Assessing Financial Condition

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Session Objectives

• Understanding where your water system is right now financially

• Learning some standard measures that funders will be concerned with
Can You Sleep at Night?

- Is your system self sufficient?
- Are you able to cover your debt service after paying for your day to day operations?
- If your customers stop paying their bills, how long can you maintain operations?
- Can your system meet its short term obligations?
- How much of your utility’s expected life has already run out (and how much is left)?

<table>
<thead>
<tr>
<th>Operating Ratio</th>
<th>Debt Service Coverage Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Days Cash on Hand</td>
<td>Current Ratio</td>
</tr>
<tr>
<td>Asset Depreciation</td>
<td></td>
</tr>
</tbody>
</table>
In terms of your system’s finances, how do you sleep at night?

1. Like a baby/cat
2. Some tossing and turning
3. Insomniac
4. Heavily Medicated
5. I’m not sure yet...
Key Financial Indicators!

- Operating Ratio
- Days of Cash on Hand
- Debt Service Coverage Ratio
- Current Ratio
Whiteboard Video: Financial Benchmarking

http://www.waterrf.org/Pages/Projects.aspx?PID=4366
A Tale of Two Systems That Look Similar On Paper...

• Bavaria and Mayberry

• Two average small town community water systems from the same state

Note: Actual numbers from actual towns
They Serve Similar Populations

Service Population

<table>
<thead>
<tr>
<th>Service Population</th>
<th>Bavaria</th>
<th>Mayberry</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1313</td>
<td>1508</td>
</tr>
</tbody>
</table>

Service Connections

<table>
<thead>
<tr>
<th>Service Connections</th>
<th>Bavaria</th>
<th>Mayberry</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>505</td>
<td>580</td>
</tr>
</tbody>
</table>
They Have Similar Demographics

<table>
<thead>
<tr>
<th>MHI</th>
<th>Bavaria</th>
<th>Mayberry</th>
</tr>
</thead>
<tbody>
<tr>
<td>$30,972</td>
<td></td>
<td>$29,891</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Percent Poverty</th>
<th>Bavaria</th>
<th>Mayberry</th>
</tr>
</thead>
<tbody>
<tr>
<td>23%</td>
<td></td>
<td>27%</td>
</tr>
</tbody>
</table>
...Though Vastly Different in Financial Indicators (and in Actual Appearance)

Mayberry

Bavaria
Quick Overview of Financial Statements
Statement of Net Assets

• The assets and liabilities of the water system on the day the financial statements were prepared
Statement of Revenues, Expenses & Changes in Net Assets

- Annual operating and non-operating revenues and expenses for the water system

- Also transfers to and from the general fund
Statement of Cash Flows

• Money in and money out of the water system
Notes to Financial Statements

• Explanations, where needed, to the financial statements
Operating Ratio

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

Please calculate two numbers—one including depreciation, and one excluding depreciation
Operating Ratio
Including Depreciation

MAYBERRY
STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET ASSETS
PROPRIETARY FUNDS
FOR THE YEAR ENDED DECEMBER 31, 2010

<table>
<thead>
<tr>
<th>Enterprise Funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water and Sewer</td>
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<tbody>
<tr>
<td><strong>OPERATING REVENUE</strong></td>
<td></td>
</tr>
<tr>
<td>Charges for services</td>
<td>$ 444,231</td>
</tr>
<tr>
<td>Grants</td>
<td>0</td>
</tr>
<tr>
<td>Total operating revenues</td>
<td>444,231</td>
</tr>
</tbody>
</table>

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<tr>
<th><strong>OPERATING EXPENSES</strong></th>
<th>Enterprise Funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel services</td>
<td>178,885</td>
</tr>
<tr>
<td>Contractual services</td>
<td>63,898</td>
</tr>
<tr>
<td>Other supplies and expense</td>
<td>126,202</td>
</tr>
<tr>
<td>Depreciation</td>
<td>142,463</td>
</tr>
<tr>
<td>Total operating expenses</td>
<td>511,448</td>
</tr>
<tr>
<td>Operating income (loss)</td>
<td>(67,217)</td>
</tr>
</tbody>
</table>
Operating Ratio – Mayberry
Including Depreciation

\[
\frac{\text{Operating Revenues (1)}}{\text{Operating Expenses (including depreciation) (2)}} = 0.87
\]

1a. 
$\text{Operating Revenues (1)}$ = $444,231$
$\text{Operating Expenses (including depreciation) (2)}$ = $511,448$
### Operating Ratio
Excluding Depreciation

#### MAYBERRY
STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET ASSETS
PROPRIETARY FUNDS
FOR THE YEAR ENDED DECEMBER 31, 2010

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</tr>
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<td>Total operating revenues</td>
<td>444,231</td>
</tr>
</tbody>
</table>

| **Operating Expenses**    |                  |
| Personnel services        | 178,885          |
| Contractual services      | 63,898           |
| Other supplies and expense| 126,202          |
| Depreciation              | 142,463          |
| Total operating expenses  | 511,448          |
| Operating income (loss)   | (67,217)         |
Operating Ratio – Mayberry
Excluding Depreciation

1b. $444,231
Operating Revenues (1) = $368,985
Operating Expenses (excluding depreciation) (2-3)

OE $511,448
- Dep $142,463
= 1.20
Debt Service Coverage Ratio

\[
\frac{\text{Operating Revenues} - \text{Operating Expenditures (excludes depreciation)}}{\text{Principal + Interest Payments on Long Term Debt}} = 0
\]
Debt Service Coverage Ratio

MAYBERRY
STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET ASSETS
PROPRIETARY FUNDS
FOR THE YEAR ENDED DECEMBER 31, 2010

OPERATING REVENUES
- Charges for services
- Grants
- Total operating revenues

OPERATING EXPENSES
- Personnel services
- Contractual services
- Other supplies and expense
- Depreciation
- Total operating expenses
- Operating income (loss)

CASH FLOWS FROM OPERATING ACTIVITIES
- Receipts from customers
- Payments to suppliers
- Payments to employees
- Net cash provided by operating activities

CASH FLOWS FROM NONCAPITAL FINANCING ACTIVITIES
- Transfers in (out)
- Net cash (used) by noncapital financing activities

CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES
- Loan proceeds
- Purchases of capital assets
- Principal paid on capital debt
- Interest paid on capital debt
- Net cash (used) by capital and related financing activities
Debt Service Coverage Ratio – Mayberry

Operating Revenues $444,231

Operating Expenses $368,985 (excluding depreciation)

Principal & Interest on Long-Term Debt $49,655

Dep $35,128

OE $511,448

Dep $142,463

= 0.89
Days of Cash on Hand

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

MAYBERRY
STATEMENT OF NET ASSETS
 PROPRIETARY FUND
 DECEMBER 31, 2010

<table>
<thead>
<tr>
<th>ASSETS</th>
<th>Water and Sewer</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current assets</strong></td>
<td></td>
</tr>
<tr>
<td>Cash</td>
<td>107,706</td>
</tr>
<tr>
<td>Restricted cash</td>
<td>176,424</td>
</tr>
<tr>
<td>Receivables, net</td>
<td></td>
</tr>
<tr>
<td>Total current assets</td>
<td>41,870</td>
</tr>
<tr>
<td></td>
<td>326,000</td>
</tr>
<tr>
<td><strong>Capital assets</strong></td>
<td></td>
</tr>
<tr>
<td>Land and improvements</td>
<td>10,229</td>
</tr>
<tr>
<td>Distribution and collection systems</td>
<td>5,732,845</td>
</tr>
<tr>
<td>Buildings</td>
<td>503,398</td>
</tr>
<tr>
<td>Less accumulated depreciation</td>
<td>(2,514,933)</td>
</tr>
<tr>
<td>Total capital assets</td>
<td>3,731,539</td>
</tr>
<tr>
<td><strong>Total Assets</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$ 4,057,539</td>
</tr>
</tbody>
</table>
Days of Cash on Hand – Mayberry

3. \[ \frac{\$107,706}{\$368,985} = \frac{107}{365} \]

Unrestricted Cash & Cash Equivalents (5)  
Operating Expenses (excluding depreciation) (2-3)

OE $511,448  
- Dep $142,463
Current Ratio

\[
\text{Unrestricted cash and cash equivalents} + \text{Receivables, net} \div \text{Current Liabilities}
\]
Current Ratio – Mayberry

\[
\frac{\$107,706 + \$41,870}{\$108,390} = 1.38
\]

Unrestricted Cash & Cash Equivalents (5) 

Receivables, net (6)

Current Liabilities (7)
Now You Calculate For Bavaria
Now You Calculate For Bavaria

1a. \[
\frac{\$709,972}{\$671,333} = 1.06
\]
Operating Revenues (1)  Operating Expenses (including depreciation) (2)
Operating Ratio
Including Depreciation

Bavaria: 1.06
Mayberry: 0.87
Now You Calculate For Bavaria

1b.

Operating Revenues (1) $709,972

Operating Expenses (excluding depreciation) (2-3) $459,082

OE $671,333 - Dep $212,251

= 1.55
Operating Ratio
Excluding Depreciation

- Bavaria: 1.55
- Mayberry: 1.20
Now You Calculate For Bavaria

2. $709,972 - $459,082 = $190,633

Operating Revenues (1) - Operating Expenses (2-3) (excluding depreciation)

Principal & Interest on Long-Term Debt (4)

OE $671,333 - Dep $212,251 = 1.32
Debt Service Coverage Ratio

- Bavaria: 1.32
- Mayberry: 0.89
Now You Calculate For Bavaria

3.

\[
\frac{\$568,061}{\$459,082} \div 365 = 452
\]

Unrestricted Cash & Cash Equivalents (5)

Operating Expenses (excluding depreciation) (2-3)

OE $671,333
- Dep $212,251
Days of Cash on Hand

<table>
<thead>
<tr>
<th></th>
<th>Bavaria</th>
<th>Mayberry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Days of Cash</td>
<td>285</td>
<td>107</td>
</tr>
<tr>
<td>Cash on Hand</td>
<td>418</td>
<td>452</td>
</tr>
</tbody>
</table>
Now You Calculate For Bavaria

\[
\begin{align*}
\text{Unrestricted Cash & Cash Equivalents (5)} & \quad \text{Receivables, net (6)} \\
$568,061 & \quad $66,346 \\
\hline
\text{Current Liabilities (7)} & \quad = \\
$898,474 & \quad 0.71
\end{align*}
\]
Current Ratio

- Bavaria: 0.71
- Mayberry: 1.38
What Happened to Bavaria?

Or

Why the Notes to Financial Statements are Crucial

The accompanying notes are an integral part of these financial statements.
Bavaria corrected

$568,061 + $460,005 = $1,028,066

Unrestricted Cash & Cash Equivalents (5)

$66,346

Receivables, net (6)

$898,474

Current Liabilities (7)

1.22
Current Ratio
Bavaria Corrected for Missing Grant Funds

Bavaria: 1.22
Mayberry: 1.38
One More to Mention: Asset Depreciation*

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

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.
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
Key Financial Indicators for Water and Wastewater Systems: Operating Ratio

February 27, 2015 / Glenn Barnes / Comments off on Key Financial Indicators for Water and Wastewater Systems: Operating Ratio

In previous posts, we have discussed where to find data to help water and wastewater systems make smart financial and managerial decisions. Another vital data source for any water and wastewater system is its own financial...
Key Financial Indicators for Water and Wastewater Systems: Debt Service Coverage Ratio

APRIL 23, 2015 / GLENN BARNES / COMMENTS OFF ON KEY FINANCIAL INDICATORS FOR WATER AND WASTEWATER SYSTEMS: DEBT SERVICE COVERAGE RATIO

In a previous post, we outlined how to use the financial statements of a water or wastewater system to calculate the key financial indicator of operating ratio, a measure of self-sufficiency. Another key financial indicator is debt service ratio.
Key Financial Indicators for Water and Wastewater Systems: Days of Cash on Hand

JUNE 24, 2015 / GLENN BARNES / COMMENTS OFF ON KEY FINANCIAL INDICATORS FOR WATER AND WASTEWATER SYSTEMS: DAYS OF CASH ON HAND

In previous posts, we outlined how to use the financial statements of a water or wastewater system to calculate the key financial indicators of operating ratio (a measure of self-sufficiency) and debt service coverage ratio (a measure of a
Key Financial Indicators for Water and Wastewater Systems: Current Ratio

OCTOBER 1, 2015 / GLENN BARNES / 0 COMMENTS

In previous posts, we outlined how to use the financial statements of a water or wastewater system to calculate the key financial indicators of operating ratio (a measure of self-sufficiency), debt service coverage ratio (a measure of a system's ability to pay its long-term debts), and days of cash on hand (a measure of a
• Once we figure out where we are, how do we know where we are going?

• How do we estimate the future costs and revenues?