Benchmarking and Rate Setting in Water and Wastewater Management

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Georgia Association of Water Professionals – Small and Medium Water and Wastewater Systems
01/31/17
Pine Mountain, Georgia
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How you pay for it matters

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Outline

- Financial Indicators/Benchmarking
- Rate Setting and Dashboard
- Other Relevant Tools
A water/wastewater utility is usually an example of which of the following types of funds?

1. General Fund
2. Capital Fund
3. Enterprise Fund
4. Special Revenue Fund
The Operating Ratio is calculated as:

1. Operating Revenues / Operating Expenses
2. Depreciation in a water system
3. Operating Expenses / Capital Expenses
4. I have no idea
Which of the following is NOT an example of a key financial indicator?

1. Operating Ratio
2. Days of Rainy Day Funds
3. Days of Cash on Hand
4. Asset Depreciation
What should be the main source of revenue for a water utility?

1. Transfers from the general fund
2. Rates revenue
3. Revenues from tap and impact fees
4. Grants from nice people
What is the recommended frequency of billing?

1. Biweekly
2. Monthly
3. Quarterly
4. Annually
FINANCIAL INDICATORS/ BENCHMARKING
Key Financial Indicators

- Operating Ratio
- Debt Service Coverage Ratio
- Days of Cash on Hand
- Current Ratio
Why Care About This?

- Funders and ratings agencies care about this.

- As you think about the future needs of your system, you have to know where you are starting from.
Whiteboard Video:
Financial Benchmarking

http://www.waterrf.org/Pages/Projects.aspx?PID=4366
Is your system self-sufficient?
Operating Ratio

\[
\frac{\text{Operating Revenues}}{\text{Operating Expenses}}
\]

Read more:
http://efc.web.unc.edu/2015/02/27/operating-ratio/
Are you able to cover your debt service after paying for your day to day operations?
Debt Service Coverage Ratio

OPERATING REVENUES - OPERATING EXPENSES
(EXCLUDING DEPRECIATION)

PRINCIPAL + INTEREST PAYMENTS
ON LONG TERM DEBT

Read more:
http://efc.web.unc.edu/2015/04/23/debt-service-coverage-ratio/
Debt Service Coverage Ratio

Operating Revenues - Operating Expenses (Excluding Depreciation)

Principal + Interest Payments on Long Term Debt

> 1.2

Read more:
http://efc.web.unc.edu/2015/04/23/debt-service-coverage-ratio/
Can your system meet its short term obligations?
Current Ratio

Unrestricted Current Assets excluding Inventories and Prepaid Items

Current Liabilities

Read more: http://efc.web.unc.edu/2015/10/01/key-indicator-current-ratio/
If your customers stop paying their bills, how long can you maintain operations?
Days Cash on Hand

UNRESTRICTED CASH AND INVESTMENTS

OPERATING EXPENSES EXCLUDING DEPRECIATION & AMORTIZATION / 365

Read more: http://efc.web.unc.edu/2015/06/24/days-cash-on-hand/
How much of your system’s expected life has already run out?
Caveat: this indicator is only as accurate as your depreciation schedule, and even then historic pricing is likely to distort the results.
Where Do We Get Started?

- Local governments: audited financial statements
- Non-governments: balance sheets, shareholder reports, annual reports, etc.
- GA Rates Dashboard …
Financial Health Checkup for Water Utilities

http://efc.sog.unc.edu or http://efcnetwork.org

Find the most up-to-date version in Resources / Tools

Excel®- based tool
Free to use

Financial Health Checkup for Water Utilities

What does this tool do?
This tool assists in the assessment of the financial performance of a water (and/or wastewater) utility fund. Financial data, readily available in annual financial statements, are loaded into this tool, which computes key financial indicators that measure a variety of important metrics, such as the ability to pay debt service, availability of cash to pay for operations and maintenance, the sufficiency of revenues generated, etc. Each metric is compared against targets that are specified by the user. The tool demonstrates the financial strengths and weaknesses of the utility fund in the past 5 years.

Features:
- Single data entry (uses data already reported in your audited financial statements)
- 6 financial performance indicators with explanations
- Set your own targets
- Assessment of last year’s financial ratios, improvements since previous year, and five-year trends
- Guided navigation through hyperlinked images

What are financial indicators?
Watch a whiteboard video explaining financial performance indicators in lay terms.

Created by the Environmental Finance Center at the University of North Carolina, Chapel Hill’s School of Government
A resource for water systems from the EFCN’s Smart Management for Small Water Systems project funded under a cooperative agreement with the U.S. E.P.A.
Tip: when you first use this file after downloading from our website, click on “Enable Editing” at the top.
Direct link to the tool:
http://www.efc.sog.unc.edu/reslib/item/financial-health-checkup-water-utilities
One More to Mention: Asset Depreciation*

\[
\text{Accumulated Depreciation} = \frac{\text{Accumulated Depreciation}}{\text{Gross Plant and Equipment}}
\]

Benchmark? Don’t get close to 1.0

*Caveat – This indicator is only as good as your depreciation schedule and even then historic pricing is likely to distort the results.
Ratios on North Carolina’s Dashboard
RATE SETTING
Money is not likely coming from the federal government

State and local government spending on water and wastewater utilities continued to grow while federal spending declined since the 1980s

State and local governments spent 24 times as much as the federal government in 2014

Graphed by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Source: Congressional Budget Office supplemental data for the Public Spending on Transportation and Water Infrastructure, 1956 to 2014 report (March 2015). Displays public spending on supply systems for distributing potable water as well as wastewater and sewage treatment systems and plants. Real spending is shown after adjusting nominal spending to their 2014 dollar equivalent using infrastructure-specific price indexes.
Before You Begin:
Rank Your Utility’s Rate Setting Objectives

1. __________
2. __________
3. __________
4. __________

Refer to this list and focus on the highest ranked objectives when following the guidelines for selecting the appropriate rate structure design.
Background Information: How Rates and Usage Interact

Set rates based on projected water use

Raising rates lowers water use

Rule of thumb: water use declines ~2-6% as rates increase 10%
Set Rates Based on “Full Cost Pricing”

- Operations & maintenance expenditures
- Taxes and accounting costs
- Contingencies for emergencies
- Principal and interest on long-term debt
- Reserves for capital improvement
- Source water protection
Guidelines:
Elements of Rate Structure Designs

1. Customer classes/distinction
2. Billing period
3. Base charge
4. Consumption allowance included with base charge
5. Volumetric rate structure
6. (If applicable) Number of blocks, block sizes and rate differentials
7. (Optional) Temporal adjustments
8. Frequency of rate changes
Scenario: Rural Water Utility With Naturally High Costs and Excess Capacity, Wants to Maintain Affordability

1. **Customer class**: possibly create separate residential class.
2. **Billing period**: use monthly.
3. **Base charge**: if majority of customers use little water, charge fair base charge and include allowance. Otherwise, low base charge, and shift high rates to high volume users.
4. **Consumption allowance**: if including, set at a lifeline amount (~2,000 gallons/month).
5. **Volumetric rate structure**: probably use uniform
6. **(If applicable) Block design**: if using, first block at least 4,000 GPM, depending on your customers’ consumption.
7. **(Optional) Temporal adjustments**: none.
8. **Frequency of rate changes**: annual.
Dashboard – Recently Changed look and functions

• Ability to edit your utility's data or add a new utility/rate structure to the dashboard. (These edits and additions will be saved on your computer until you delete your cookies)
• Easier way to select your utility from the dropdown menu: now you can type in your utility's name
• Ability to click on and select any utility on the map
• You can now view your rates at 500 gallon/month increments between 0 and 15,000 gallons/month
• Ability to observe the effects of raising rates by more than 50% (up to doubling your rates)
Edit Data or Add Utility
OTHER RELEVANT TOOLS
http://efc.sog.unc.edu/project/gff

Click here to access the following table
<table>
<thead>
<tr>
<th>Organization</th>
<th>Program (keywords)</th>
<th>Purpose or Use of Funds</th>
<th>Application Dates</th>
<th>Website</th>
<th>Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Georgia Department of Community Affairs</td>
<td>Community Development Block Grant Program (CDBG Annual Competition) (HUD Funds) (water, sewer)</td>
<td>To improve housing and economic &amp; community development for low and moderate income communities.</td>
<td>Typically closes at the beginning of April of each year.</td>
<td><a href="http://www.dca.state.ga.us/communities/CDBG/programs/CDBGregular.asp">http://www.dca.state.ga.us/communities/CDBG/programs/CDBGregular.asp</a></td>
<td>Steed Robinson <a href="mailto:steed.robinson@dca.ga.gov">steed.robinson@dca.ga.gov</a> (404) 679-3168 60 Executive Park South, NE Atlanta, GA 30329-2231</td>
</tr>
<tr>
<td></td>
<td>Appalachian Regional Commission Area Development Fund (water, sewer)</td>
<td>To support the development and improvement of infrastructure, including water and sewer services, and the development and use of Internet access.</td>
<td>Closes at the beginning of April of each year.</td>
<td><a href="http://www.dca.state.ga.us/economicdevelopment/programs/CDBGreg.html">http://www.dca.state.ga.us/economicdevelopment/programs/CDBGreg.html</a></td>
<td>James Thompson, ARC Office Director <a href="mailto:james.thompson@dca.ga.gov">james.thompson@dca.ga.gov</a> 404-679-1584 60 Executive Park South, N. E. Atlanta, GA 30329-2231</td>
</tr>
<tr>
<td>OneGeorgia Authority</td>
<td>OneGeorgia Authority Equity Fund (water, sewer)</td>
<td>The program provides grants and loans to enhance infrastructure that creates jobs in rural areas.</td>
<td>Applications received year round.</td>
<td><a href="http://www.onegeorgia.org/programs/equity">http://www.onegeorgia.org/programs/equity</a></td>
<td>Nancy Cobb, Executive Director <a href="mailto:ncobb@onegeorgia.org">ncobb@onegeorgia.org</a> 478-274-7734 1202-B Hillcrest Parkway Dublin, GA 31021</td>
</tr>
<tr>
<td>USDA Rural Development</td>
<td>Water and Wastewater Loans and Grants (water, sewer)</td>
<td>Funds are for eligible communities' water, sewer, storm sewer, and sanitary sewer facilities.</td>
<td>Applications received year round.</td>
<td><a href="http://www.nurdev.usda.gov/ga/waste.htm">http://www.nurdev.usda.gov/ga/waste.htm</a></td>
<td>Jerry M. Thomas, Program Director <a href="mailto:jerry.thomas@ga.usda.gov">jerry.thomas@ga.usda.gov</a> 706-546-2171 355 East Hancock Avenue Athens, GA 30601-2768</td>
</tr>
<tr>
<td></td>
<td>Emergency Community Water Assistance Grant Program (water, sewer)</td>
<td>May be available to eligible rural communities in event of natural disaster or accidents that cause significant damage to a water or sewer system.</td>
<td>Contact Georgia state office. Applications received year round.</td>
<td><a href="http://www.nurdev.usda.gov/ga/">http://www.nurdev.usda.gov/ga/</a></td>
<td>Jerry M. Thomas, Program Director <a href="mailto:jerry.thomas@ga.usda.gov">jerry.thomas@ga.usda.gov</a> 706-546-2171 355 East Hancock Avenue Athens, GA 30601-2768</td>
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<td></td>
<td>Very Low-income Housing Repair Loans and Grants (Section 504) (individual wells, rural)</td>
<td>Rural Housing Programs -- 504 REPAIR LOANS AND GRANTS -- Single Family Housing makes loans and grants to provide rural residents with safe and affordable homes. Eligibility is based on adjusted household income, with loans available to low and very low income applicants.</td>
<td>Contact a local USDA Rural Development Office.</td>
<td><a href="http://www.nurdev.usda.gov/GARh504.htm">http://www.nurdev.usda.gov/GARh504.htm</a></td>
<td>Ed Peace <a href="mailto:ed.peace@ga.usda.gov">ed.peace@ga.usda.gov</a> 706-546-2169 Stephens Federal Building 355 East Hancock Avenue Athens, GA 30601-2768</td>
</tr>
</tbody>
</table>

Source: [http://efc.sog.unc.edu/project/gff](http://efc.sog.unc.edu/project/gff)
Free online tools available:

Free online tool available:

• On the EFC Website
  • Go to
    http://efc.sog.unc.edu
    and search for “Water and Sewer Rates Analysis Model”
Water and Sewer Rates Analysis Model

Free, rate-setting tool using only MS Excel, developed by the Environmental Finance Center at UNC.


Tool development was funded by the Public Water Supply Section of DWR/ NCDENR and partly by the USEPA.
User-Friendly Capital Improvement Plan (C.I.P.) for Water & Wastewater Utilities Tool

Free, simplified CIP tool using only MS Excel, developed by the Environmental Finance Center at UNC.


Tool development was funded by the Public Water Supply Section of DWR/ NCDENR and partly by the USEPA.
What the Tool Does

Summarizes your utility’s capital needs in the next 20 years, and estimates rate increases needed to fully fund the capital projects, based on debt and/or cash funding requirements.
Affordability of Water and Sewer Rates and the Affordability Assessment Tool

• On the EFC Website
  Go to http://efc.sog.unc.edu and search for “Affordability Assessment Tool”
More EFC Related tools

sog.efc.unc.edu → resources → tools

Tools Developed by the EFC at UNC

• Capital Improvement Plan (CIP) Tool for Water and Wastewater Utilities, version 2.0
• Water & Sewer Rates Analysis Model, version 2.0
• Dashboard for Using Capital Reserve Fund to Avoid Rate Shock
• Customer Assistance Program Costing Tool
• Rates Dashboards for Several Different States’ Water and Wastewater Utilities
• Revolving Fund Model
• Loan Assistance Program
POST-TEST
A water/wastewater utility is usually an example of which of the following types of funds?

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Thanks to the US EPA, Small Water Systems (10,000 or fewer people served) are applicable to seek out free technical assistance from the Environmental Finance Center Network (EFCN):

- Creating an Asset management plan
- Near-term financial planning and rate setting
- Analyzing your revenues and expenses
- Offering ideas on how to effectively budget
- Long-term capital planning
- Assessing options for lowering energy use and/or water loss
- Identifying sources of outside funding
- Collaborating with other water systems

In-depth assistance includes several hours of back and forth between the Environmental Finance Center Network and the water system staff or their consultants.

Sign up for direct assistance at http://efcnetwork.org/assistance/request-assistance/
Stay in Touch to Learn More

Subscribe to our Environmental Finance Blog

Tools, trainings, assistance and resources for small water systems from the EFCN

http://efc.web.unc.edu

http://www.efcnetwork.org

Follow us on Twitter: @EFCatUNC
Acknowledgements

- Funding provided by GEFA, and EPA
Which of the following should we look at together now?

1. Financial Indicator Tool
2. Water & Wastewater Rates Dashboard
3. Rates Analysis Model
4. Capital Improvement Planning Tool
5. Affordability Assessment Tool