



# 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?

1. Like a baby/cat
2. Some tossing and turning
3. Insomniac
4. Heavily Medicated
5. I'm not sure yet...



# 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)?

Operating Ratio

Debt Service  
Coverage Ratio

Days Cash on  
Hand

Current  
Ratio

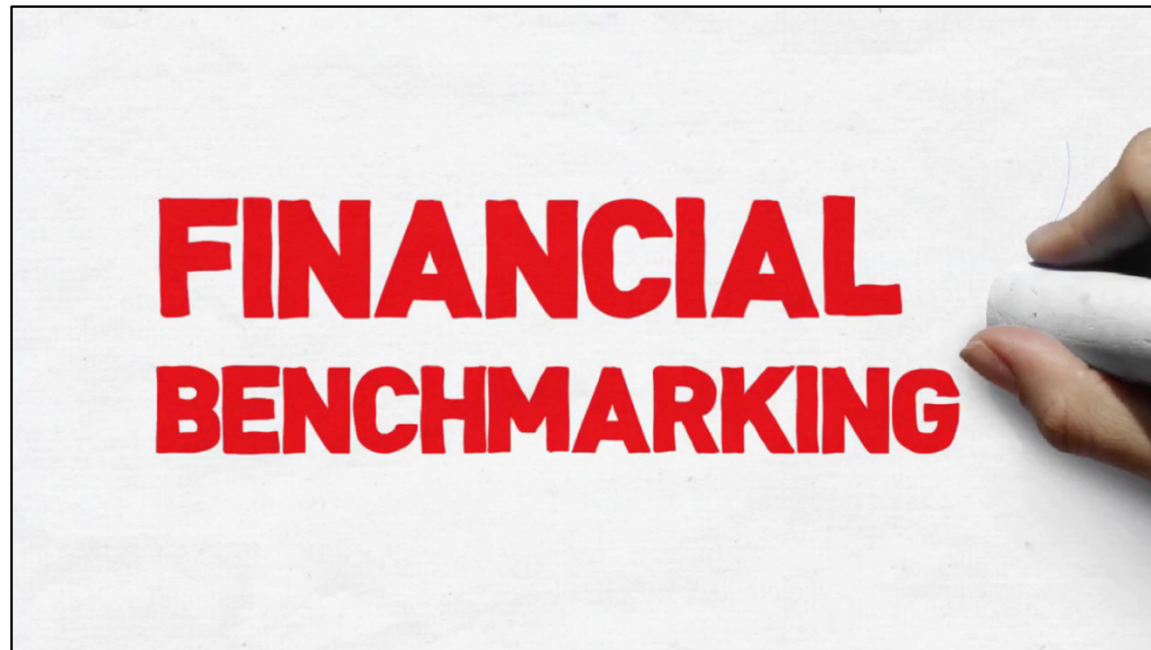
Asset  
Depreciation





# Whiteboard Video: Financial Benchmarking

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





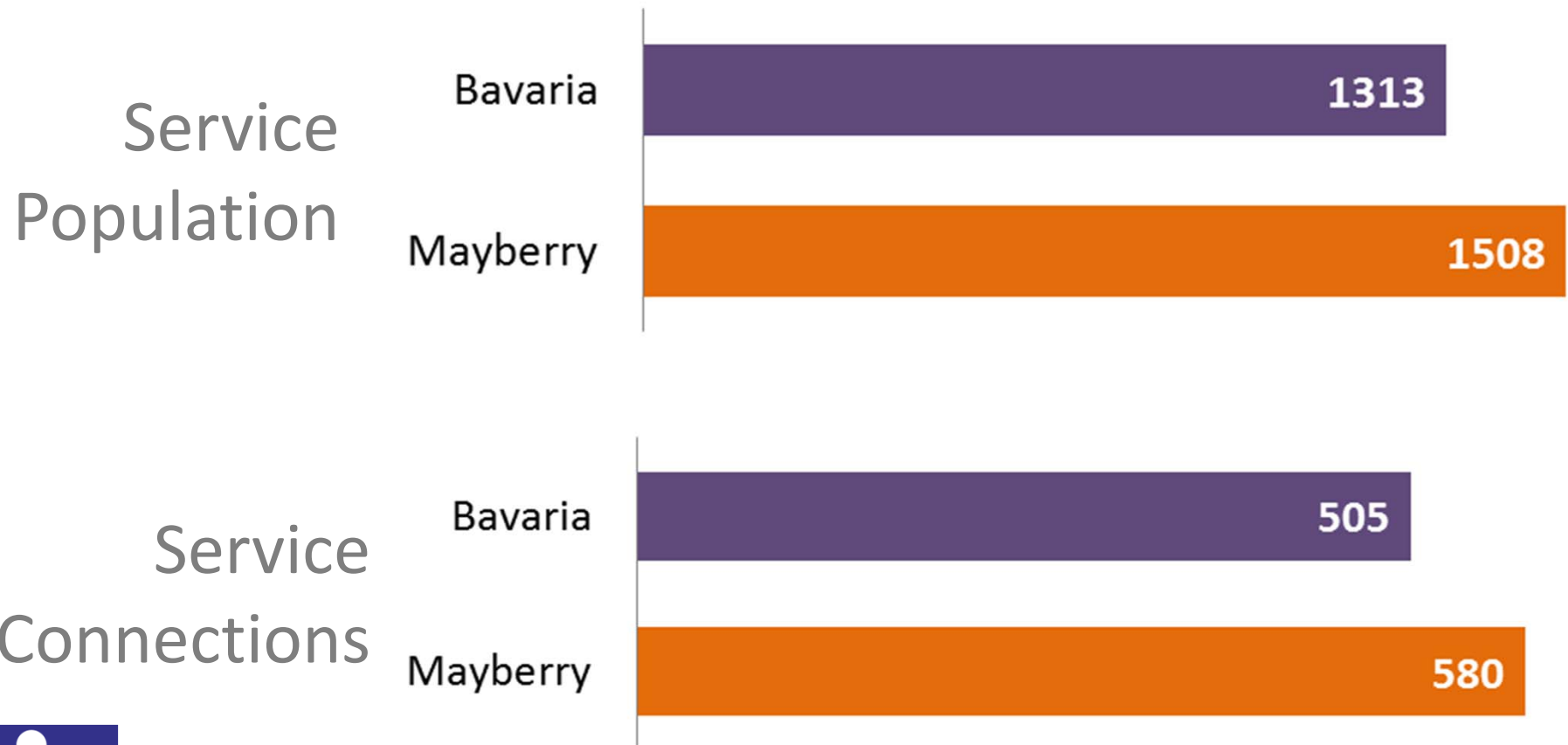
# A Tale of Two Systems That Look Similar On Paper...

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

Note: Actual numbers from actual towns



# They Serve Similar Populations







# They Have Similar Demographics

MHI



Percent Poverty





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



Mayberry



Bavaria



# Quick Overview of Financial Statements

BAYERNIA	
STATEMENT OF NET ASSETS	
PROPRIETARY FUND	
JUNE 30, 2011	
<p> <b>MAINTENANCE</b>  <b>STATEMENT OF NET ASSETS</b>  <b>PROPRIETARY FUND</b>  <b>DECEMBER 31, 2010</b> </p>	
<b>ASSETS</b> Current assets Cash Receivables, net Total current assets Capital assets Land and improvements Buildings Distribution and collection systems Total capitalized depreciation Total capital assets Total Assets LIABILITIES Current liabilities Accounts payable Customer deposits Total current liabilities Noncurrent liabilities Bonds, notes and other payable Total noncurrent liabilities Total Liabilities Deferred in capital assets, net of related debt Restricted for debt service Total net assets	\$ 274,330 114,583 159,747 5,732,867 18,512,225 2,427,429 24,076,798 3,362 46,281 274,439 274,439 2,449,237 114,583 2,563,820 2,563,820 4,407,329 15 15 15
<p> <b>WATER AND SEWER</b>  <b>STATEMENT OF NET ASSETS</b>  <b>PROPRIETARY FUND</b>  <b>DECEMBER 31, 2010</b> </p>	
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<p> <b>WATER AND SEWER</b>  <b>ENTERPRISE FUND</b>  <b>DECEMBER 31, 2010</b> </p>	
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# 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

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





# 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>	
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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

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

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

## 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

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

2.

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

0.89

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





# 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

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

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



# Current Ratio

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



# Current Ratio – Mayberry

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





# Now You Calculate For Bavaria



# Operating Ratio – Bavaria

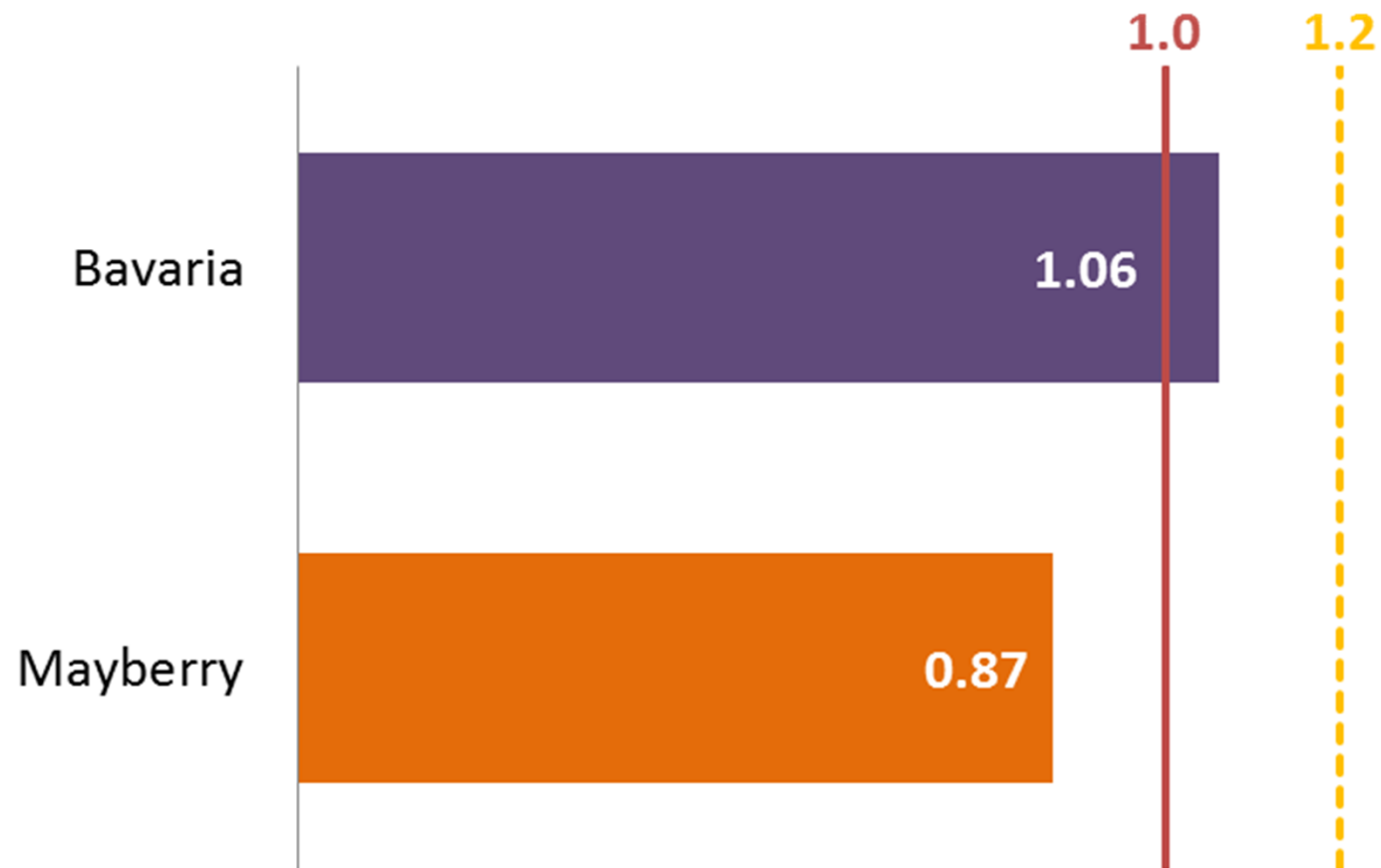
Including Depreciation

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



# Operating Ratio

Including Depreciation





# Operating Ratio – Bavaria

Excluding Depreciation

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

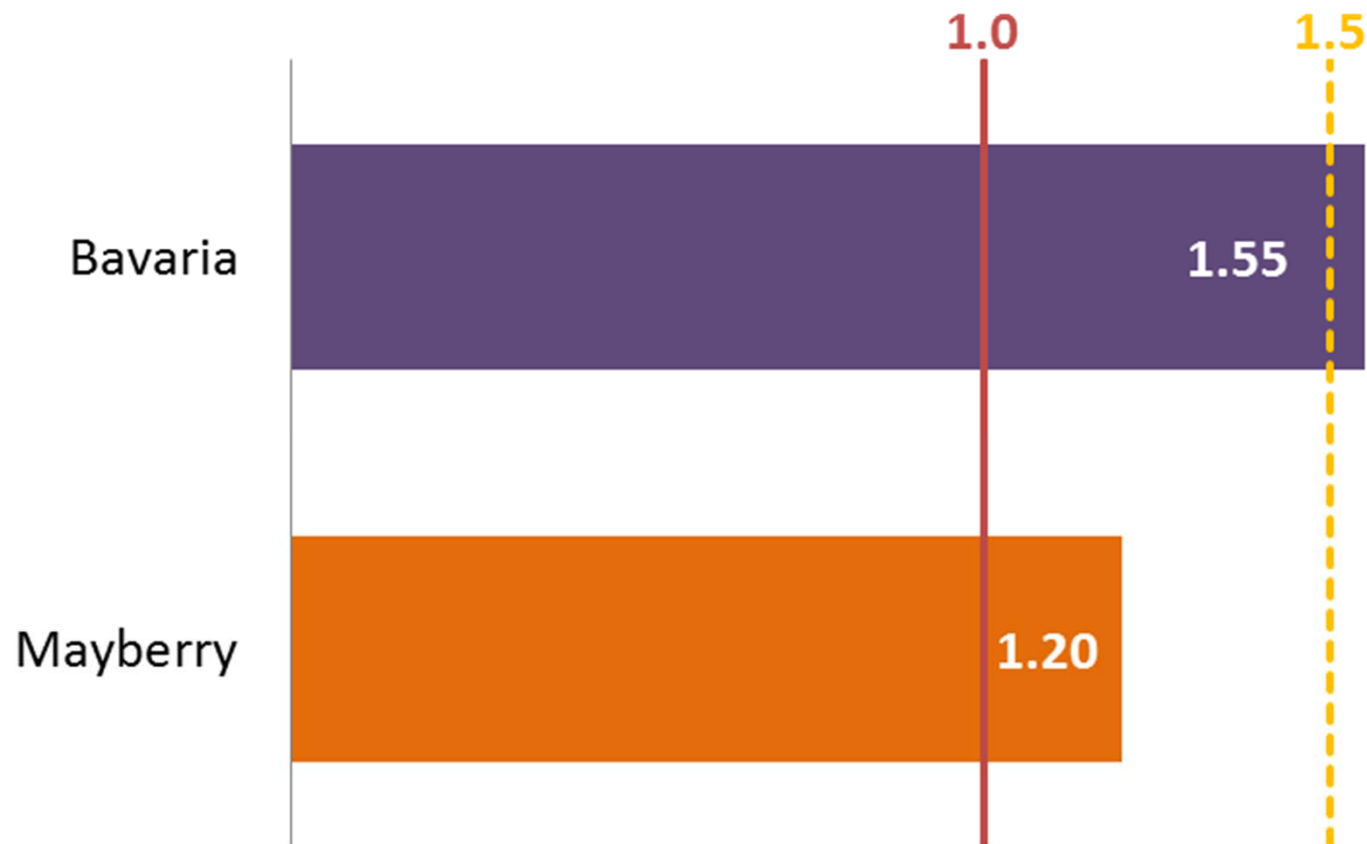
OE \$671,333  
- DEP \$212,251





# Operating Ratio

Excluding Depreciation





# Debt Service Coverage Ratio – Bavaria

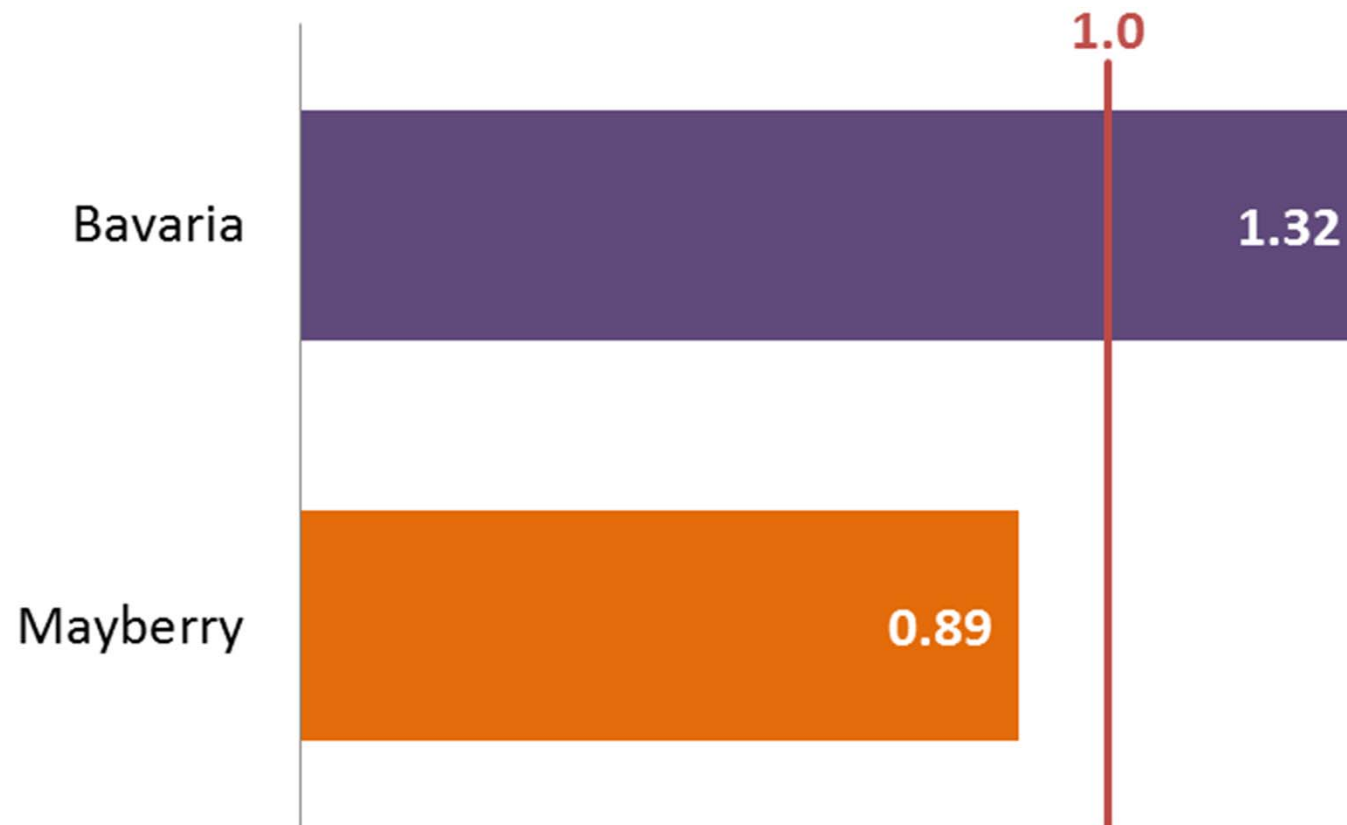
OE \$671,333  
- Dep \$212,251

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

2.



# Debt Service Coverage Ratio





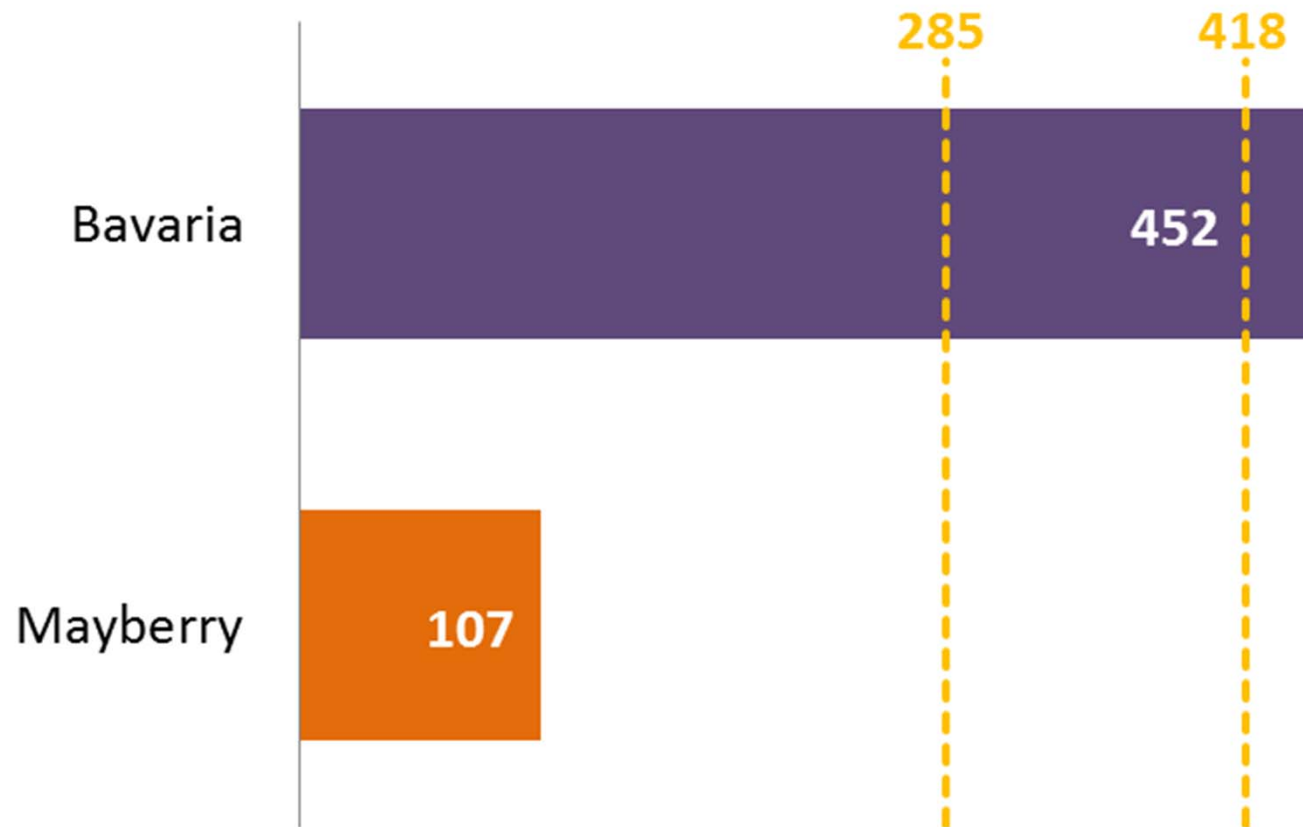
# Days of Cash on Hand – Bavaria

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

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



# Days of Cash on Hand





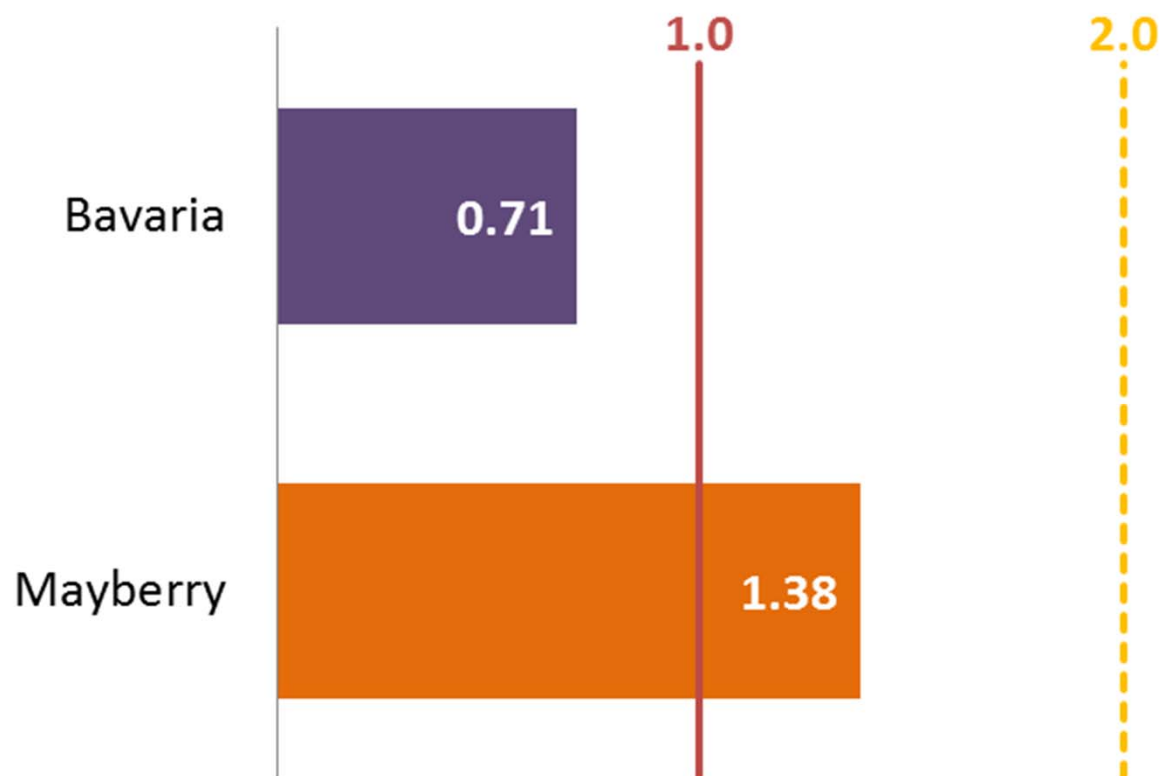


# Current Ratio – Bavaria

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



# 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.

15



# Bavaria corrected

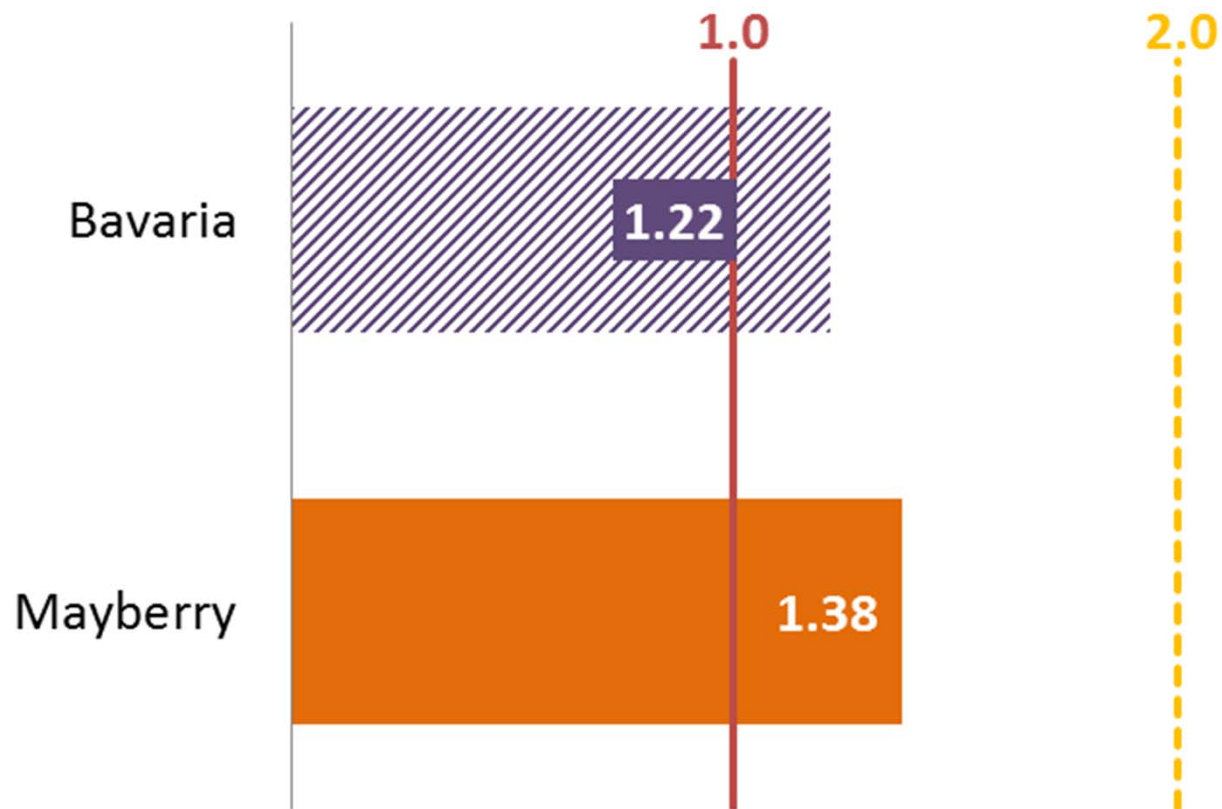
C \$568,061  
+ G \$460.005

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



# 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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