Benchmarking Rates and Financial Health for Small Water Systems in the United States

David Tucker and Shadi Eskaf
Environmental Finance Center at the University of North Carolina, Chapel Hill
efc.sog.unc.edu

August 15, 2013 webinar (with Astrid Case, EFC at Boise State University),
August 22, 2013 repeat webinar

Funded by the U.S. Environmental Protection Agency
Geographic representation - all participants
Dedicated to enhancing the ability of governments and other organizations to provide environmental programs and services in fair, effective and financially sustainable ways.

How you pay for it matters!
The Environmental Finance Center Network

ABOUT THE NETWORK

The Environmental Finance Center Network (EFCN) is a university-based organization creating innovative solutions to the difficult how-to-pay issues of environmental protection and improvement. The EFCN works with the public and private sectors to promote sustainable environmental solutions while bolstering efforts to manage costs.

Environmental Finance Centers are located throughout the United States.

www.efcnetwork.org/
The EFCN provides training and technical assistance to small public water systems in all fifty states and five territories to help local water systems achieve and maintain compliance with the Safe Drinking Water Act.

Workshops, trainings and direct assistance are provided on:
- Asset Management
- Water Loss Reduction
- Water System Collaboration
- **Fiscal Planning and Rate Setting**
- Energy Management
- Funding Coordination, and
- Managerial and Financial Leadership

Sign up for direct assistance at [http://efcnetwork.org/one-on-one/](http://efcnetwork.org/one-on-one/)
Objectives

• Become familiar with key financial ratios and benchmarks

• Learn how to compare rates across systems more wisely

• Become familiar with the features and benefits of Rates Dashboards
Everyone needs safe drinking water!
Financial Ratios and Benchmarking
Can You Sleep at Night?

- Is your utility financially self-sufficient?
- Can your utility meet its short-term obligations?
- If your customers stop paying their bills, how long can you maintain operations?
- Are you able to cover your debt service after paying for your day-to-day operations?

Operating Ratio
Quick Ratio
Days Cash on Hand
Debt Service Coverage Ratio
Where Do We Get the Data?

• Local governments: Audited Financial Statements
• Non-governments: balance sheets, shareholder reports, annual reports, etc.
• Small, private systems: estimate portion of revenues for the water system, monitor and track water system costs separately, keep a separate budget
## Sample Income Statement

<table>
<thead>
<tr>
<th>Water and Sewer</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operating revenues:</strong></td>
<td></td>
</tr>
<tr>
<td>Charges for services</td>
<td>$11,329,883</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td></td>
</tr>
<tr>
<td><strong>Total operating revenues</strong></td>
<td>11,329,883</td>
</tr>
<tr>
<td><strong>Operating expenses:</strong></td>
<td></td>
</tr>
<tr>
<td>Personal services</td>
<td>3,400,559</td>
</tr>
<tr>
<td>Contractual services</td>
<td>344,422</td>
</tr>
<tr>
<td>Utilities</td>
<td>754,107</td>
</tr>
<tr>
<td>Repairs and maintenance</td>
<td>747,315</td>
</tr>
<tr>
<td>Other supplies and expenses</td>
<td>498,213</td>
</tr>
<tr>
<td>Insurance claims and expenses</td>
<td></td>
</tr>
<tr>
<td>Depreciation</td>
<td>1,163,140</td>
</tr>
<tr>
<td><strong>Total operating expenses</strong></td>
<td>6,907,756</td>
</tr>
<tr>
<td><strong>Operating income (loss)</strong></td>
<td>4,422,127</td>
</tr>
<tr>
<td><strong>Nonoperating revenues (expenses):</strong></td>
<td></td>
</tr>
<tr>
<td>Interest and investment revenue</td>
<td>454,793</td>
</tr>
<tr>
<td>Miscellaneous revenue</td>
<td></td>
</tr>
<tr>
<td>Interest expense</td>
<td>(1,600,830)</td>
</tr>
<tr>
<td>Miscellaneous expense</td>
<td></td>
</tr>
<tr>
<td><strong>Total nonoperating revenue (expenses)</strong></td>
<td>(1,146,037)</td>
</tr>
<tr>
<td>Income (loss) before contributions and transfers</td>
<td>3,276,090</td>
</tr>
<tr>
<td>Capital contributions</td>
<td>1,645,919</td>
</tr>
<tr>
<td>Transfers out</td>
<td>(290,000)</td>
</tr>
</tbody>
</table>

Operating Ratio

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

A measure of self-sufficiency.

The revenue you get from daily operations, divided by the expenditures or expenses you make to keep operations running.

Natural Benchmark: > 1.0
Operating Revenues and Expenses

- **Operating Revenues** = basically sales and charges to customers

- **Operating Expenses** = salaries, power, chemicals, board per diem, fringe benefits, office supplies, insurance, repairs (maintenance), contractual services, travel, depreciation, and any other expenses necessary for the purchase, treatment, delivery and charging for water.
You may wish to exclude depreciation in your operating ratio
- Total operating revenues divided by operating expenditures (total operating expenses minus depreciation).
- This is solely a measure of whether you can pay for O&M only through operating revenues (no capital costs).

You may wish to include depreciation in your operating ratio
- Total operating revenues divided by total operating expenses (includes depreciation).
- By including it, operating ratio assesses ability to pay for O&M and, theoretically, a portion of capital expenses in order to maintain assets using operating revenues.
Quick Ratio

Quick Assets (unrestricted, excluding Inventories and Prepaid Items) / Current Liabilities

A measure of short-term liquidity: ability to pay your current bills

Natural Benchmark: > 1
Accepted Benchmark: > 2
Days Cash on Hand

\[
\text{Days Cash on Hand} = \frac{\text{Unrestricted cash and cash equivalents} \times 365}{\text{Operating Expenses} - \text{Depreciation}}
\]

A measure of the ability of the utility to weather a significant temporary reduction in revenue to continue paying for daily operations.

Benchmark? At the very least, enough to last a billing cycle or when you expect a substantial inflow of cash. Most utilities aim for >180 days.
Debt Service Coverage Ratio

\[
\text{Operating Revenues} - \text{Operating Expenditures (excludes depreciation)} \div \text{Principal + Interest Payments on Long Term Debt}
\]

A measure of the ability to pay debt service with operating revenue: Operating revenue left over after daily operation expenditures, divided by debt service (principal and interest).

Natural Benchmark: > 1
Funders typically require >1.2
Why Care About This?

• Setting rates and financial planning: as you think about the future needs of your system, you have to know where you are starting from

• Monitor system’s financial performance to detect any negative trends (long-term)

• Funders care about these ratios → lower interest rates

• Accountable to your customers
## Debt Ratios

### Appendix F: 2013 Medians Relative to Rating Category

<table>
<thead>
<tr>
<th>Rating Category</th>
<th>AAA</th>
<th>AA</th>
<th>A</th>
<th>All Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Outstanding Long-Term Debt Per Customer ($)</td>
<td>1,213</td>
<td>1,828</td>
<td>1,951</td>
<td>1,650</td>
</tr>
<tr>
<td>Total Outstanding Long-Term Debt Per Capita ($)</td>
<td>352</td>
<td>492</td>
<td>521</td>
<td>460</td>
</tr>
<tr>
<td>Projected Debt Per Customer Year Five ($)</td>
<td>1,583</td>
<td>2,117</td>
<td>2,354</td>
<td>2,024</td>
</tr>
<tr>
<td>Three-Year Historical Average All-In ADS Coverage (x)</td>
<td>2.3</td>
<td>2.0</td>
<td>1.4</td>
<td>2.0</td>
</tr>
<tr>
<td>All-In ADS Coverage (x)</td>
<td>2.7</td>
<td>1.9</td>
<td>1.5</td>
<td>2.0</td>
</tr>
<tr>
<td>Operating Margin (%)</td>
<td>37</td>
<td>39</td>
<td>45</td>
<td>39</td>
</tr>
<tr>
<td>Days Cash on Hand</td>
<td>427</td>
<td>418</td>
<td>285</td>
<td>417</td>
</tr>
<tr>
<td>Days of Working Capital</td>
<td>430</td>
<td>390</td>
<td>250</td>
<td>373</td>
</tr>
<tr>
<td>Quick Ratio</td>
<td>3.4</td>
<td>3.0</td>
<td>2.6</td>
<td>3.1</td>
</tr>
</tbody>
</table>

*Source: Fitch, 2013 ratings*
Benchmarking Rates
An annual rates review in the U.S.

Will our rates provide sufficient cost recovery?

- Are we following State law?
- Are we allocating the costs to the right customers and encouraging development?
- What exactly does this include?
- Are our rates comparable?
- Do these rates send the right signals to our customers, based on our objectives?
- Will our customers understand these rates?
- Will our customers be able to pay these rates?
- Will our customers understand these rates?
Once again, the City of [_______] Water Department proved to have some of the lowest water and sewage rates in the state. A recent statewide comparison was conducted among 63 water providers to evaluate the rates residents pay for their water and sewage on a monthly basis. The City of [_______] is proud to say, based on 7,000 gallons, the average monthly usage per household, the City has the third lowest water and sewage rates statewide, with an average water bill of $15.38, and sewage bill of $10.36. As a result, [_______] proved to have the third lowest combined residential water and sewage rates, of the 63 polled.
Comparing rates – the old way

Source: NC Triangle J Council of Government
What’s wrong with it?

• Poor sample selection (number, types of systems)
• Comparing only one bill amount
• Comparing nothing besides rates
  – pressure to keep rates low …
  – … regardless of financial condition of utility
  – ignores customers’ ability to pay
  – ignores price signals and utility’s policies
How Board members sometimes respond to request to raise rates

• “Our rates are high enough”
• “The customers cannot pay any more”
• “Our rates are higher here than towns X, Y and Z [already ‘too high’]” or “our rates are lower here than towns A, B and C [good, let’s not raise them]”
Solution: provide more information?

185 pages of wonderful tables, full of data you can use!
Building a tool (Business Intelligence)

Attractive        Comprehensive        Intuitive
Simple             Accurate
At-a-glance        Guides decision making
Interactive        Accessible
Parsimonious
Demonstrate the Dashboards

efc.sog.unc.edu or efcnetwork.org

Find them on Resources / Tools
Rates Dashboards

- Created for NC, GA, TX, CO, VA.
- NJ and AZ coming soon!
- Free, online, open to the public
- Compares rates against multiple characteristics:
  - Utility finances; System characteristics; Customer base socioeconomic conditions; Geography; History
- Compare to similar utilities (large samples):
  - All utilities; same size (accounts or revenue); same water source; same river basin; same customer income levels; same economic tier; within 50 miles; same regional districts
Poll Questions 1 and 2
HydroDASH™

- Create your own dashboard!
- Input current financial data for your utility in a simple Excel worksheet and upload into the dashboard
- Dashboard displays key financial indicators for your utility
- Free, online, open to the public: http://www.hydrodash.com
- Created by the EFC at Boise State University. Can provide direct assistance in using the dashboard.
Some EFCN Resources

Tools, trainings, assistance and resources for small water systems: www.efcnetwork.org

Environmental Finance blog (EFC UNC)
etc.web.unc.edu/

EFC Boise State
University newsletter
http://efc.boisestate.edu/Publications/tabid/59/Default.aspx
Poll Questions 3 and 4
Thank you!

David Tucker
EFC at University of North Carolina, Chapel Hill
919-966-4199
drtucker@sog.unc.edu

Astrid Case
EFC at Boise State University
208-426-3790
astridcase@boisestate.edu

Shadi Eskaf
EFC at University of North Carolina, Chapel Hill
919-962-2785
eskaf@sog.unc.edu

Chris Blanchard
EFC at Boise State University
208-426-4110
cblanch@boisestate.edu

www.efcnetwork.org/