



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



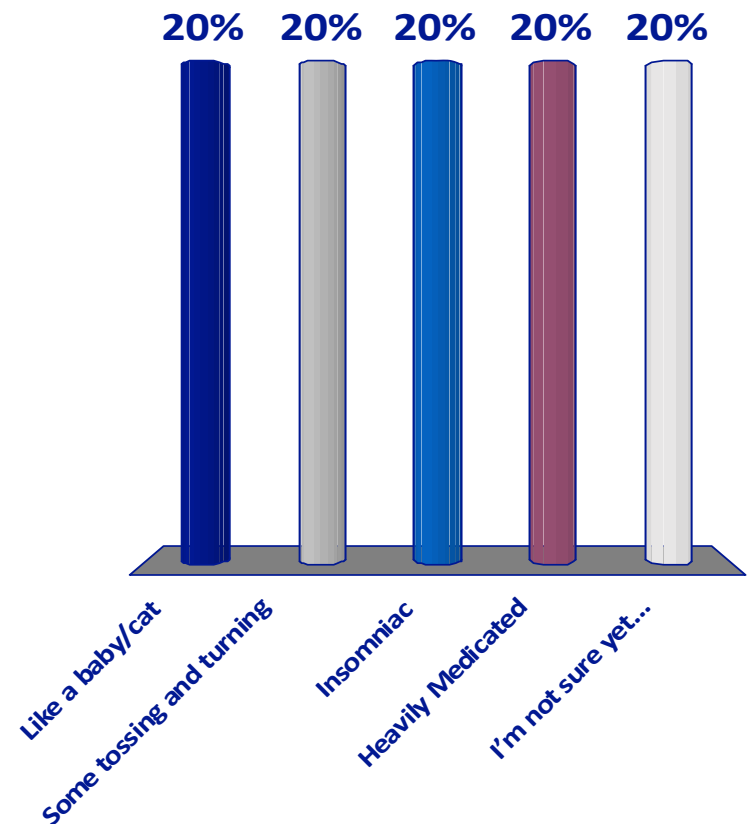
Can You Sleep at Night?

- 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)?



In terms of your system's finances, how do you sleep at night?

- A. Like a baby/cat
- B. Some tossing and turning
- C. Insomniac
- D. Heavily Medicated
- E. I'm not sure yet...





Can You Sleep at Night?

- Is your system self sufficient? **Operating Ratio**
- Are you able to cover your debt service after paying for your day to day operations? **Debt Service Coverage Ratio**
- If your customers stop paying their bills, how long can you maintain operations? **Days Cash on Hand**
- Can your system meet its short term obligations? **Current Ratio**
- How much of your utility's expected life has already run out (and how much is left)? **Asset Depreciation**



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



Service
Connections





They Have Similar Demographics

MHI



Percent Poverty





...Though Vastly Different in
Financial Indicators (and In
Actual Appearance)



Mayberry



Bavaria

Quick Overview of Financial Statements

MAYBERRY STATEMENT OF NET ASSETS PROPRIETARY FUNDS DECEMBER 31, 2010		BAYARIA STATEMENT OF NET ASSETS PROPRIETARY FUND JUNE 30, 2011	
ASSETS		Water and Sewer Enterprise Fund	
Current assets		\$ 568,001	(a)
Cash		60,346	(s)
Receivables, net		5,856	
Total current assets		640,203	
Capital assets			
Land and improvements		177,208	
Infrastructure and collection systems		209,556	
Distribution and collection systems		22,982	
Total capital assets		5,873,799	(g)
Less accumulated depreciation		896,073	
Total capital assets		1,454,079	(f)
Less accumulated depreciation		(2,883,225)	
Total capital assets		30,833	
Total Assets		5,781,215	
LIABILITIES		6,421,678	
Current liabilities			
Accounts payable		15,605	
Deferred revenue		233,357	
Total current liabilities		646,873	
Noncurrent liabilities		889,925	
Accounts payable		1,788,299	
Total noncurrent liabilities			
Total liabilities			
NET ASSETS			
Invested in capital assets, net of related debt			
Restricted for debt service			
Total net assets			
Total liabilities and net assets			



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

$$= \frac{\textit{Operating Revenues}}{\textit{Operating Expenses}}$$

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

	<u>Enterprise Funds</u> <u>Water and Sewer</u>	
OPERATING REVENUES		
Charges for services	\$ 444,231	
Grants	0	
Total operating revenues	<u>444,231</u>	①
OPERATING EXPENSES		
Personnel services	178,885	
Contractual services	63,898	
Other supplies and expense	126,202	③
Depreciation	<u>142,463</u>	②
Total operating expenses	<u>511,448</u>	
Operating income (loss)	<u>(67,217)</u>	



Operating Ratio – Mayberry

Including Depreciation

$$\begin{array}{rcl} \boxed{1a.} & \frac{\boxed{\$444,231}}{\boxed{\$511,448}} & = \boxed{0.87} \\ & \begin{array}{l} \text{Operating Revenues (1)} \\ \text{Operating Expenses (including depreciation) (2)} \end{array} & \end{array}$$

Operating Ratio

Excluding Depreciation

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

	<u>Enterprise Funds</u> <u>Water and Sewer</u>	
OPERATING REVENUES		
Charges for services	\$ 444,231	
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Total operating revenues	<u>444,231</u>	- ①
OPERATING EXPENSES		
Personnel services	178,885	
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Other supplies and expense	126,202	③
Depreciation	<u>142,463</u>	- ②
Total operating expenses	<u>511,448</u>	
Operating income (loss)	<u>(67,217)</u>	

Operating Ratio – Mayberry

Excluding Depreciation

$$\begin{array}{rcl} \boxed{1b.} & \frac{\boxed{\$444,231}}{\boxed{\$368,985}} & = \boxed{1.20} \\ & \text{Operating Revenues (1)} & \\ & \text{Operating Expenses (excluding depreciation) (2-3)} & \end{array}$$

OE \$511,448
- Dep \$142,463



Debt Service Coverage Ratio

$$= \frac{\text{Operating Revenues} - \text{Operating Expenditures (excludes depreciation)}}{\text{Principal} + \text{Interest Payments on Long Term Debt}}$$

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

Enterprise Funds
Water and Sewer

\$ 437,947
(187,296)
(178,885)
71,766

(60,000)

(60,000)

0
(39,841)
(49,655)
(35,128)
(124,624)

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④

Debt Service Coverage Ratio – Mayberry

OE \$511,448
- Dep \$142,463

$$\frac{\begin{array}{l} \$444,231 \\ \text{Operating Revenues (1)} \end{array} - \begin{array}{l} \$368,985 \\ \text{Operating Expenses (2-3)} \\ \text{(excluding depreciation)} \end{array}}{\begin{array}{l} \$84,783 \\ \text{Principal \& Interest on Long-Term Debt (4)} \end{array}} = 0.89$$

P \$49,655
+ I \$35,128



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

Enterprise Funds
Water and Sewer

ASSETS

Current assets

Cash

107,706

Restricted cash

176,424

Receivables, net

41,870

Total current assets

326,000

Capital assets

Land and improvements

10,229

Distribution and collection systems

5,732,845

Buildings

503,398

Less accumulated depreciation

(2,514,933)

Total capital assets

3,731,539

Total Assets

\$ 4,057,539

LIABILITIES



Days of Cash on Hand – Mayberry

3.	<div>\$107,706</div> <div>Unrestricted Cash & Cash Equivalents (5)</div>	=	<div>107</div>	
	<hr/>			
	<div>\$368,985</div> <div>Operating Expenses (excluding depreciation) (2-3)</div>			/ 365

OE \$511,448
- Dep \$142,463



Current Ratio

$$= \frac{\text{Unrestricted cash and cash equivalents} + \text{Receivables, net}}{\text{Current Liabilities}}$$



Current Ratio – Mayberry

$$\begin{array}{rcl} \boxed{\$107,706} & + & \boxed{\$41,870} \\ \text{Unrestricted Cash \& } & & \text{Receivables, net (6)} \\ \text{Cash Equivalents (5)} & & \\ \hline \boxed{4.} & & \boxed{1.38} \\ \boxed{\$108,390} & & \\ \text{Current Liabilities (7)} & & \end{array}$$



Now You Calculate For **Bavaria**



Operating Ratio – Bavaria

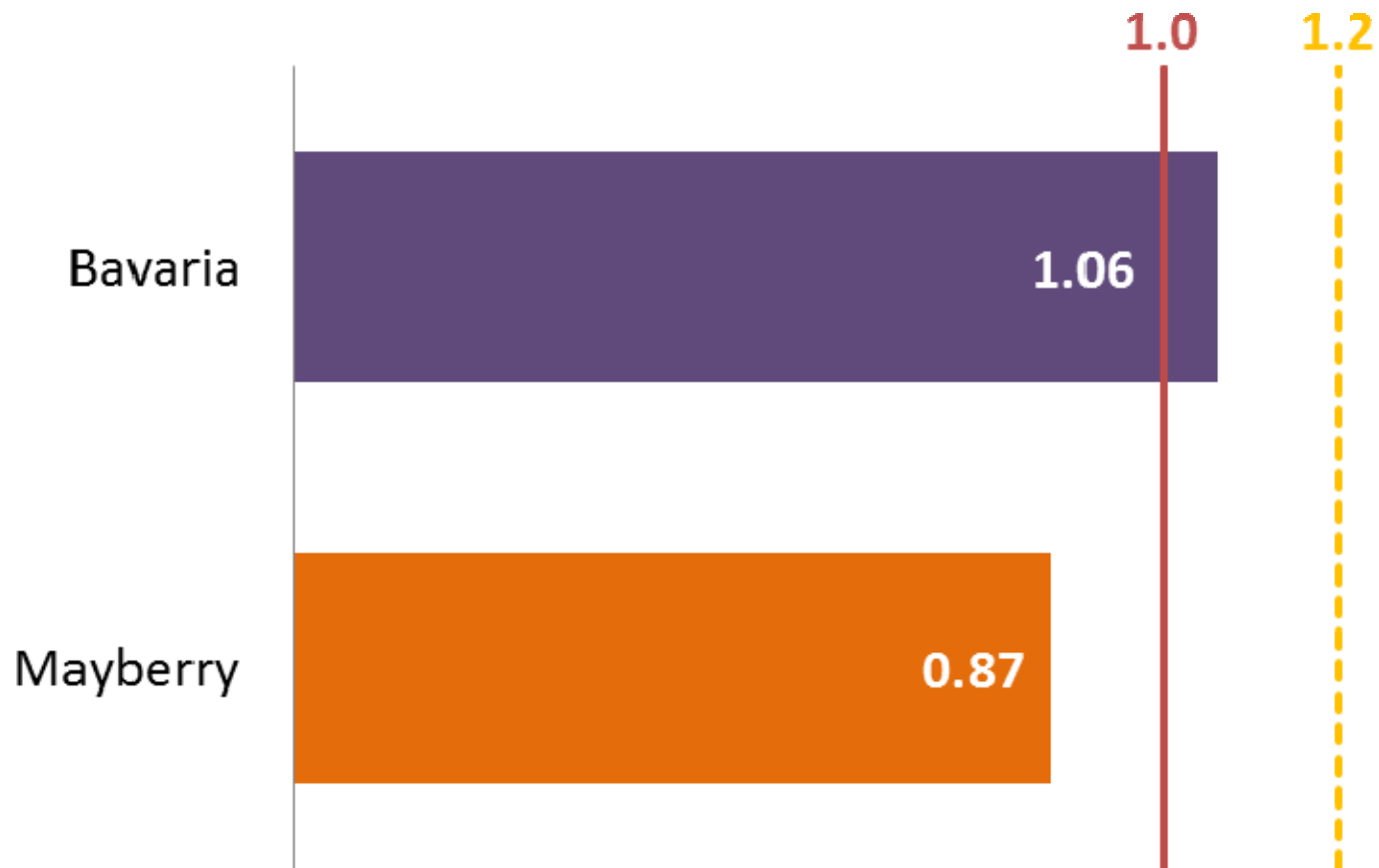
Including Depreciation

$$\begin{array}{rcccl} \boxed{1a.} & \frac{\boxed{\$709,972}}{\text{Operating Revenues (1)}} & = & \boxed{1.06} \\ & \boxed{\$671,333} & & \\ & \text{Operating Expenses (including depreciation) (2)} & & \end{array}$$



Operating Ratio

Including Depreciation





Operating Ratio – Bavaria

Excluding Depreciation

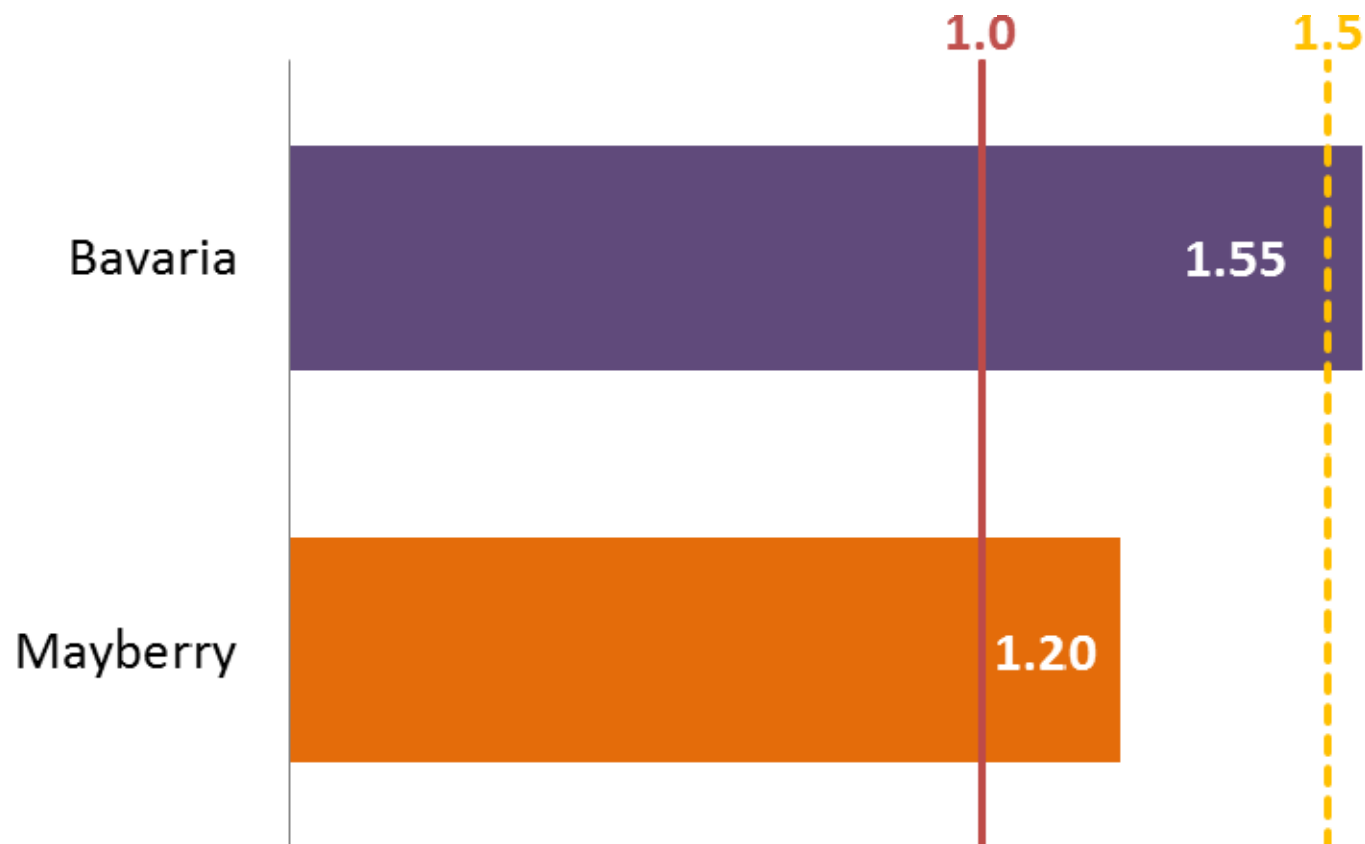
$$\begin{array}{rcl} \boxed{1b.} & \frac{\boxed{\$709,972}}{\text{Operating Revenues (1)}} & = \boxed{1.55} \\ & \frac{\boxed{\$459,082}}{\text{Operating Expenses (excluding depreciation) (2-3)}} & \end{array}$$

OE \$671,333
- Dep \$212,251



Operating Ratio

Excluding Depreciation



Debt Service Coverage Ratio – Bavaria

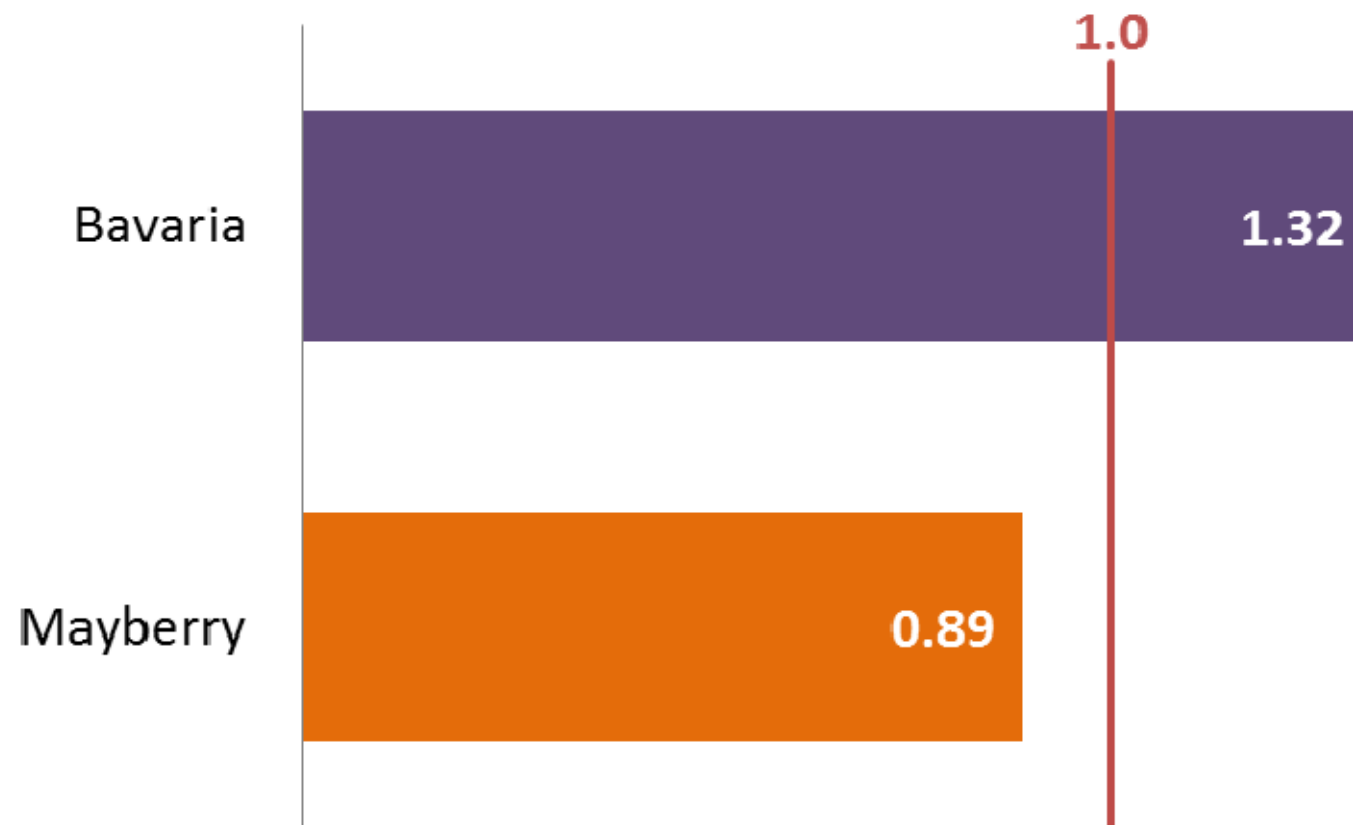
OE \$671,333
- Dep \$212,251
OE \$459,082

$$\frac{\begin{array}{l} \boxed{\$709,972} - \boxed{\$459,082} \\ \text{Operating Revenues (1)} \quad \text{Operating Expenses (2-3)} \\ \text{(excluding depreciation)} \end{array}}{\begin{array}{l} \boxed{\$190,633} \\ \text{Principal \& Interest on Long-Term Debt (4)} \end{array}} = \boxed{1.32}$$

2.



Debt Service Coverage Ratio



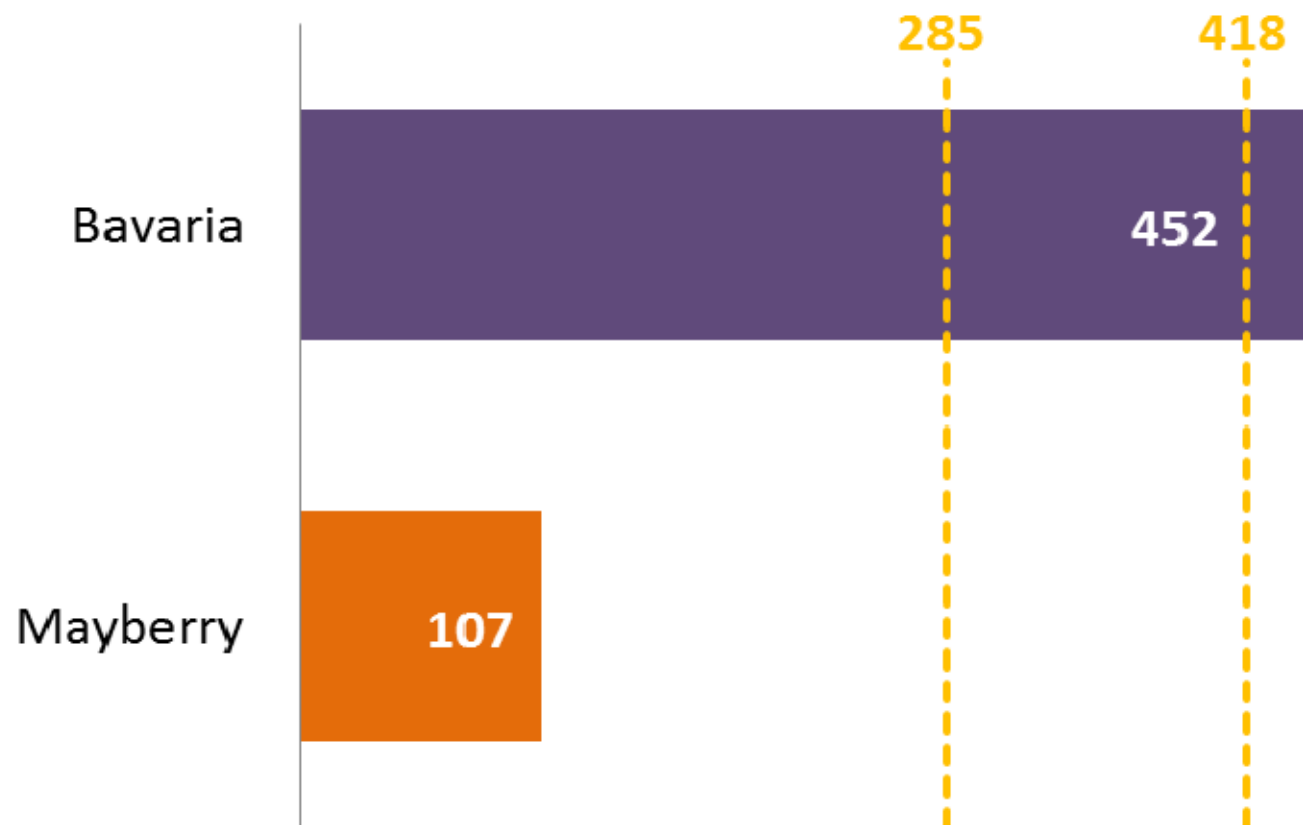
Days of Cash on Hand – Bavaria

$$\begin{array}{rcl} \boxed{3.} & \frac{\boxed{\$568,061}}{\boxed{\$459,082} / 365} & = \boxed{452} \\ & \text{Unrestricted Cash \& Cash Equivalents (5)} & \\ & \text{Operating Expenses (excluding depreciation) (2-3)} & \end{array}$$

OE \$671,333
- Dep \$212,251



Days of Cash on Hand



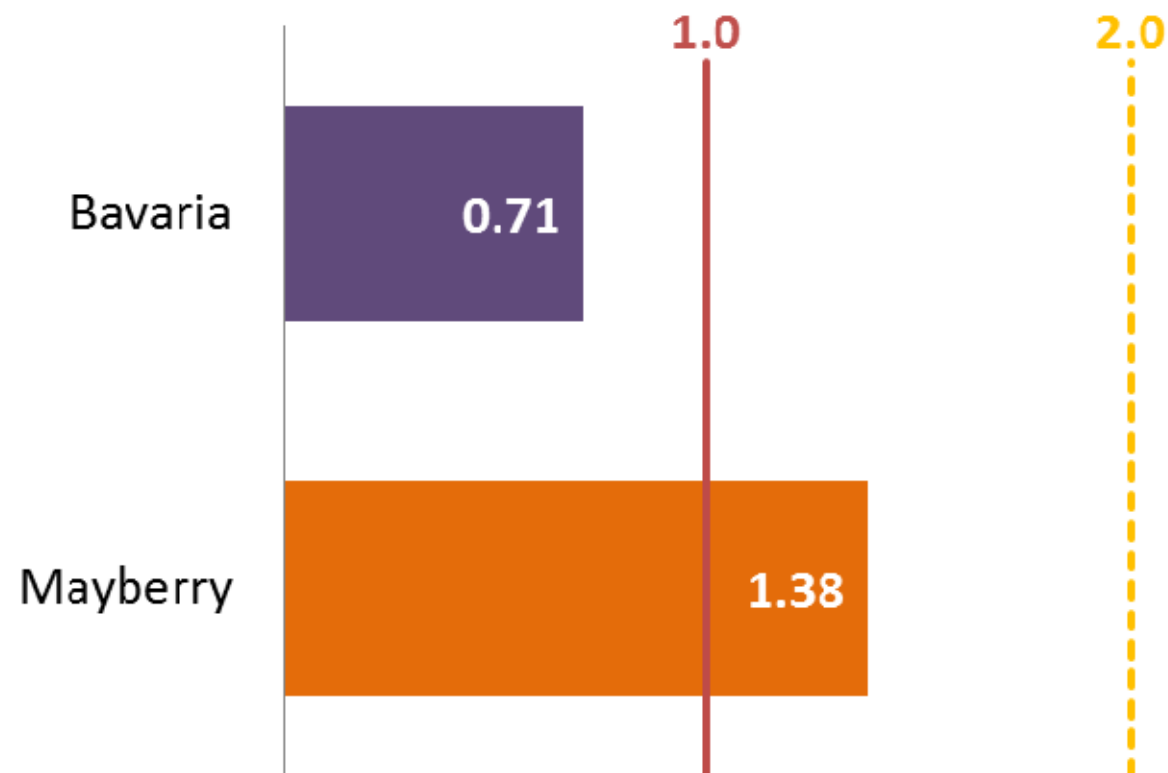


Current Ratio – Bavaria

$$\begin{array}{rcl} \boxed{\$568,061} & + & \boxed{\$66,346} \\ \text{Unrestricted Cash \& } & & \text{Receivables, net (6)} \\ \text{Cash Equivalents (5)} & & \\ \hline \boxed{4.} & & \\ \boxed{\$898,474} & & \\ \text{Current Liabilities (7)} & & \\ & = & \boxed{0.71} \end{array}$$



Current Ratio





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

C \$568,061
+ G \$460.005

\$1,028,066

Unrestricted Cash &
Cash Equivalents (5)

+

\$66,346

Receivables, net (6)

4.

=

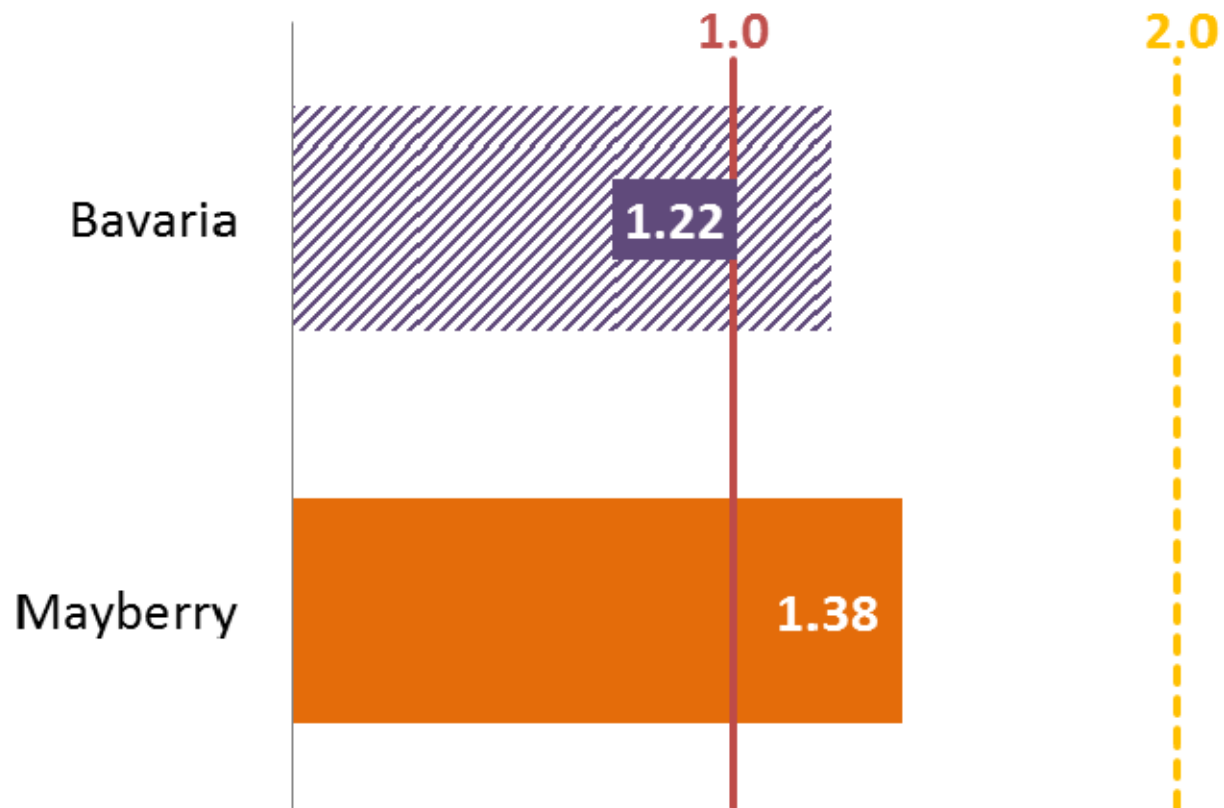
1.22

\$898,474

Current Liabilities (7)

Current Ratio

Bavaria Corrected for Missing Grant Funds





One More to Mention: Asset Depreciation*

$$= \frac{\textit{Accumulated Depreciation}}{\textit{Gross Plant and Equipment}}$$

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



<http://efc.web.unc.edu/2015/02/27/operating-ratio/>



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

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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

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<http://efc.web.unc.edu/2015/04/23/debt-service-coverage-ratio/>



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

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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

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<http://efc.web.unc.edu/2015/06/24/days-cash-on-hand/>



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

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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

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<http://efc.web.unc.edu/2015/10/01/key-indicator-current-ratio/>



Key Financial Indicators for Water and Wastewater Systems: Current Ratio

OCTOBER 1, 2015 / GLENN BARNES / 0 COMMENTS

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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

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Soooooooooooo....

- Once we figure out where we are, how do we know where we are going?
- How do we estimate the future costs and revenues?