



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



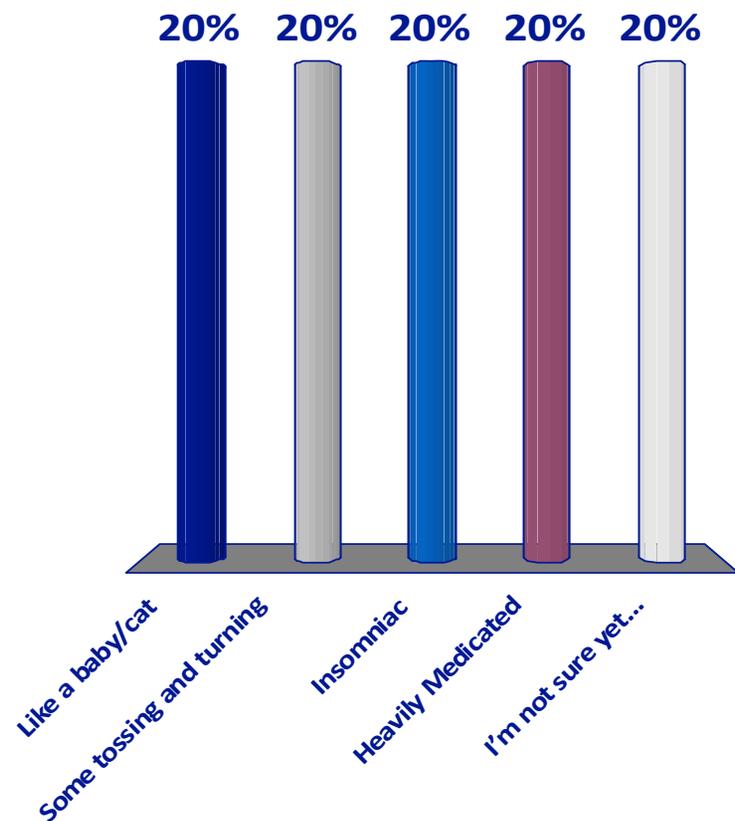
Can You Sleep at Night?

- 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			
Current Assets			
Cash	284,137	368,001	(a)
Accounts receivable, net	114,340	60,346	(b)
Prepaid expenses	10,207	5,856	(c)
Total Current Assets	408,684	640,203	(d)
Capital Assets			
Land and Improvements	5,782,949	5,873,709	(e)
Distribution and collection systems	10,207	896,073	(f)
Water treatment plant	10,207	1,454,079	(g)
Other capital assets	10,207	(2,883,225)	(h)
Total Capital Assets	16,222,510	30,833	
Total Assets	16,631,194	5,781,215	
LIABILITIES			
Current Liabilities			
Accounts payable	2,112	209,556	
Accrued interest	40,231	22,982	
Other current liabilities	10,207	5,873,709	
Total Current Liabilities	62,550	896,073	
Long-term Liabilities			
Notes payable	10,207	1,454,079	
Other long-term liabilities	10,207	(2,883,225)	
Total Long-term Liabilities	20,414	30,833	
Total Liabilities	82,964	5,781,215	
NET ASSETS	16,548,230	0	
Included in capital assets out of related debt	10,207		
Retained in other funds	10,207		
Other	10,207		
Total net assets	16,548,230		
Total liabilities and net assets	16,631,194		
The accompanying notes are an integral part of these financial statements.		15	



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	142,463	
Total operating expenses	<u>511,448</u>	②
Operating income (loss)	<u>(67,217)</u>	



Operating Ratio – **Mayberry**

Including Depreciation

$$\begin{array}{r} \boxed{\$444,231} \\ \text{Operating Revenues (1)} \\ \hline \boxed{\$511,448} \\ \text{Operating Expenses (including depreciation) (2)} \end{array} = \boxed{0.87}$$

1a.



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	
Grants	<u>0</u>	
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>	
Total operating expenses	<u>511,448</u>	- ②
Operating income (loss)	<u>(67,217)</u>	

Operating Ratio – Mayberry

Excluding Depreciation

1b.

$$\frac{\$444,231}{\$368,985} = 1.20$$

Operating Revenues (1)

Operating Expenses (excluding depreciation) (2-3)

OE \$511,448
~~- DEP \$142,463~~



Debt Service Coverage Ratio

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

Debt Service Coverage Ratio

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

MAYBERRY
STATEMENT OF CASH FLOWS
PROPRIETARY FUNDS
FOR THE YEAR ENDED DECEMBER 31, 2010

Page 1 of 2

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)

④

Debt Service Coverage Ratio – Mayberry

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

2.

\$444,231	-	\$368,985	=	0.89
Operating Revenues (1)		Operating Expenses (2-3) (excluding depreciation)		
		\$84,783		
		Principal & Interest on Long-Term Debt (4)		

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
Restricted cash
Receivables, net
Total current assets

107,706

176,424

41,870

326,000

Capital assets

Land and improvements
Distribution and collection systems
Buildings
Less accumulated depreciation
Total capital assets

10,229

5,732,845

503,398

(2,514,933)

3,731,539

Total Assets

\$ 4,057,539

LIABILITIES

Days of Cash on Hand – **Mayberry**

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

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

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



Current Ratio

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



Current Ratio – **Mayberry**

4.

$$\frac{\begin{array}{l} \$107,706 \\ \text{Unrestricted Cash \&} \\ \text{Cash Equivalents (5)} \end{array} + \begin{array}{l} \$41,870 \\ \text{Receivables, net (6)} \end{array}}{\begin{array}{l} \$108,390 \\ \text{Current Liabilities (7)} \end{array}} = 1.38$$



Now You Calculate For **Bavaria**



Operating Ratio – Bavaria

Including Depreciation

1a.

$$\frac{\$709,972}{\$671,333} = 1.06$$

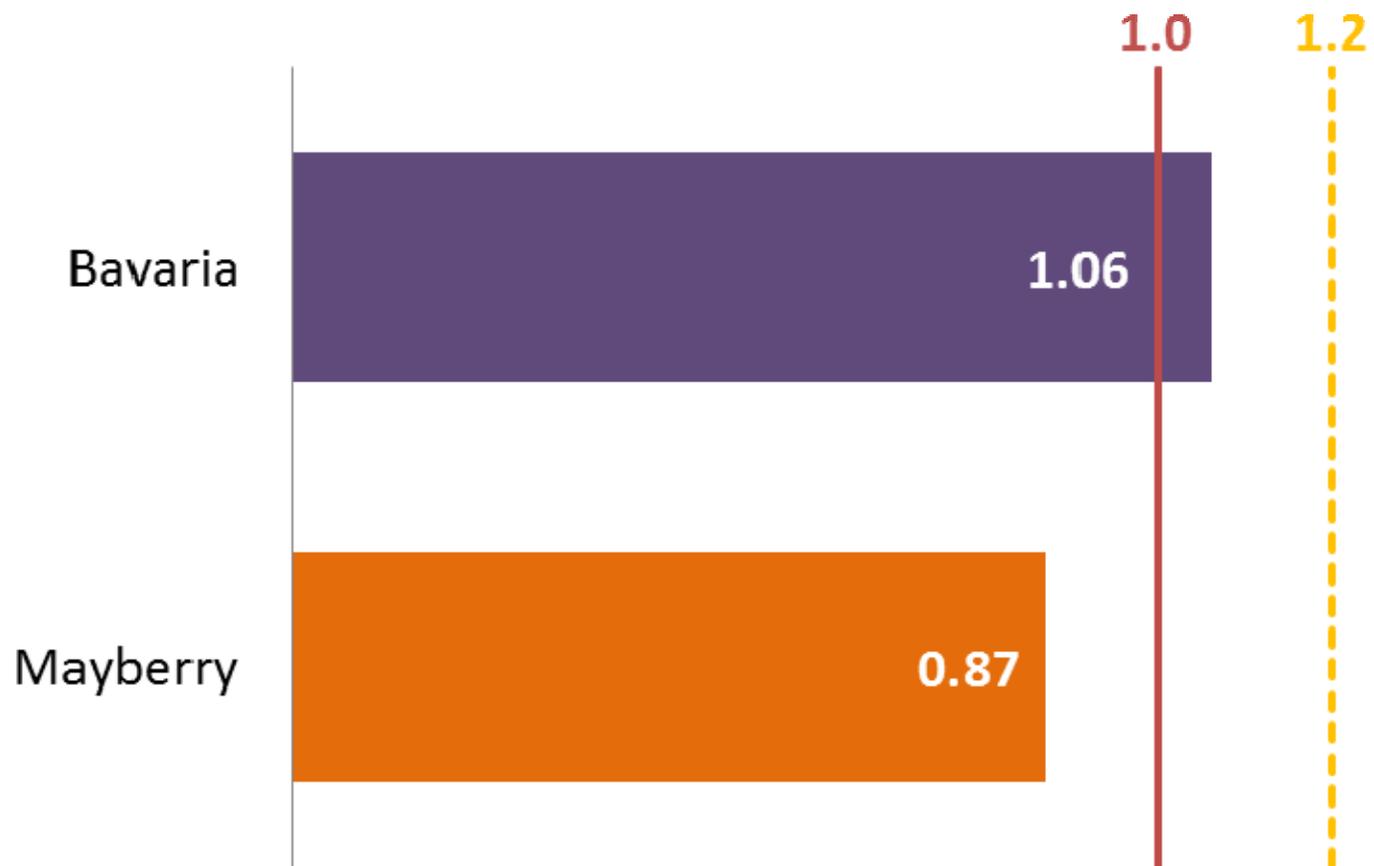
Operating Revenues (1)

Operating Expenses (including depreciation) (2)



Operating Ratio

Including Depreciation





Operating Ratio – Bavaria

Excluding Depreciation

1b.

$$\frac{\$709,972}{\$459,082} = 1.55$$

Operating Revenues (1)

Operating Expenses (excluding depreciation) (2-3)

OE \$671,333
~~- DEP \$212,251~~



Operating Ratio

Excluding Depreciation



Debt Service Coverage Ratio – Bavaria

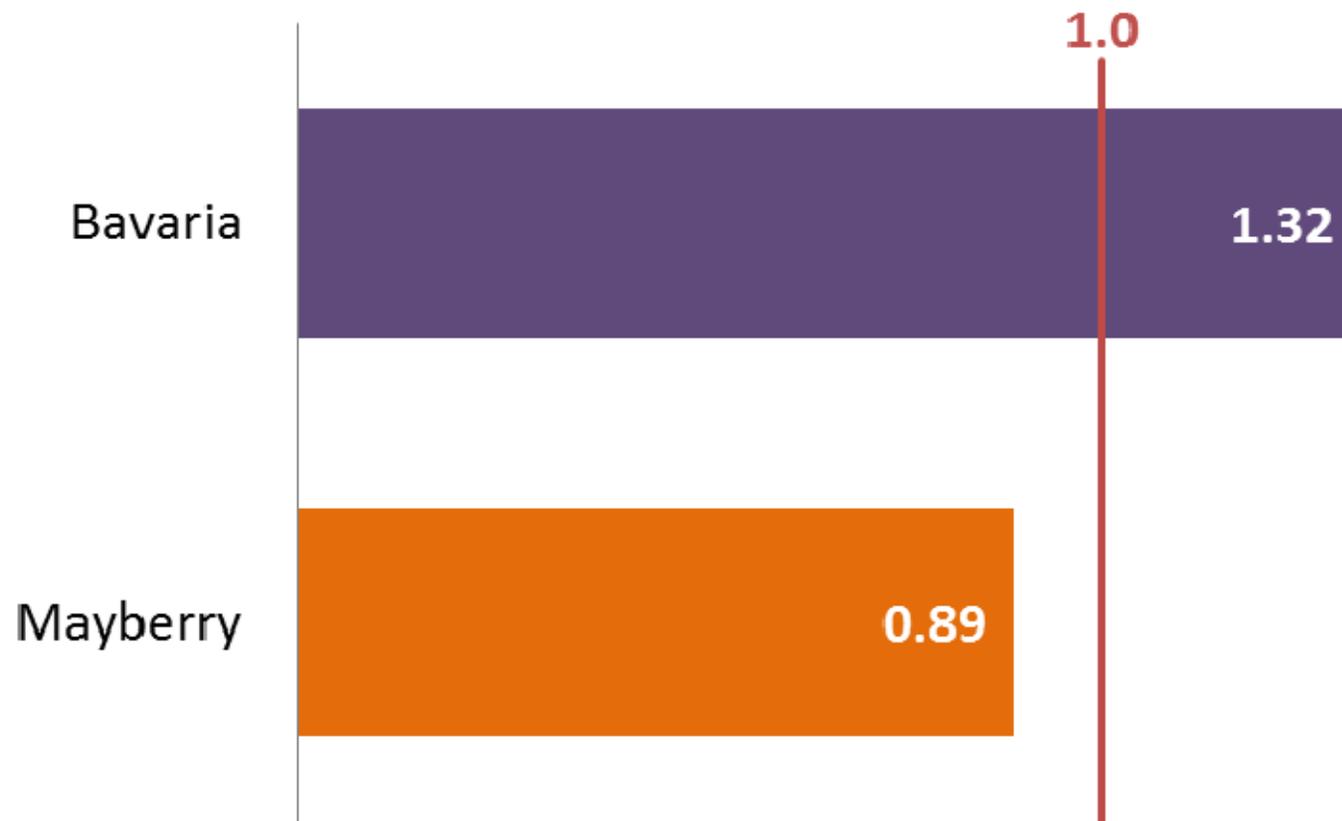
OE \$671,333
- Dep \$212,251

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

2.



Debt Service Coverage Ratio



Days of Cash on Hand – Bavaria

3.
$$\frac{\$568,061}{\frac{\$459,082}{365}} = 452$$

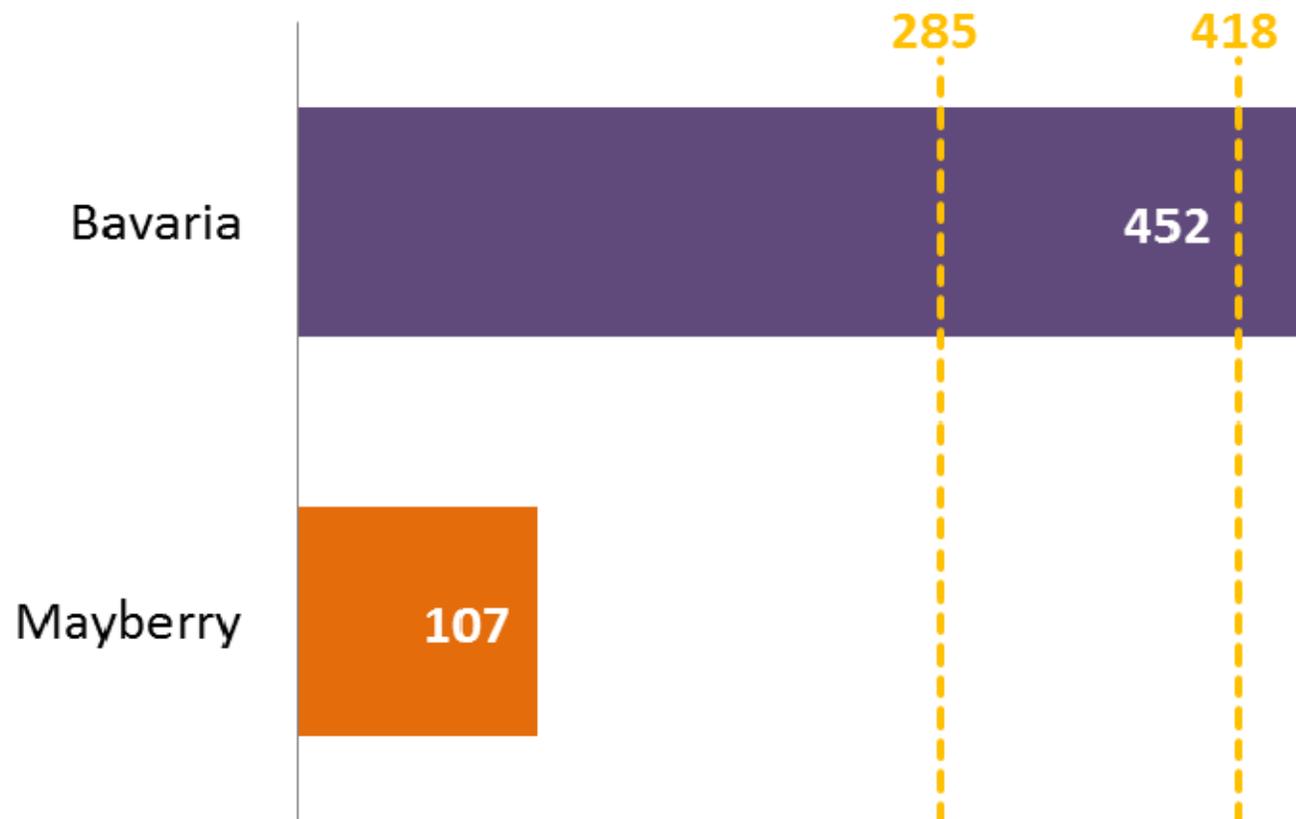
Unrestricted Cash & Cash Equivalents (5)

Operating Expenses (excluding depreciation) (2-3)

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



Days of Cash on Hand





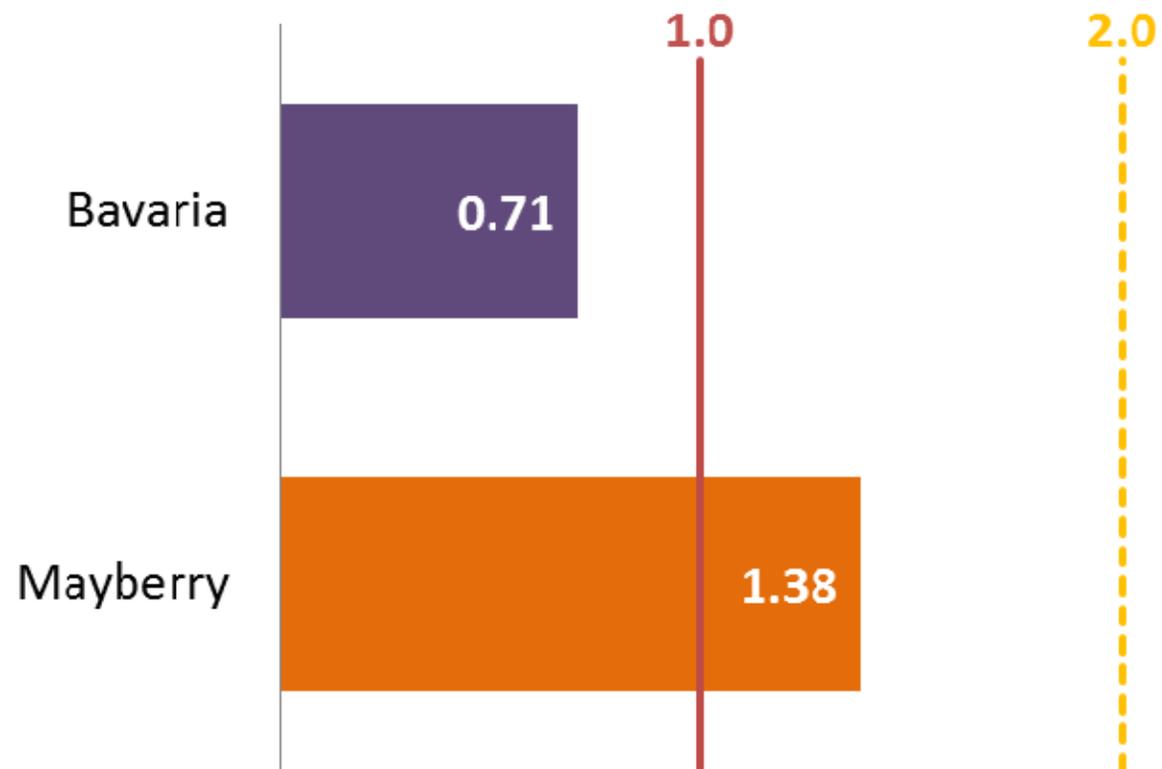
Current Ratio – Bavaria

4.

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



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 + \$66,346
Unrestricted Cash & Cash Equivalents (5) Receivables, net (6)

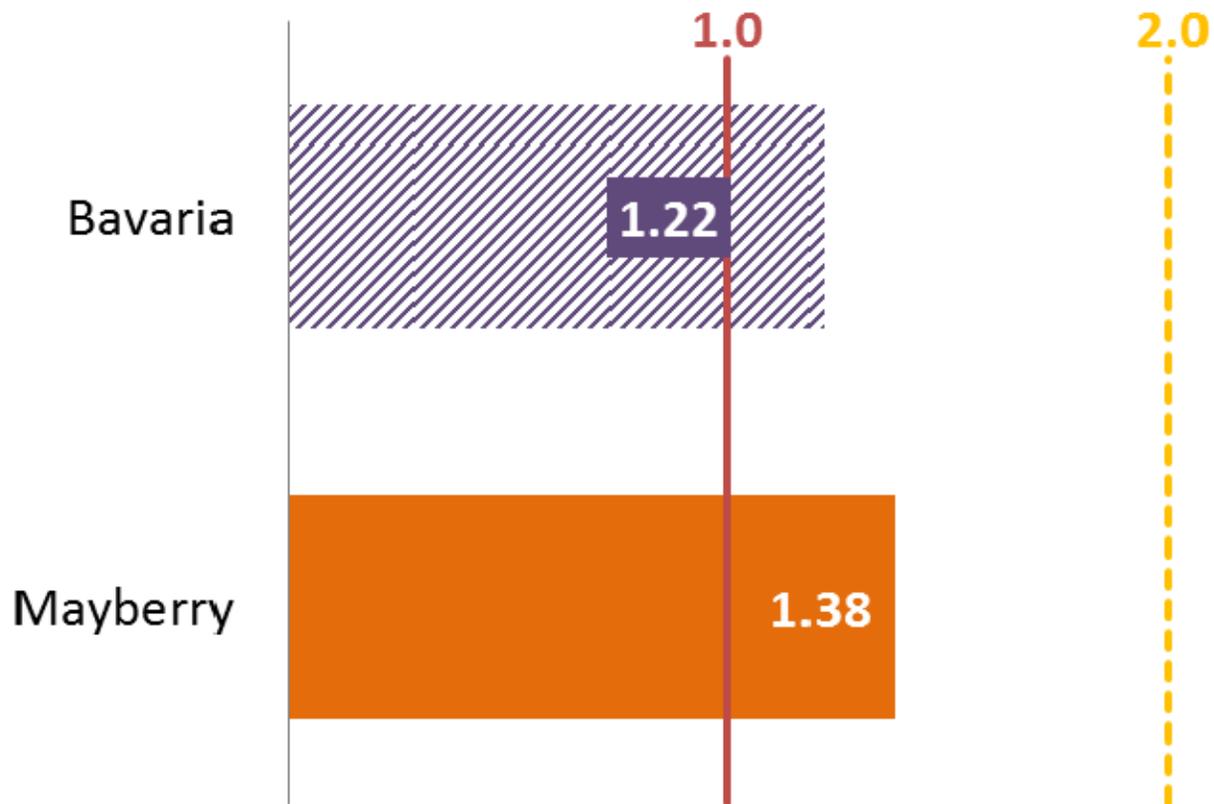
4.

\$898,474
Current Liabilities (7)

= 1.22

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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Sooooooooooooo....

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