



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

Operating Ratio

Days Cash on Hand

Current Ratio

Debt Service Coverage Ratio

Asset Depreciation



Key Financial Indicators!

- Operating Ratio
- Days of Cash on Hand
- Current Ratio
- Debt Service Coverage Ratio



Whiteboard Video: Financial Benchmarking

<http://www.waterrf.org/Pages/Projects.aspx?PID=4366>





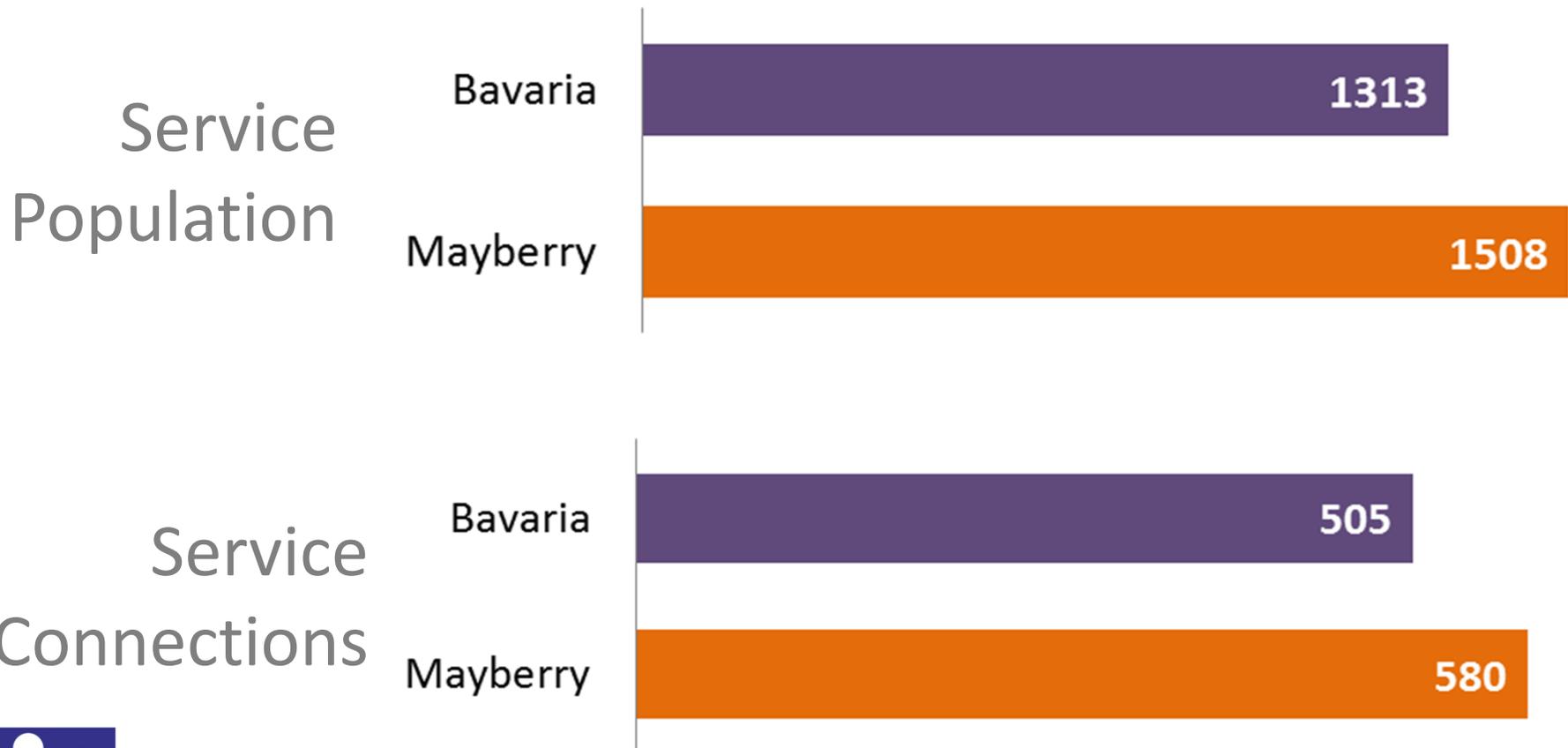
A Tale of Two Systems That Look Similar On Paper...

- **Bavaria** and **Mayberry**
- Two average small town community water systems from the same state

Note: Actual numbers from actual towns



They Serve Similar Populations





They Have Similar Demographics

MHI



Percent Poverty





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		\$ 368,001	(7)
Accounts receivable, net	241,130	60,346	(8)
Total current assets	241,130	5,856	(9)
Capital Assets		640,203	(10)
Land and Improvements	10,227		
Distribution and Obsolescence Systems	5,745,840		
Land	12,500,317		
Total capital assets	18,356,384		
Total Assets	\$ 4,607,514	177,208	
LIABILITIES		209,556	
Current Liabilities		22,682	(11)
Accounts payable	9,252	5,873,709	(12)
Deferred revenues	41,225	896,073	(13)
Total current liabilities	50,477	1,454,079	(14)
Long-term Liabilities		(2,883,225)	(15)
Bonds Payable	100,000	30,833	
Total long-term liabilities	100,000	5,781,214	(16)
Total Liabilities	\$ 150,477	6,471,271	
Net Assets	\$ 4,457,037		
Invested in capital assets net of related debt	2,344,207		
Unrestricted net assets	2,112,830		
Total net assets	\$ 4,457,037		
The accompanying notes are an integral part of these financial statements.			
		15,605	
		233,357	
		646,873	
		889,024	
		1,788,299	
		4,355,133	
		114,583	
		163,263	
		\$ 4,633,079	



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

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

1a.



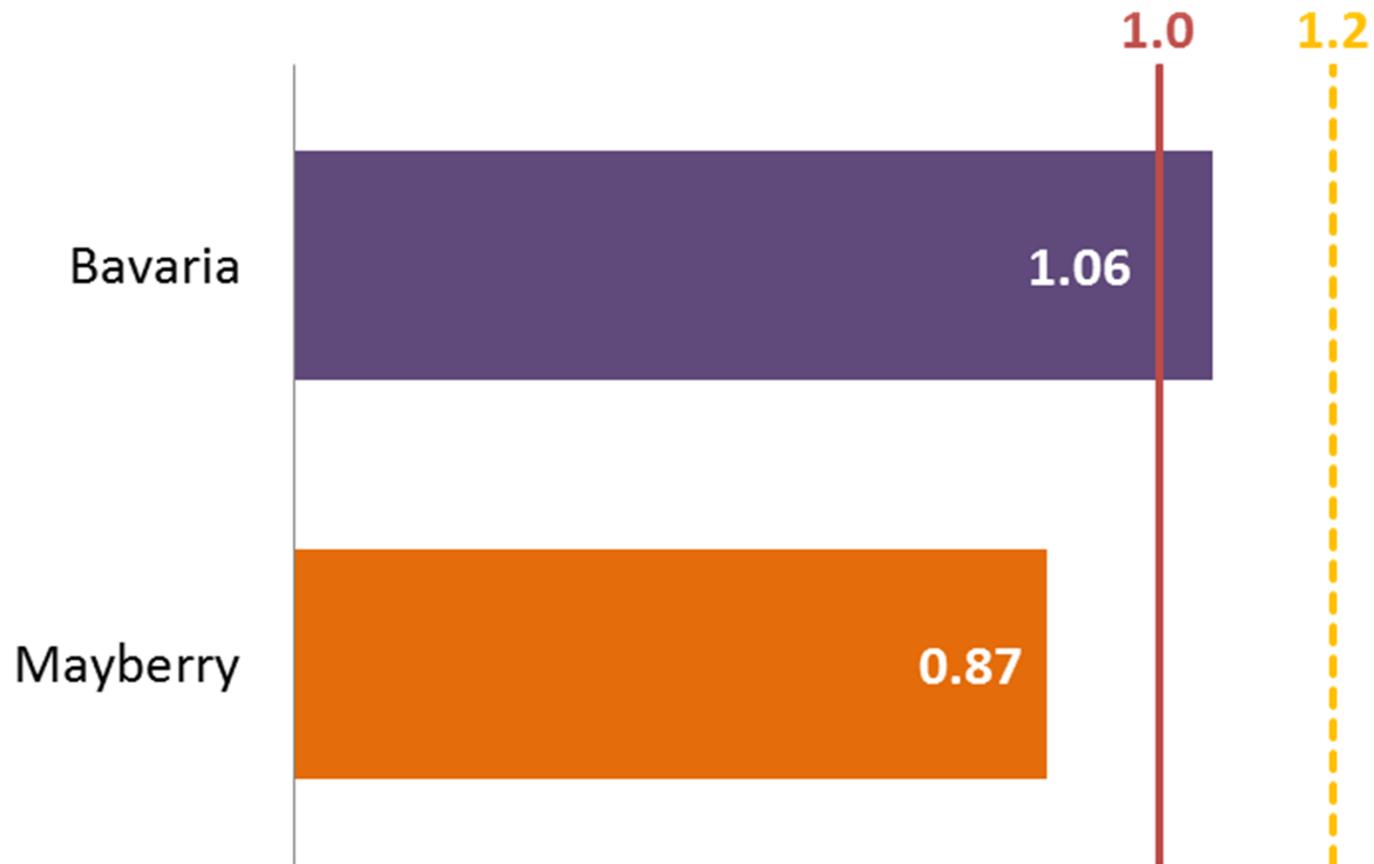
Now You Calculate For Bavaria

$$\begin{array}{r} \boxed{\$709,972} \\ \text{Operating Revenues (1)} \\ \hline \boxed{\$671,333} \\ \text{Operating Expenses (including depreciation) (2)} \end{array} = \boxed{1.06}$$



Operating Ratio

Including Depreciation





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 expenses	<u>511,448</u>	-
Operating income (loss)	<u>(67,217)</u>	



Operating Ratio – Mayberry

Excluding Depreciation

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

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



Now You Calculate For Bavaria

1b.
$$\frac{\$709,972}{\$459,082} = 1.55$$

Operating Revenues (1)

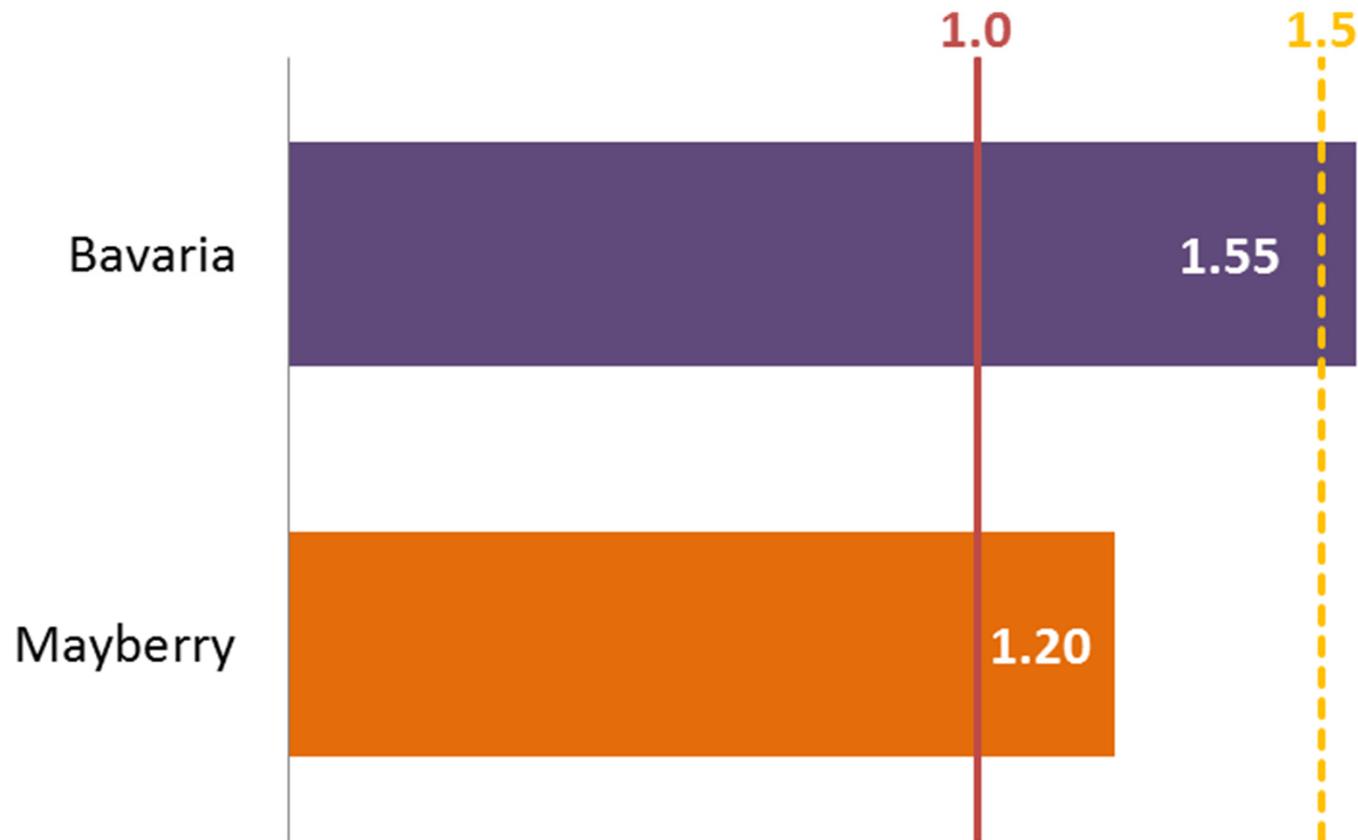
Operating Expenses (excluding depreciation) (2-3)

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



Operating Ratio

Excluding Depreciation





Debt Service Coverage Ratio

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



Debt Service Coverage Ratio

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

MAYBERRY
STATEMENT OF CASH FLOWS
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)
<u>71,766</u>

(60,000)

(60,000)

0
(39,841)
(49,655)
<u>(35,128)</u>
<u>(124,624)</u>

④



Debt Service Coverage Ratio – Mayberry

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

2.	<table border="0" style="width: 100%;"> <tr> <td style="border: 1px solid black; padding: 5px; text-align: center; width: 25%;">\$444,231</td> <td style="font-size: 2em; vertical-align: middle;">-</td> <td style="border: 1px solid black; padding: 5px; text-align: center; width: 25%;">\$368,985</td> <td style="width: 50%;"></td> </tr> <tr> <td style="text-align: center;"><i>Operating Revenues (1)</i></td> <td></td> <td style="text-align: center;"><i>Operating Expenses (2-3)</i> <i>(excluding depreciation)</i></td> <td></td> </tr> <tr> <td colspan="3" style="border-top: 2px solid black; border-bottom: 2px solid black; height: 10px;"></td> <td style="text-align: center; vertical-align: middle;">=</td> </tr> <tr> <td colspan="3" style="border: 1px solid black; padding: 5px; text-align: center; width: 25%;">\$84,783</td> <td style="border: 1px solid black; padding: 5px; text-align: center; width: 25%;">0.89</td> </tr> <tr> <td colspan="3" style="text-align: center;"><i>Principal & Interest on Long-Term Debt (4)</i></td> <td></td> </tr> </table>	\$444,231	-	\$368,985		<i>Operating Revenues (1)</i>		<i>Operating Expenses (2-3)</i> <i>(excluding depreciation)</i>					=	\$84,783			0.89	<i>Principal & Interest on Long-Term Debt (4)</i>			
\$444,231	-	\$368,985																			
<i>Operating Revenues (1)</i>		<i>Operating Expenses (2-3)</i> <i>(excluding depreciation)</i>																			
			=																		
\$84,783			0.89																		
<i>Principal & Interest on Long-Term Debt (4)</i>																					

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



Now You Calculate For Bavaria

Handwritten calculation for Bavaria:

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

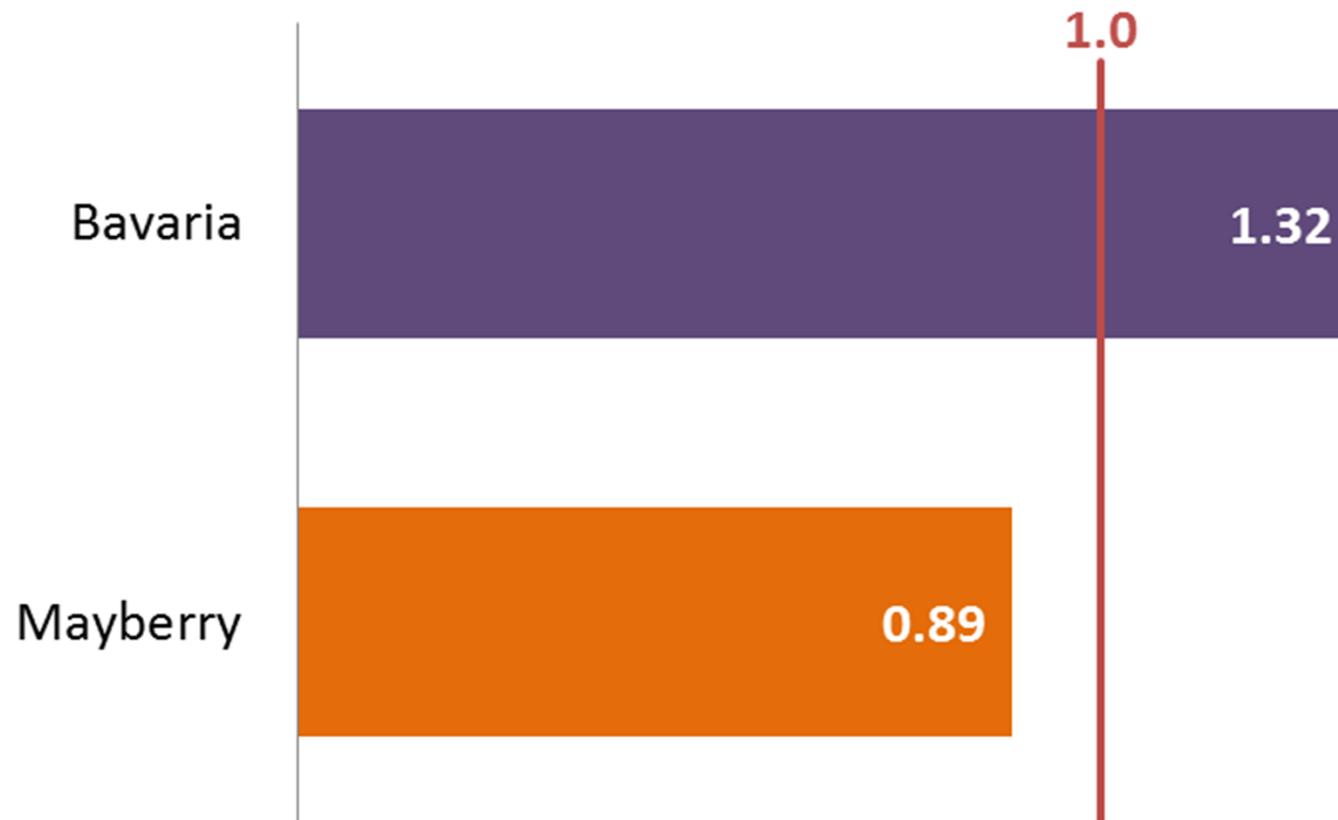
\$459,082

2.
$$\frac{\text{Operating Revenues (1)} - \text{Operating Expenses (2-3) (excluding depreciation)}}{\text{Principal \& Interest on Long-Term Debt (4)}} = 1.32$$

Operating Revenues (1) = \$709,972
Operating Expenses (2-3) (excluding depreciation) = \$459,082
Principal & Interest on Long-Term Debt (4) = \$190,633



Debt Service Coverage Ratio





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

⑤
⑥

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

$$\begin{array}{r} \boxed{\$107,706} \\ \text{Unrestricted Cash \& Cash Equivalents (5)} \\ \hline \boxed{3.} \quad \frac{\boxed{\$368,985} / 365}{\text{Operating Expenses (excluding depreciation) (2-3)}} = \boxed{107} \end{array}$$

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



Now You Calculate For Bavaria

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

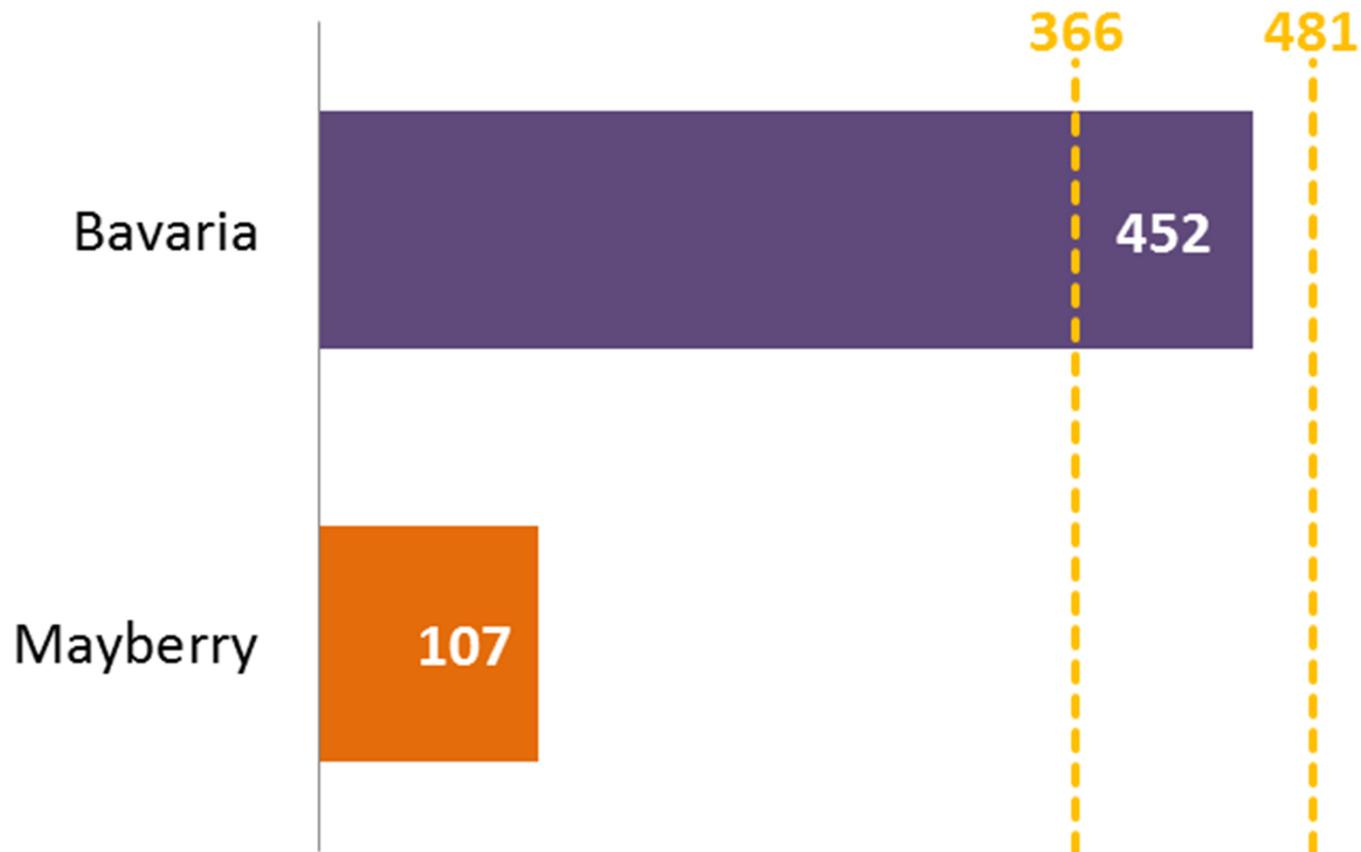
Unrestricted Cash & Cash Equivalents (5)

Operating Expenses (excluding depreciation) (2-3)

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



Days of Cash on Hand



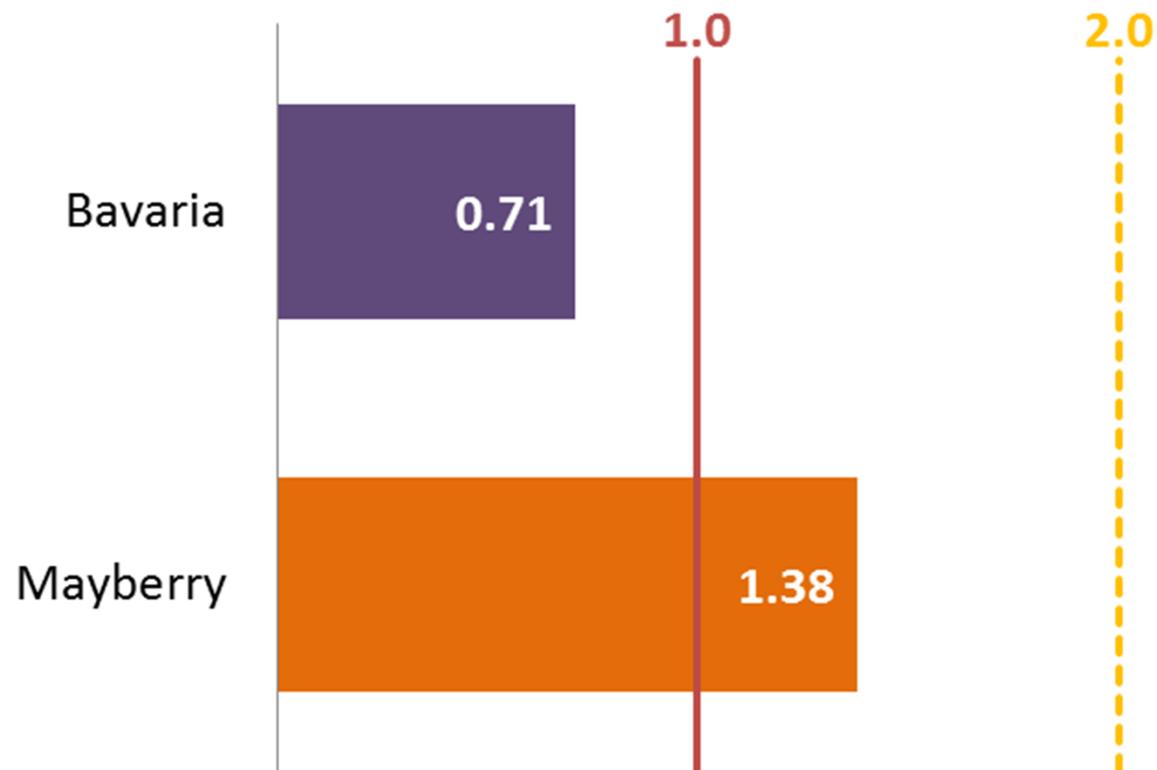


Current Ratio

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



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.

15



Bavaria corrected

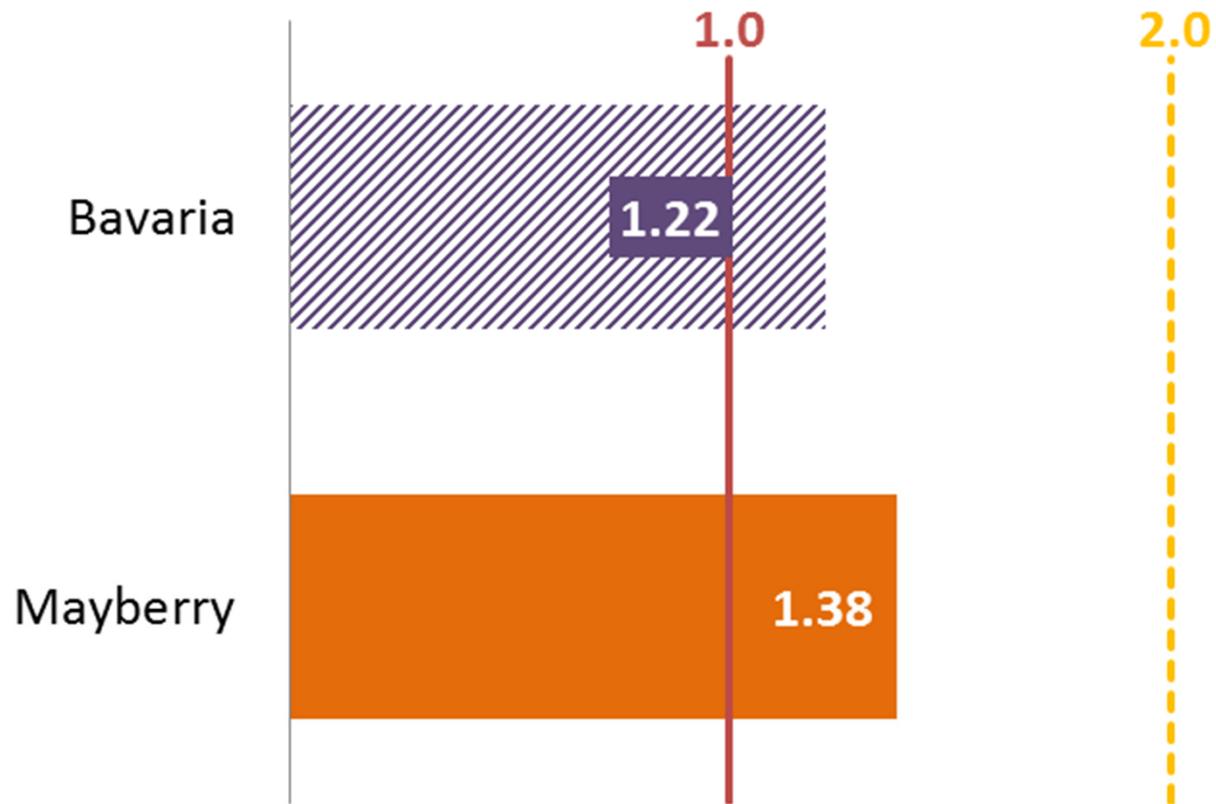
C \$568,061
+ G \$460,005

$$\begin{array}{r} \boxed{\$1,028,066} + \boxed{\$66,346} \\ \text{Unrestricted Cash \& Cash Equivalents (5)} \quad \text{Receivables, net (6)} \\ \hline \boxed{4.} \quad \quad \quad = \quad \quad \quad \boxed{1.22} \\ \boxed{\$898,474} \\ \text{Current Liabilities (7)} \end{array}$$



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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