



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





# Whiteboard Video: Financial Benchmarking

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





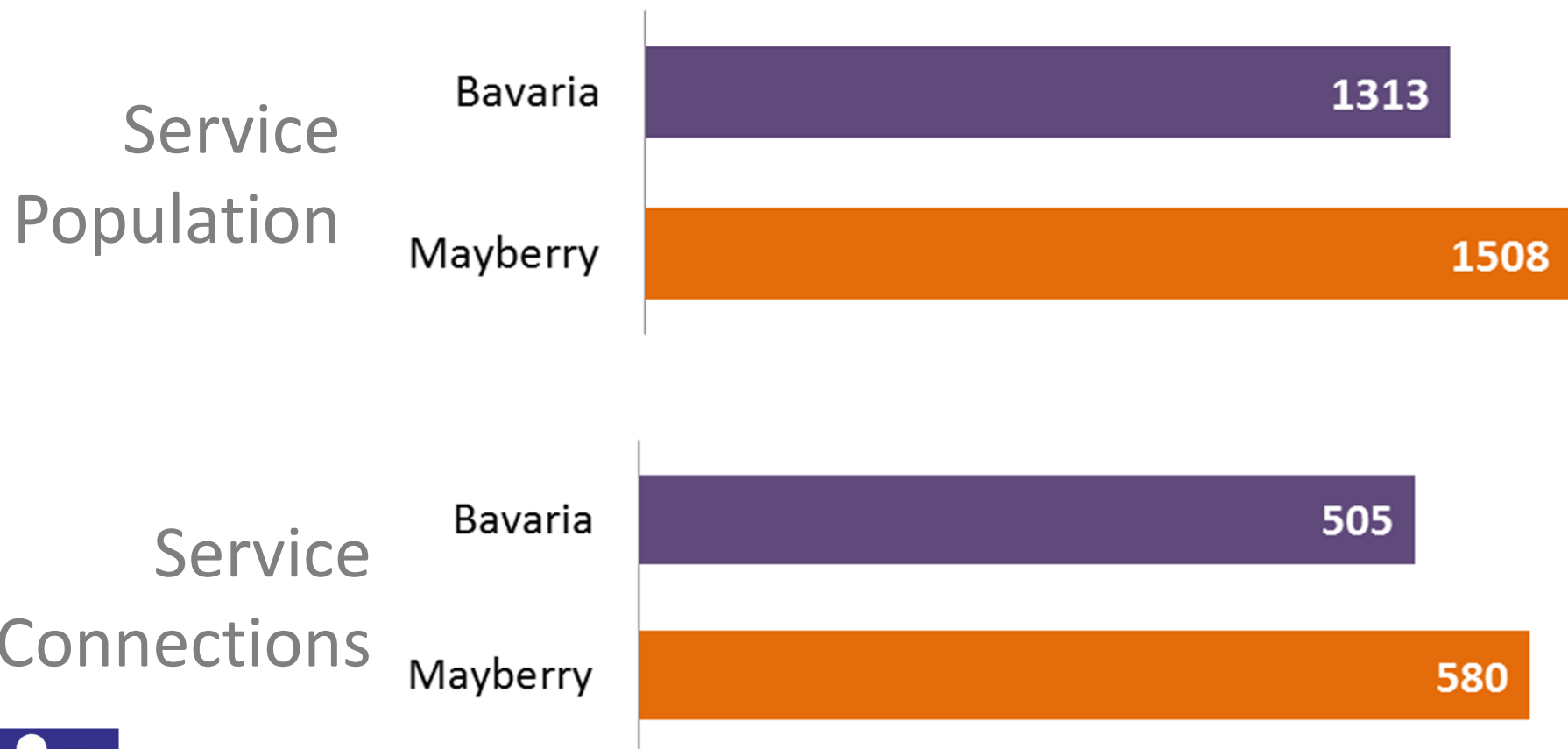
# A Tale of Two Systems That Look Similar On Paper...

- **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

**MAINTENANCE**  
**STATEMENT OF NET ASSETS**  
**PROPRIETARY FUNDS**  
**DECEMBER 31, 2010**

**MAINTENANCE FUNDS**  
**Water and Sewer**

**Assets**

Current Assets	201,130
Investments, net	10,227
Capital Assets	5,735,840
Land and Improvements	12,553,335
Distribution and Collection Systems	3,738,639
Less accumulated depreciation	(4,607,638)
<b>Total Assets</b>	<b>21,860,271</b>

**Liabilities**

Current Liabilities	15,695
Accounts payable	233,357
Deferred revenue	645,873
State payable current	889,924
Long-term liabilities	1,788,299
<b>Total Liabilities</b>	<b>4,355,133</b>

**Net Assets**

Invested in capital assets, net of related debt	114,583
Restricted for debt service	163,267
<b>Total net assets</b>	<b>4,355,133</b>

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

**Water and Sewer Enterprise Fund**

\$	368,001
	60,346
	5,856
	640,203
	177,208
	209,556
	22,982
	5,873,799
	896,073
	1,454,079
	(2,883,225)
	39,833
	5,781,214
	6,421,078



# 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>	
<b>OPERATING REVENUES</b>		
Charges for services	\$ 444,231	
Grants	0	
Total operating revenues	<u>444,231</u>	- ①
<b>OPERATING EXPENSES</b>		
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

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



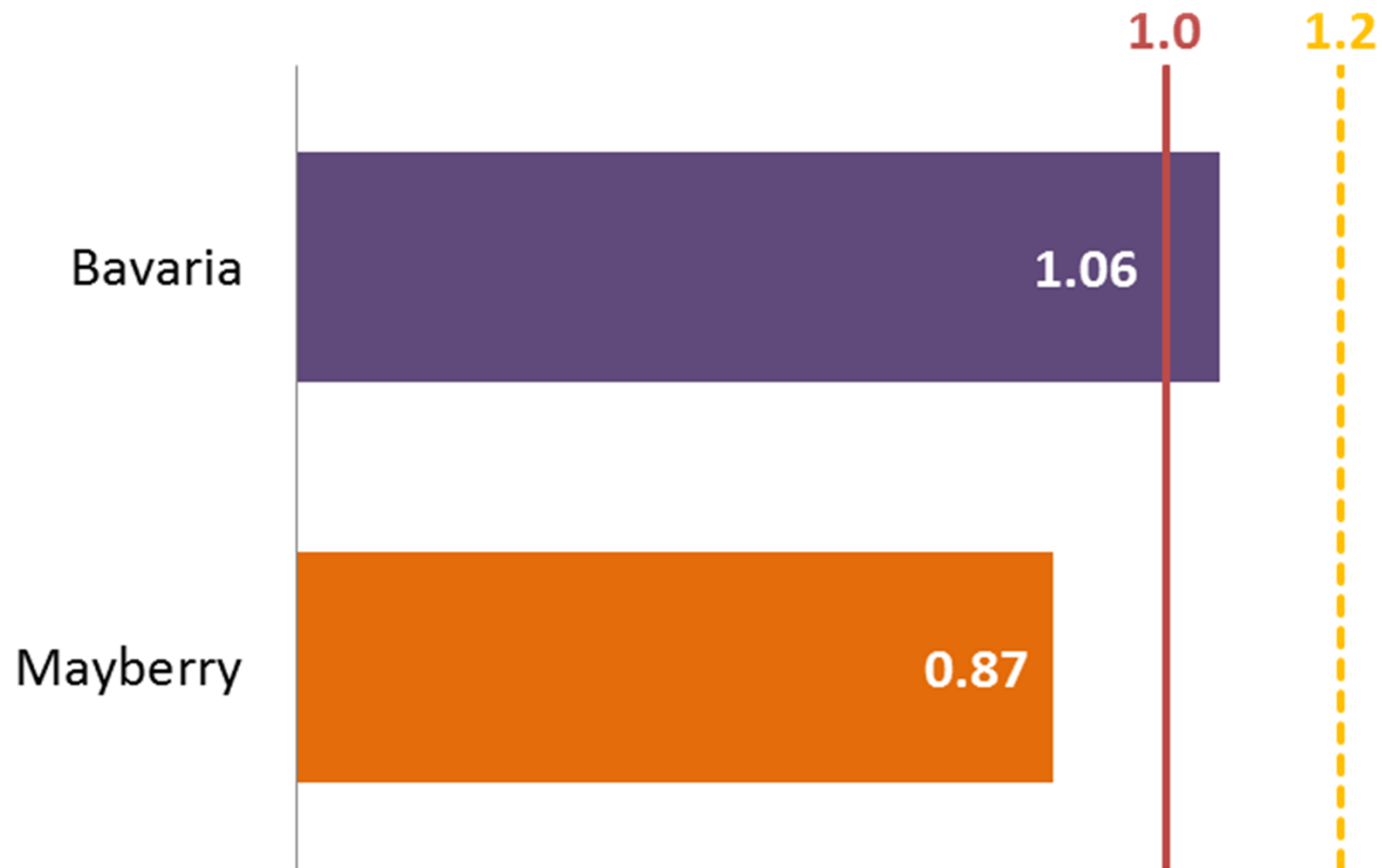
# Now You Calculate For Bavaria

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



# 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>	
<b>OPERATING REVENUES</b>		
Charges for services	\$ 444,231	
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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



# Now You Calculate For Bavaria

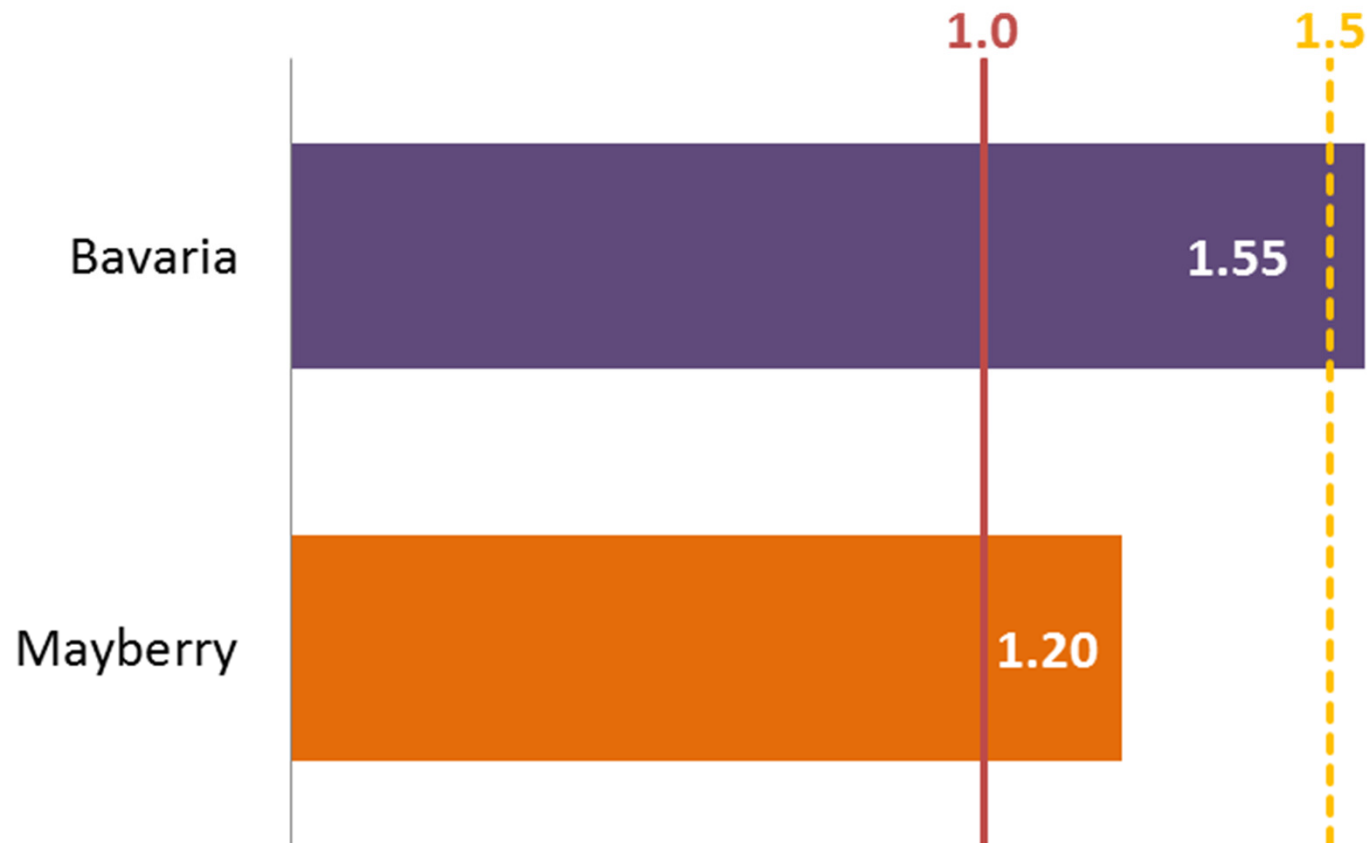
$$\begin{array}{rcl} \boxed{1b.} & \frac{\boxed{\$709,972}}{\boxed{\$459,082}} & = \boxed{1.55} \\ & \text{Operating Revenues (1)} & \\ & \text{Operating Expenses (excluding depreciation) (2-3)} & \end{array}$$

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



# Operating Ratio

Excluding Depreciation





# 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)

Page 1 of 2

④



# Debt Service Coverage Ratio – Mayberry

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

$$\begin{array}{r} \$444,231 \\ \text{Operating Revenues (1)} \end{array} - \begin{array}{r} \$368,985 \\ \text{Operating Expenses (2-3)} \\ \text{(excluding depreciation)} \end{array}$$

2.

$$\frac{\$84,783}{\text{Principal \& Interest on Long-Term Debt (4)}}$$

0.89

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



# Now You Calculate For Bavaria

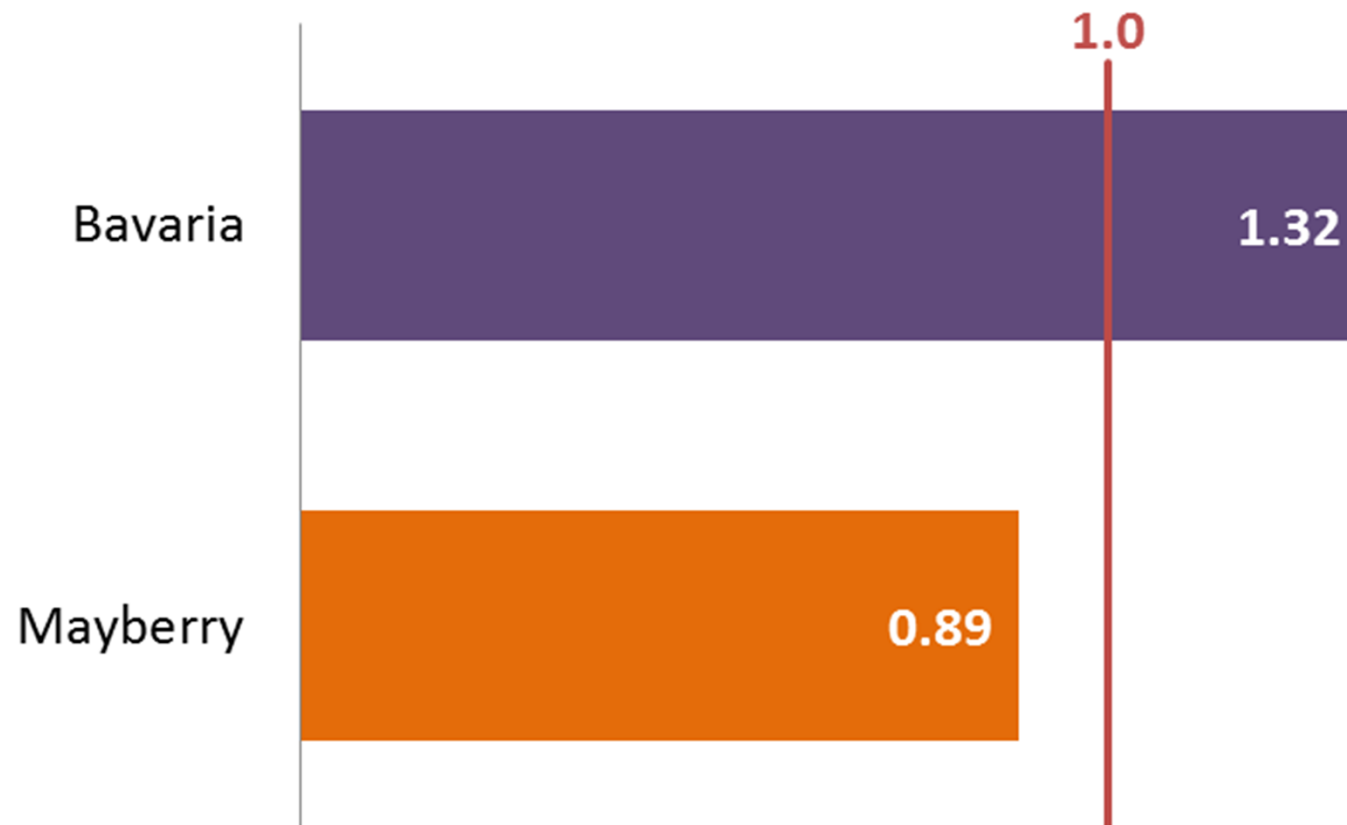
Handwritten calculation for Operating Expenses (2-3) excluding depreciation:

$$\begin{array}{r} \text{OE } \$671,333 \\ - \text{Dep } \$212,251 \\ \hline \end{array}$$

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



# 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

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

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



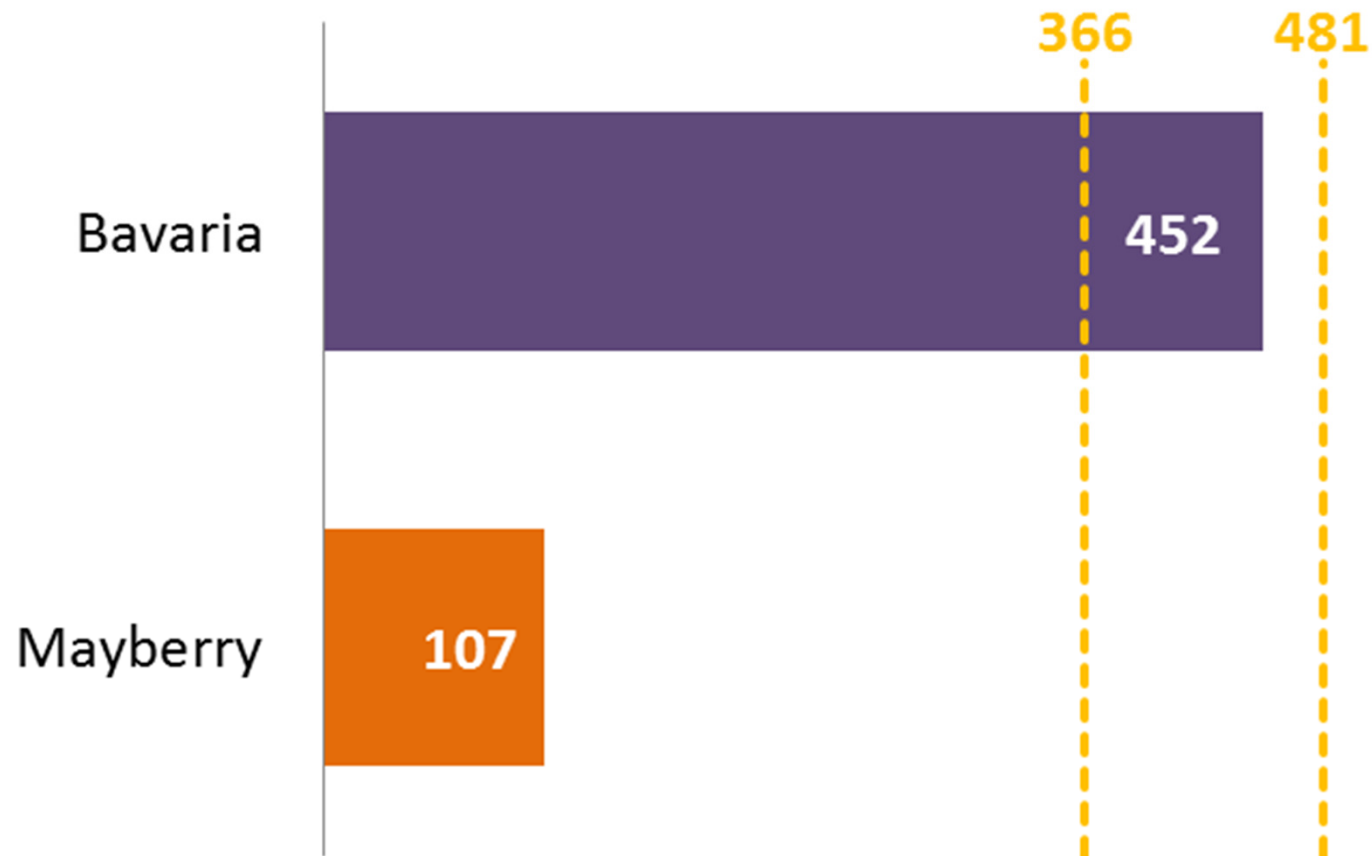
# Now You Calculate For Bavaria

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

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



# Days of Cash on Hand





# Current Ratio

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





# Current Ratio – Mayberry

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

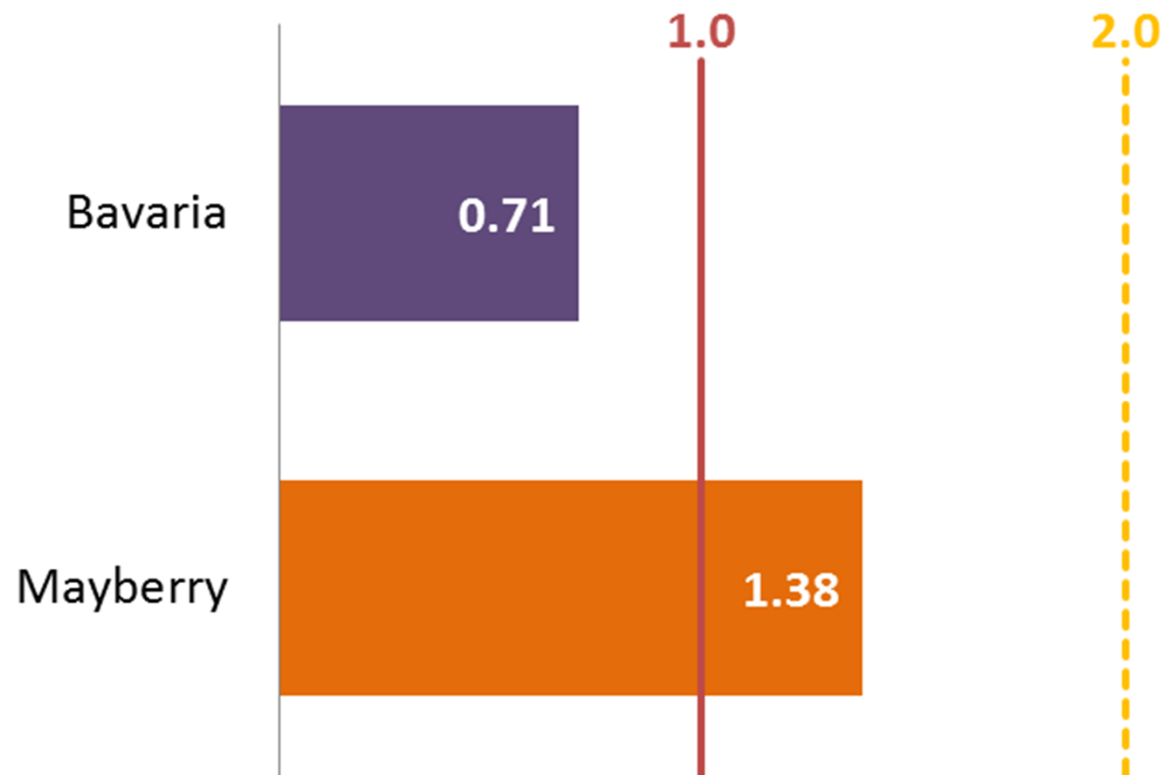


# Now You Calculate For Bavaria

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



# 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.

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# Bavaria corrected

C \$568,061  
+ G \$460.005

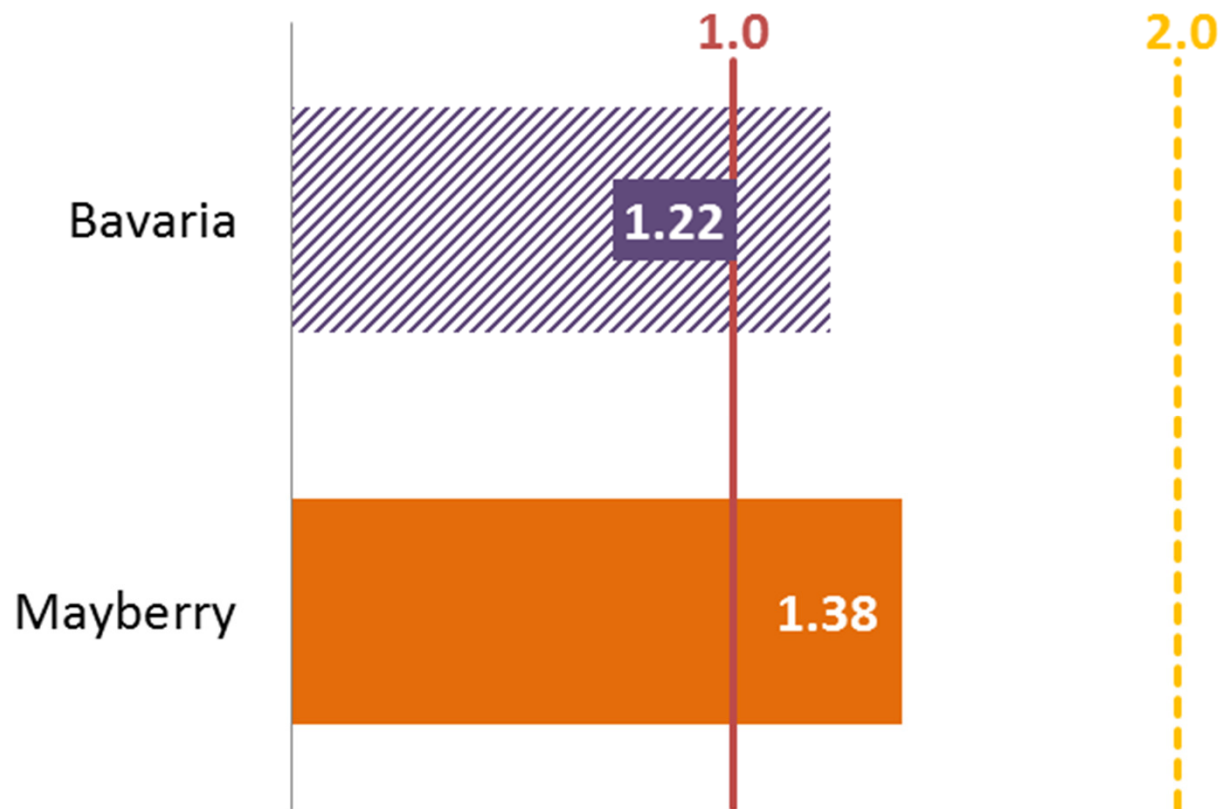
$$\begin{array}{rcl} \boxed{\$1,028,066} & + & \boxed{\$66,346} \\ \text{Unrestricted Cash \& Cash Equivalents (5)} & & \text{Receivables, net (6)} \\ \hline \boxed{4.} & & \boxed{1.22} \\ \boxed{\$898,474} & & \\ \text{Current Liabilities (7)} & & \end{array}$$





# 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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