. Therefore, the uniform rate per thousand gallons that meets its revenue requirement is:

$$\text{Uniform Rate} = \frac{\$316,198}{92,304 \text{ (thousands of gallons)}} = \$3.43 \text{ per thousand gallons}$$

Each customer would be charged \$3.43 per thousand gallons of water delivered. Appendix A lists additional sources of information on rate setting, including electronic rate-setting tools. Now you are ready to consider how to implement this rate; Step 6 will help you with this process.

Step 6 – Implementing the Rate

Once you have decided on a rate structure and appropriate rates, it is important to consider a number of other factors before charging your customers. Your rates may need to be adjusted because of the particular circumstances of your system. Factors to consider include:

- 1. Public Perception.** Customers should know what the rates are and should understand that they will be paying a fair and equitable share of the cost of providing safe drinking water. If, after calculating the amount you need to receive from customers every year, you determine that a substantial rate increase is necessary, consider preparing outreach materials (e.g., mailings, announcements in local newspapers, fliers) to explain the reason for the rate increase. Make sure your customers understand that your ability to provide safe drinking water depends greatly on having sufficient revenue, most of which comes from customer charges. Keep your customers informed throughout the rate setting process; informed customers are more likely to understand and tolerate rate increases. You might also consider increasing your rates over a number of years or when water use is low to make the rate increase easier on your customers.
- 2. Regulatory Requirements.** Ensuring your water system has the resources to meet all current and future state and federal drinking water requirements should be considered when setting rates.
- 3. Public Service Agency Requirements.** The state may require formal approval to institute a rate or to change rates or rate structures. See Appendix D for a list of Public Service Agencies.
- 4. Administration.** The rate structure should be easy to administer. Complex structures may increase administrative costs and confuse customers.
- 5. Security Planning.** If financial considerations have prevented you from addressing security in the past, you should use the rate setting process as an opportunity to fund those projects.



Step 7 – Reviewing the Rate

Ideally, you should review your rates, rate structure, and rate setting procedures at least once every year. Annual reviews ensure that your rate is appropriate even if circumstances have changed (e.g., new regulatory requirements, increasing customer base) and that you will continue to generate sufficient revenue to cover costs.

You might also want to submit your rate structure for an independent review. Your state or a technical assistance provider might offer programs to help you evaluate your rate structure and set rates. Consider assembling a special review committee, since a review performed by an external party can be more transparent and impartial. Determining who should review the rate is an important part of the process. Persons with management and budget experience are good candidates for the review committee. Depending on your system, a review committee could include:

1. Your water system's operator
2. The town clerk
3. A professional from the community (e.g., accountant, lawyer, water system engineer)
4. A member of the town council
5. Customers
6. The manager of a neighboring system

Many states may require systems to receive formal approval to change rates or rate structures. See the box on the right for more information.

Public Service Agencies

Every state has a Public Service Agency (e.g., a Public Utility or Public Service Commission). In some states, these agencies evaluate water system proposals for rate increases. During this process, the agencies can also evaluate the system's financial capacity.

Agencies primarily regulate privately owned systems (particularly investor-owned systems). But some states also regulate publicly owned small systems.

If you are regulated by a Public Service Agency, you may receive special assistance during the rate increase evaluation process. Most agencies have established expedited rate review procedures for small systems and understand that you may not have the resources to prepare the type of proposal required of large systems. During the expedited process, agency staff members often meet with the system before a formal hearing to discuss the proposal. Some agencies also have simplified forms that can be used by small systems.

To find out if you are regulated by a Public Service Agency or if there are expedited procedures for rate increase approvals, check with your state. A list of state Public Service Agencies is included in Appendix D.

You Are on Your Way to a Financially Sound Future!

As you have learned, setting sustainable rates is an important part of ensuring your system's financial health. Accounting for all of your system's costs including reserve contributions, and revenues including grants and subsidies will help you establish a full-cost pricing structure so you can recover the funds necessary to provide safe drinking water now and in the future. This guide has helped you:

- Determine the **full cost of doing business**.
- Determine your current **revenues**.
- Consider your **reserve requirements** to ensure you have enough funds to cover costs during the next 5 years.
- Calculate how much money you need to cover your costs and fully fund your reserve account using **customer charges**.
- Evaluate your options and **design an appropriate rate**.
- **Implement** the rate.
- **Review** your rates and make changes when necessary.

Ideally, you should review your system's rates each year using this guide to help you through the process. Although it takes time, an annual rate review will ensure that you are maintaining a balance between your costs and revenues; maintaining adequate technical, managerial and financial capacity; and, most important, delivering high-quality drinking water to your customers at a fair price. In addition, communicating effectively with your customers about the full cost of doing business will have a positive impact on your relationship with your customers and will help alleviate rate shock when a rate adjustment is necessary.

Appendix A – Sources for More Information on Rate Setting

Electronic Programs

- 1. The Environmental Finance Center at Boise State University** has developed several easy-to-use computer programs to help water systems evaluate their financial capacity and rate structure:
 - **CapFinance** helps systems develop an inventory of their assets and analyze funding options for rehabilitation and replacement of assets.
 - **Ratio8** is a financial assessment tool that can help systems identify potential problems and monitor their financial situation. It analyzes data from eight areas: operations, revenue, liability, sales, expenses, assets, debts, and accounts receivable.
 - **RateCheckup** is a rate setting program that generates rate schedules and provides budgets and financial forecasts.
- 2. Show-me Water Ratemaker.** The Missouri Department of Natural Resources has developed analysis software to help water systems set rates. To obtain a free copy visit <http://www.dnr.mo.gov/services/emi-suite/Showme41Water.xls> or call (800) 361-4827.
- 3. Safety/Setting Water Rates - Small Water Systems Operation and Maintenance.** The Office of Water Programs at California State University Sacramento developed a series of CD-ROMs. CD: 702E contains information on setting water rates from the Small Water System Operation and Maintenance manual. The CD is the companion material for the 15-contact hour course on safety and setting water rates but can be purchased separately online at <http://www.owp.csus.edu/ordering.htm>.

For more information on these products, visit the Environmental Finance Center online at <http://sspa.boisestate.edu/efc/services.htm> or call (208) 426-1567.

Documents

1. *A Guidebook of Financial Tools*. This document is available by e-mail from: efin@epa.gov or by calling (800) 490-9198.
2. *Financial Accounting Guide for Small Water Utilities*, Michael D. Peroo (Kansas Rural Water Association). This document is available by calling the National Drinking Water Clearinghouse, West Virginia University, 800-624-8300.
3. *Small System Guide to Developing and Setting Water Rates*, Rural Community Assistance Partnership, Inc. The document is available by mailing or faxing a request to RCAP at Rural Community Assistance Partnership, Inc., 1522 K Street NW, Suite 400, Washington, DC 20005. Fax: (202) 408-8165.
4. *Rate Setting and Capacity Development*, the Environmental Finance Center at the University of Maryland. The document is available online at http://www.efc.umd.edu/issues/Rate_Setting.cfm or by calling (301) 403-4220 ext. 26.
5. *North Dakota's Small Community Water System's Handbook on Developing and Setting Water Rates*, the Midwest Assistance Program, the Midwestern RCAP, under a contract with the North Dakota Department of Health. This document is available online at <http://www.map-inc.org/Publications/Publications/WatrRate.pdf>.
6. *A Guide for Financing and Rate Setting Options for Small Water Systems*, Andrea L. Williams/Virginia Water Resources Research Center, Virginia Polytechnic Institute and State University. The document is available online at <http://www.vwrrc.vt.edu/pdf/sr-17.pdf>.

Technical Assistance

1. EPA's Environmental Finance Program provides financial and technical assistance to water systems and other regulated entities. Visit www.epa.gov/efinpage/ or call (202) 564-4994 for more information about the program, for access to the program's publications, and to reach the Environmental Finance Center network.

Organizations

1. Governmental Accounting Standards Board: www.gasb.org, (203) 847-0700.
2. National Association of Regulatory Utility Commissioners: www.naruc.org, (202) 898-2200.
3. American Water Works Association: www.awwa.org, (303) 794-7711.
4. Association of State Drinking Water Administrators: www.asdwa.org, (202) 293-7655.
5. Government Finance Officers Association: www.gfoa.org, (202) 393-8020.
6. National Association of Water Companies: www.nawc.org, (202) 833-8383.
7. National Drinking Water Clearinghouse: www.nesc.wvu.edu/ndwc/, (800) 624-8301.
8. National Rural Water Association: www.nrwa.org, (580) 252-0629.
9. Rural Community Assistance Partnership: www.rcap.org, (888) 321-7227.
10. US Department of Agriculture Rural Development: www.rurdev.usda.gov/rus, (202) 720-9540.

Appendix B – State Drinking Water Primacy Agencies

For additional information or to learn more about the laws in your state please contact your Regional Coordinator or State Drinking Water Agency.

State Contact Information	Web site	Phone Number
Alabama Department of Environmental Management: Water Supply Branch	www.adem.state.al.us/WaterDivision/Drinking/DWMainInfo.htm	(334) 271-7700
Alaska Department of Environmental Conservation: Drinking Water Program	www.state.ak.us/dec/eh/dw	(907) 269-7647
American Samoa Environmental Protection Agency	www.asg-gov.com/agencies/epa.asg.htm	(684) 633-2304
Arizona Department of Environmental Quality: Safe Drinking Water Program	www.azdeq.gov/enviro/water/dw/index.html	(602) 771-2300
Arkansas Department of Health: Division of Engineering	www.healthyarkansas.com/eng/	(501) 661-2623
California Department of Health Services: Division of Drinking Water and Environmental Management	www.dhs.ca.gov/ps/ddwem/technical/dwp/dwpindex.htm	(916) 449-5577
Colorado Department of Public Health and Environment: Drinking Water Program	www.cdph.state.co.us/wq/drinking_water/drinking_water_program_home.htm	(303) 692-3500
Connecticut Department of Public Health: Drinking Water Division	www.dph.state.ct.us/BRS/water/dwd.htm	(860) 509-7333
Delaware Health and Social Services: Division of Public Health	www.state.de.us/dhss/dph/about.html	(302) 744-4700

State Contact Information	Web site	Phone Number
District of Columbia Environmental Protection Agency Region 3	www.epa.gov/reg3wapd/drinkingwater	(215) 814-2300
Florida Department of Environmental Protection: Drinking Water Program	www.dep.state.fl.us/water/drinkingwater/index.htm	(850) 245-8335
Georgia Department of Natural Resources: Water Resources Branch	www.gaepd.org/	(404) 657-5947
Guam Environmental Protection Agency: Water Programs Division	www.guamepa.govguam.net/programs/water	(671) 475-1658
Hawaii Department of Health: Environmental Health Division	www.hawaii.gov/health/environmental/water/sdwb/index.html	(808) 586-4258
Idaho Department of Environmental Quality: Water Quality Division	www.deq.state.id.us/water/	(208) 373-0194
Illinois Environmental Protection Agency: Bureau of Water	www.epa.state.il.us/water/index-pws.html	(217) 785-8653
Indiana Department of Environmental Management: Drinking Water Branch	www.in.gov/idem/water/dwb/	(317) 232-8603
Iowa Department of Natural Resources: Water Supply Program	www.iowadnr.com/water/drinking/index.html	(515) 725-0275
Kansas Department of Health and Environment: Bureau of Water	www.kdhe.state.ks.us/pws/	(785) 296-5503
Kentucky Department for Environmental Protection: Division of Water	www.water.ky.gov/dw	(502) 564-3410
Louisiana Office of Public Health: Safe Drinking Water Program	www.oph.dhh.louisiana.gov/engineerservice/safewater/	(225) 765-5038
Maine Maine Department of Health and Human Services: Drinking Water Program	www.state.me.us/dhs/eng/water/	(207) 287-2070

State Contact Information	Web site	Phone Number
Maryland Department of the Environment: Water Supply Program	www.mde.state.md.us/programs/WaterPrograms/Water_Supply/index.asp	(410) 537-3000
Massachusetts Department of Environmental Protection: Drinking Water Program	www.mass.gov/dep/brp/dws/dwshome.htm	(617) 292-5770
Michigan Department of Environmental Quality: Water Bureau	www.michigan.gov/deq	(517) 373-7917
Minnesota Department of Health: Drinking Water Protection Section	www.health.state.mn.us/divs/eh/water/index.html	(651) 215-0770
Mississippi Department of Health: Water Supply Division	www.msdh.state.ms.us/msdhsite/index.cfm/44,0,76,html	(601) 576-7518
Missouri Department of Natural Resources: Water Protection and Soil Conservation Division	www.dnr.state.mo.us/wpscd/wpcp/index.html	(573) 751-1300
Montana Department of Environmental Quality: Public Water Supply Program	www.deq.state.mt.us/wqinfo/pws/index.asp	(406) 444-4071
Nebraska Department of Health and Human Services: Public Water Supply Program	www.hhs.state.ne.us/enh/pwsindex.htm	(402) 471-0521
Nevada State Health Division: Safe Drinking Water Program	http://ndep.nv.gov/bsdw/index.htm	(775) 687-6353
New Hampshire Department of Environmental Services: Water Division	www.des.state.nh.us/wseb/	(603) 271-2153
New Jersey Department of Environmental Protection: Water Supply Administration	www.state.nj.us/dep/watersupply/	(609) 292-5550
New Mexico Environment Department: Drinking Water Bureau	www.nmenv.state.nm.us/dwb/dwbtop.html	(505) 827-1400

State Contact Information	Web site	Phone Number
New York New York State Department of Health: Bureau of Water Supply Protection	www.health.state.ny.us/nysdoh/water/main.htm	(518) 402-7650
North Carolina Department of Environment and Natural Resources: Public Water Supply Section	www.deh.enr.state.nc.us/pws/	(919) 733-2321
North Dakota Department of Health: Division of Water Quality	www.health.state.nd.us/mf/	(701) 328-5211
Ohio Environmental Protection Agency: Division of Drinking and Ground Water	www.epa.state.oh.us/ddagw/	(614) 644-2752
Oklahoma Department of Environmental Quality: Water Quality Division	www.deq.state.ok.us/WQDnew/index.htm	(405) 702-8100
Oregon Department of Human Services: Drinking Water Program	http://oregon.gov/DHS/ph/dwp/index.shtml	(971) 673-0405
Pennsylvania Department of Environmental Protection: Office of Water Management	www.dep.state.pa.us/dep/deputate/watermgt/wsm/WSM.htm	(717) 772-4018
Puerto Rico Department of Health: Public Water Supply Supervision Program	www.epa.gov/region02/cepd/prlink.htm	(787) 977-5870
Rhode Island Department of Health: Office of Drinking Water Quality	www.health.ri.gov/environment/dwq/index.php	(401) 222-6867
South Carolina Department of Health and Environmental Control: Drinking Water Program	www.scdhec.net/eqc/water/html/dwater.html	(803) 898-4300
South Dakota Department of Environment and Natural Resources: Drinking Water Program	www.state.sd.us/denr/des/drinking/dwprg.htm	(605) 773-3754

State Contact Information	Web site	Phone Number
Tennessee Department of Environment and Conservation: Division of Water Supply	www.state.tn.us/environment/dws/index.html	(615) 532-0191
Texas Texas Commission on Environmental Quality	www.tceq.state.tx.us/nav/util_water/	(512) 239-4691
Utah Department of Environmental Quality: Division of Drinking Water	www.drinkingwater.utah.gov	(801) 536-4200
Vermont Vermont Agency of Natural Resources	www.anr.state.vt.us/dec/watersup/wsd.htm	(802) 241-3400
Virgin Islands Department of Planning and Natural Resources: Division of Environmental Protection	http://dpnr.gov.vi/dep/home.htm	(340) 773-1082
Virginia Department of Health: Office of Drinking Water	www.vdh.state.va.us/dw/index.asp	(804) 864-7500
Washington Division of Environmental Health: Office of Drinking Water	www.doh.wa.gov/ehp/dw/	(360) 236-3100
West Virginia Bureau for Public Health: Department of Health and Human Resources	www.wvdhhr.org/oehs/eed/	(304) 558-6715
Wisconsin Department of Natural Resources: Bureau of Drinking Water and Ground Water	www.dnr.state.wi.us/org/water/dwg/	(608) 266-0821
Wyoming EPA Region 8: Wyoming Drinking Water Program	www.epa.gov/region08/water/dwhome/wycon/wycon.html	(303) 312-6812

Appendix C – Tribal Drinking Water Contacts

For additional information or to learn more about the laws governing your tribe use the contact information provided in this Appendix.

US EPA Headquarters	Web site	Phone Number
American Indian Environmental Office	www.epa.gov/indian	(202) 564-0303

US EPA Tribal Coordinators	Web site	Phone Number
EPA Region 1	www.epa.gov/region01/govt/tribes/index.html	(888) 372-7341
EPA Region 2	www.epa.gov/region02/nations/index.html	(212) 637-3000
EPA Region 4	www.epa.gov/region04/ead/indian/index.htm	(404) 562-6939
EPA Region 5	www.epa.gov/region5/water/stpb	(312) 353-2123
EPA Region 6	www.epa.gov/region06/6xa/tribal.htm	(800) 887-6063
EPA Region 7	www.epa.gov/region07/government_tribal/index.htm	(913) 551-7003
EPA Region 8	www.epa.gov/region08/tribes	(303) 312-6312
EPA Region 9	www.epa.gov/region09/cross_pr/indian/index.html	(415) 947-8704
EPA Region 10	yosemite.epa.gov/r10/tribal.NSF	(206) 553-4011

Other Contacts	Web site	Phone Number
Administration for Native Americans	www.acf.dhhs.gov/programs/ana/	(877) 922-9262
Bureau of Indian Affairs	www.doi.gov/bureau-indian-affairs.html	(202) 208-3710
Indian Health Service	www.ihs.gov	(301) 443-3024
Native American Water Association	www.nawainc.org	(775) 782-6636

Appendix D – State Public Service Agencies

Some states have more than one Public Service Agency, not all Public Service Agencies regulate water rates, and some Public Service Agencies regulate rates for particular water systems (e.g., those serving more than 10,000 customers). Check with your State Public Service Agency or State Drinking Water Primacy Agency for more information.

State Contact Information	Web site	Phone Number
Alabama Alabama Public Service Commission	http://www.psc.state.al.us/	(334) 242-2946
Alaska Regulatory Commission of Alaska	http://www.state.ak.us/rca/	(907) 276-6222
Arizona Arizona Corporation Commission	http://www.cc.state.az.us/	(602) 542-4251
Arkansas Arkansas Public Service Commission	http://www.accessarkansas.org/psc/	(501) 682-2051
California California Public Utilities Commission	http://www.cpuc.ca.gov/	(415) 703-2782
Colorado Colorado Public Utilities Commission	http://www.dora.state.co.us/puc/	(303) 894-2000
Connecticut Connecticut Department of Public Utility Control	http://www.state.ct.us/dpuc/	(860) 827-1553
Delaware Delaware Public Service Commission	http://www.state.de.us/delpsc/	(302) 739-4247
District of Columbia District of Columbia Public Service Commission	http://www.dcpssc.org/	(202) 626-5100
Florida Florida Public Service Commission	http://www.psc.state.fl.us/	(850) 413-6100

State Contact Information	Web site	Phone Number
Georgia Georgia Public Service Commission	http://www.psc.state.ga.us/	(404) 656-4501
Guam Guam Public Utilities Commission	http://guampuc.com/main/	(671) 472-1907
Hawaii Hawaii Public Utilities Commission	http://www.hawaii.gov/budget/puc/	(808) 586-2020
Idaho Idaho Public Utilities Commission	http://www.puc.state.id.us/	(208) 334-0300
Illinois Illinois Commerce Commission	http://www.icc.illinois.gov/home.aspx	(217) 782-7295
Indiana Indiana Utility Regulatory Commission	http://www.ai.org/iurc/index.html	(312) 232-2700
Iowa Iowa Utilities Board	http://www.state.ia.us/government/com/util/util.html	(515) 281-5979
Kansas Kansas Corporation Commission	http://www.kcc.state.ks.us/	(785) 271-3354
Kentucky Kentucky Public Service Commission	http://psc.ky.gov/	(502) 564-3460
Louisiana Louisiana Public Service Commission	http://www.lpsc.org/	(225) 342-4404
Maine Maine Public Utilities Commission	http://www.state.me.us/mpuc/	(207) 287-3831
Maryland Maryland Public Service Commission	http://www.psc.state.md.us/psc/	(410) 767-8000
Massachusetts Massachusetts Department of Communications and Energy	http://www.mass.gov/dte/	(617) 305-3500

State Contact Information	Web site	Phone Number
Michigan Michigan Public Service Commission	http://www.michigan.gov/mpsc	(517) 241-6180
Minnesota Minnesota Public Utilities Commission	http://www.puc.state.mn.us/	(651) 296-7124
Mississippi Mississippi Public Service Commission	http://www.psc.state.ms.us/	(601) 961-5434
Missouri Missouri Public Service Commission	http://www.psc.state.mo.us/	(573) 751-3234
Montana Montana Public Service Commission	http://www.psc.state.mt.us/	(406) 444-6199
Nebraska Nebraska Public Service Commission	http://www.psc.state.ne.us/	(402) 471-3101
Nevada Public Utilities Commission of Nevada	http://puc.state.nv.us/	(775) 684-6101
New Hampshire New Hampshire Public Utilities Commission	http://www.puc.state.nh.us/	(603) 271-2431
New Jersey New Jersey Board of Public Utilities	http://www.bpu.state.nj.us/home/home.shtml	(973) 648-2026
New Mexico New Mexico Public Regulation Commission	http://www.nmprc.state.nm.us/	(505) 827-6940
New York New York Public Service Commission	http://www.dps.state.ny.us/	(518) 474-7080
North Carolina North Carolina Utilities Commission	http://www.ncuc.commerce.state.nc.us/	(919) 733-7328
North Dakota North Dakota Public Service Commission	http://pc6.psc.state.nd.us/	(701) 328-2400

State Contact Information	Web site	Phone Number
Ohio Public Utilities Commission of Ohio	http://www.puco.ohio.gov/puco.cfm	(800) 686-7826
Oklahoma Oklahoma Corporation Commission	http://www.occ.state.ok.us/	(405) 521-2211
Oregon Public Utility Commission of Oregon	http://www.puc.state.or.us/	(800) 522-2404
Pennsylvania Pennsylvania Public Utility Commission	http://www.puc.state.pa.us/home.aspx	(717) 783-1740
Puerto Rico Junta Reglamentadora de Telecomunicaciones	http://www.jrtpr.gobierno.pr/	(787) 756-0804
Rhode Island Rhode Island Public Utilities Commission	http://www.ripuc.state.ri.us/	(401) 941-4500
South Carolina Public Service Commission of South Carolina	http://www.psc.sc.gov/	(803) 896-5100
South Dakota South Dakota Public Utilities Commission	http://www.state.sd.us/puc/index.htm	(605) 773-3201
Tennessee Tennessee Regulatory Authority	http://www.state.tn.us/tra/	(800) 342-8359
Texas Public Utility Commission of Texas	http://www.puc.state.tx.us/	(512) 936-7000
Utah Public Service Commission of Utah	http://www.psc.state.ut.us/	(801) 530-6716
Vermont Vermont Public Service Board	http://www.state.vt.us/psb/	(802) 828-2358
Virgin Islands Virgin Islands Public Services Commission		(340) 776-1291

State Contact Information	Web site	Phone Number
Virginia State Corporation Commission of Virginia	http://www.scc.virginia.gov/	(804) 371-9967
Washington Washington Utilities and Transportation Commission	http://www.wutc.wa.gov/	(360) 664-1160
West Virginia Public Service Commission of West Virginia	http://www.psc.state.wv.us/	(304) 340-0300
Wisconsin Public Service Commission of Wisconsin	http://psc.wi.gov/	(608) 266-5481
Wyoming Wyoming Public Service Commission	http://psc.state.wy.us/	(307) 777-7427

Appendix E – Other STEP Documents

This guide is one in a series of Simple Tools for Effective Performance (STEP) documents for small drinking water systems that can help them through the rate setting process. Currently available STEP documents can be obtained from EPA by calling the Safe Drinking Water Hotline at (800) 426-4791 and requesting the document by its publication number.

Asset Management: A Handbook for Small Water Systems

This workbook guides small systems through a four-step process of developing an asset management plan and includes worksheets on completing a thorough asset inventory; prioritizing the maintenance, rehabilitation, and replacement of your assets; developing a simple asset management plan; and carrying out the plan. The workbook also provides information about how asset management can help improve your system's financial health and ability to provide safe drinking water.

Publication number EPA 816-K-03-016

Taking Stock of Your Water System: A Simple Asset Inventory for Very Small Drinking Water Systems

This workbook will guide very small systems through a simple asset inventory of their drinking water system and the first steps of an asset management plan. The workbook includes worksheets on asset condition and prioritization.

Publication number EPA 816-K-03-002

Strategic Planning: A Handbook for Small Water Systems

This workbook is designed to help systems understand the concept of strategic planning and how it can help them prepare to meet public expectations and regulatory requirements while maintaining organizational and financial stability in the future. The workbook provides worksheets to help systems create a vision statement and mission, assess their capacity, define their area of service, identify challenges, and develop a strategic plan for their system.

Publication number EPA 816-R-03-015

Appendix F – Depreciation Accounting

If your water system has financial statements (revenue statements and balance sheets) that are prepared in a manner consistent with generally accepted accounting principles (GAAP), you will use the concept of “depreciation.” Depreciation accomplishes two objectives:

- It ensures that the asset values in your balance sheet are not overestimated. Since an asset is unlikely to be as valuable in year 2 as it was in year 1, depreciation provides a method for proper estimation.
- Accounting for depreciation on your revenue statement is another way of estimating your reserve fund requirements. If your accounts currently show depreciation, you may be able to skip the exercise in Step 3, where you learned how to calculate annual reserve fund requirements.

From an (over-simplified) accounting perspective, the amount of each year’s addition to “accumulated depreciation” on the balance sheet should create an expense (of the same amount) on the revenue statement. Note, however, that unlike many costs, this does not involve the outlay of cash.

What, therefore, should one do with the revenue associated with this expense? It is recommended that the expense be moved into a reserve account where it can accumulate and be available for the rehabilitation and replacement of assets.

If you fail to contribute to a reserve fund, regardless of how you calculate your annual contribution, you will not create a reserve fund large enough for your future capital needs.

Depreciation and GASB 34

You may have heard discussions of the term “GASB 34.” GASB stands for the Government Accounting Standards Board, an organization that establishes accounting and financial reporting standards for government organizations. If your system is part of a municipal government, its accounting standards are established by GASB.¹ GASB 34 is “Statement Number 34, Basic Financial Statements and Management’s Discussion and Analysis for State and Local Governments.”

¹If you are a privately owned system, your accounting standards are established by a similar organization for the private sector, the Financial Accounting Standards Board (FASB).

The most important change made by GASB 34 is the requirement that state and local governments report all current and long-term assets and liabilities, including infrastructure, on the balance sheet of the government-wide financial statement. GASB allows government agencies to comply with this requirement in one of two ways:

- By depreciating those assets.
- By using a “modified approach,” which allows state and local government agencies to report the current costs of preserving infrastructure to be reported, in lieu of depreciation.²

Therefore, an organization may comply with GASB 34 by adopting depreciation in balance sheets and revenue statements, but that is not the only way to comply. In fact, organizations that are concerned about public works³ are concerned that the mere addition of depreciation to financial statements might be an inadequate approach to accumulating sufficient funds to adequately preserve vital infrastructure. An agency that uses the “modified approach” to comply with GASB 34 would need to report what it spent on maintenance and replacement and then it would need to show—based on the change in asset condition from year to year—whether it had spent enough. An agency that simply reports depreciation, but does not set that revenue aside in a reserve account, does nothing to improve its long-term financial ability to pay for the preservation of asset value. It creates an increase in revenue that is simply rolled over in the following year, creating no long-term reserves.

Conclusion: Build a Reserve Fund

The lesson from this discussion of GASB 34 is that full accounting for the cost of doing business must include an annual contribution to a reserve fund. Whether the amount of that contribution is determined by a worksheet (as shown in Step 3) or by a depreciation expense on a revenue statement, it still must go into the reserve fund. Failure to contribute to that reserve fund each year is a failure to properly calculate the cost of doing business.

²See GASB 34, para. 20.

³See, e.g., the position statement of the American Public Works Association, 2003.