Assessing Financial Condition

Session Objectives

- Understanding where your water system is right now financially

- Learn some standard measures that funders will be concerned with

Can you sleep at night?

- Is your water 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 water system's finances, how well do you sleep at night?

Like a baby

Some tossing and turning

Heavily medicated

I'm not sure yet...

Whiteboard Video: Financial Benchmarking

Terms to keep an eye out for:

- Operating ratio
- Debt service coverage ratio
- Quick / current ratio
- Days cash on hand
- Infrastructure condition

Whiteboard Video: Financial Benchmarking

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

Financial performance metrics

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?	Quick / Current Ratio
How much of your utility's expected life has already run out (and how much is left)?	Asset Depreciation

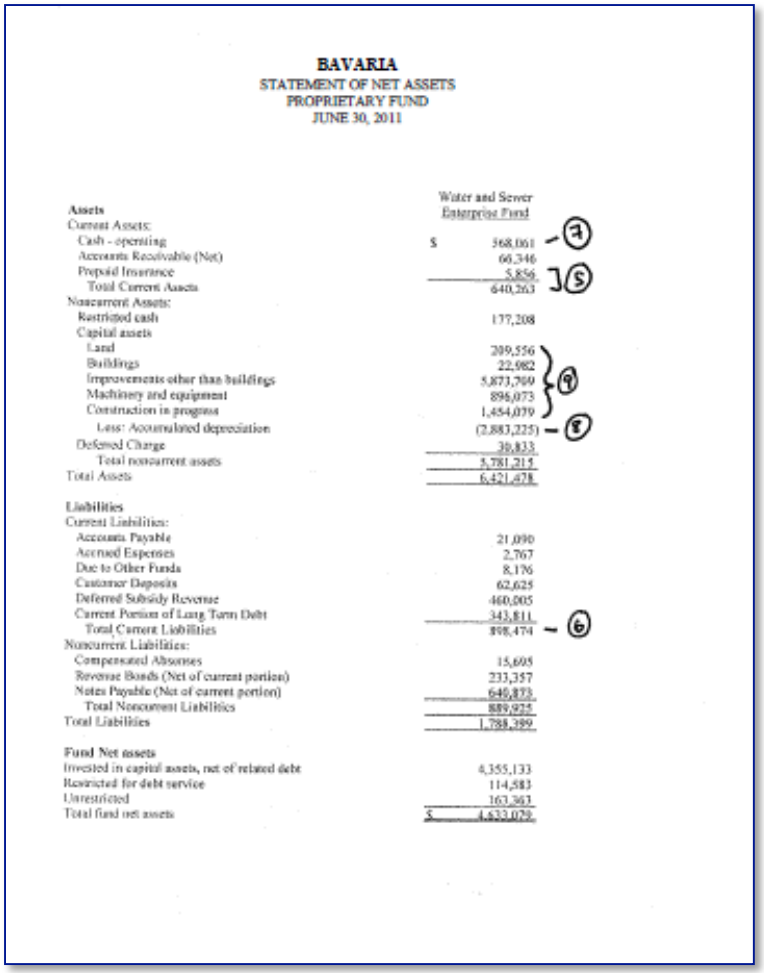
Where do we get started?

Local governments:

annual audited financial statements

Non-governments:

balance sheets, shareholder reports, annual reports, etc.



BAVARIA
STATEMENT OF NET ASSETS
PROPRIETARY FUND
JUNE 30, 2011

	Water and Sewer Enterprise Fund
Assets	
Current Assets:	
Cash - operating	$ 368,061
Accounts Receivable (Net)	66,346
Prepaid Insurance	5,856
Total Current Assets	640,263
Noncurrent Assets:	
Restricted cash	177,208
Capital assets	
Land	209,556
Buildings	22,982
Improvements other than buildings	5,873,769
Machinery and equipment	896,073
Construction in progress	1,454,079
Less: Accumulated depreciation	(2,883,225)
Deferred Charge	30,833
Total noncurrent assets	5,781,215
Total Assets	6,421,478
Liabilities	
Current Liabilities:	
Accounts Payable	21,090
Accrued Expenses	2,767
Due to Other Funds	8,176
Customer Deposits	62,625
Deferred Subsidy Revenue	460,005
Current Portion of Long Term Debt	343,811
Total Current Liabilities	898,474
Noncurrent Liabilities:	
Compensated Absences	15,605
Revenue Bonds (Net of current portion)	233,357
Notes Payable (Net of current portion)	646,873
Total Noncurrent Liabilities	889,925
Total Liabilities	1,788,399
Fund Net assets	
Invested in capital assets, net of related debt	4,355,133
Restricted for debt service	114,583
Unrestricted	163,363
Total fund net assets	$ 4,633,079

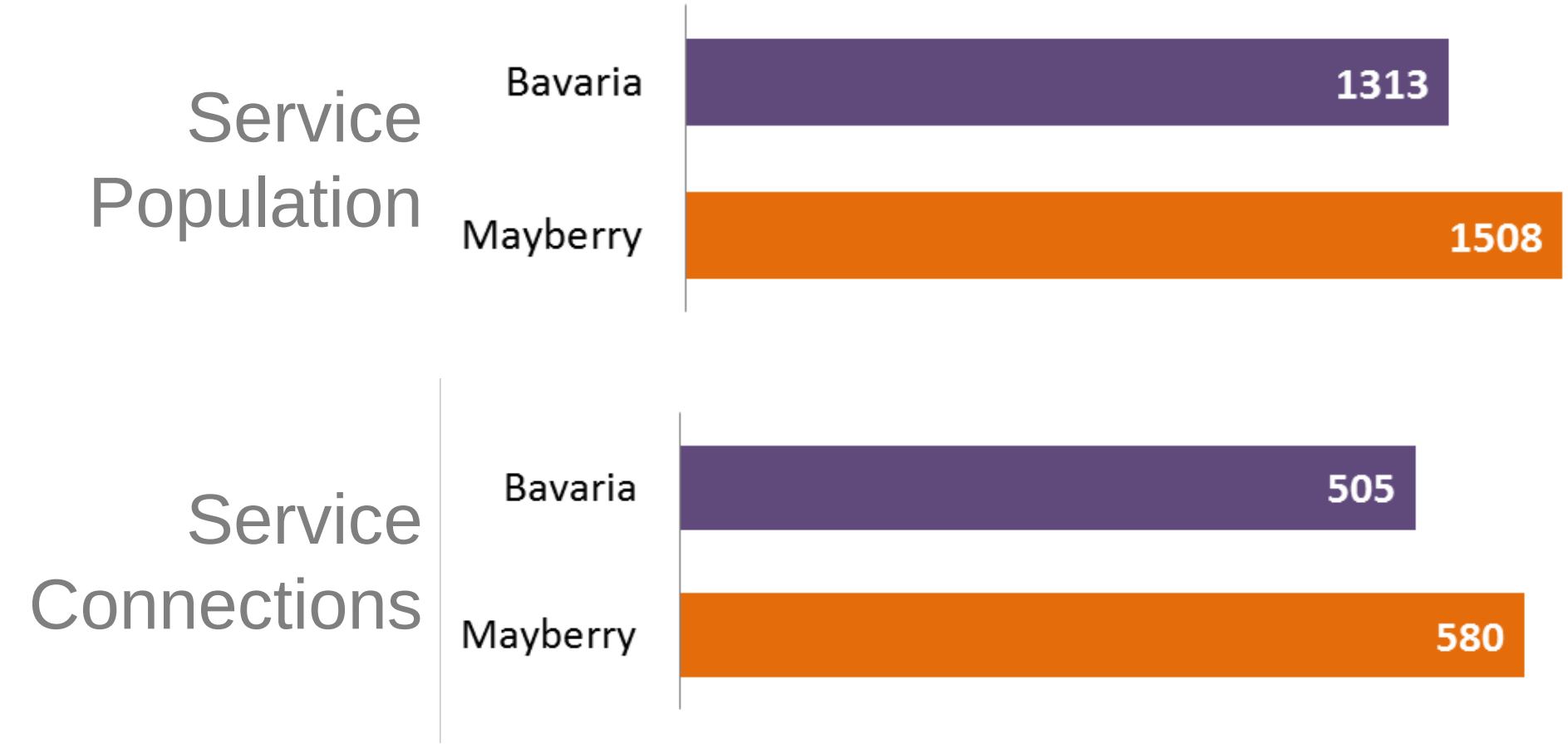
A Tale of Two Systems That Look Similar On Paper...

- **Bavaria** and **Mayberry**

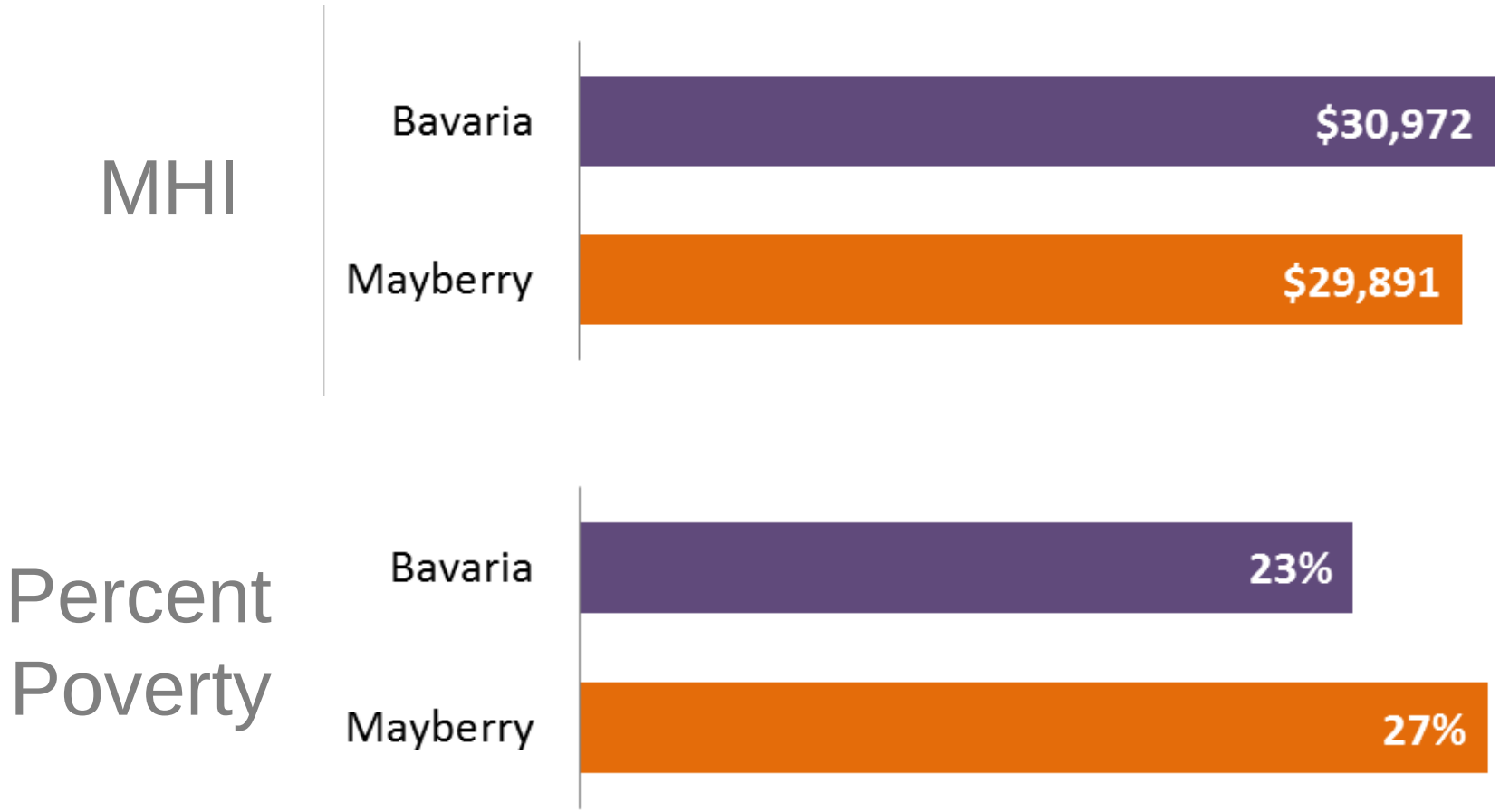
- Two average small town community water systems from the same state

Note: Actual numbers from actual towns

They Serve Similar Populations



They Have Similar Demographics

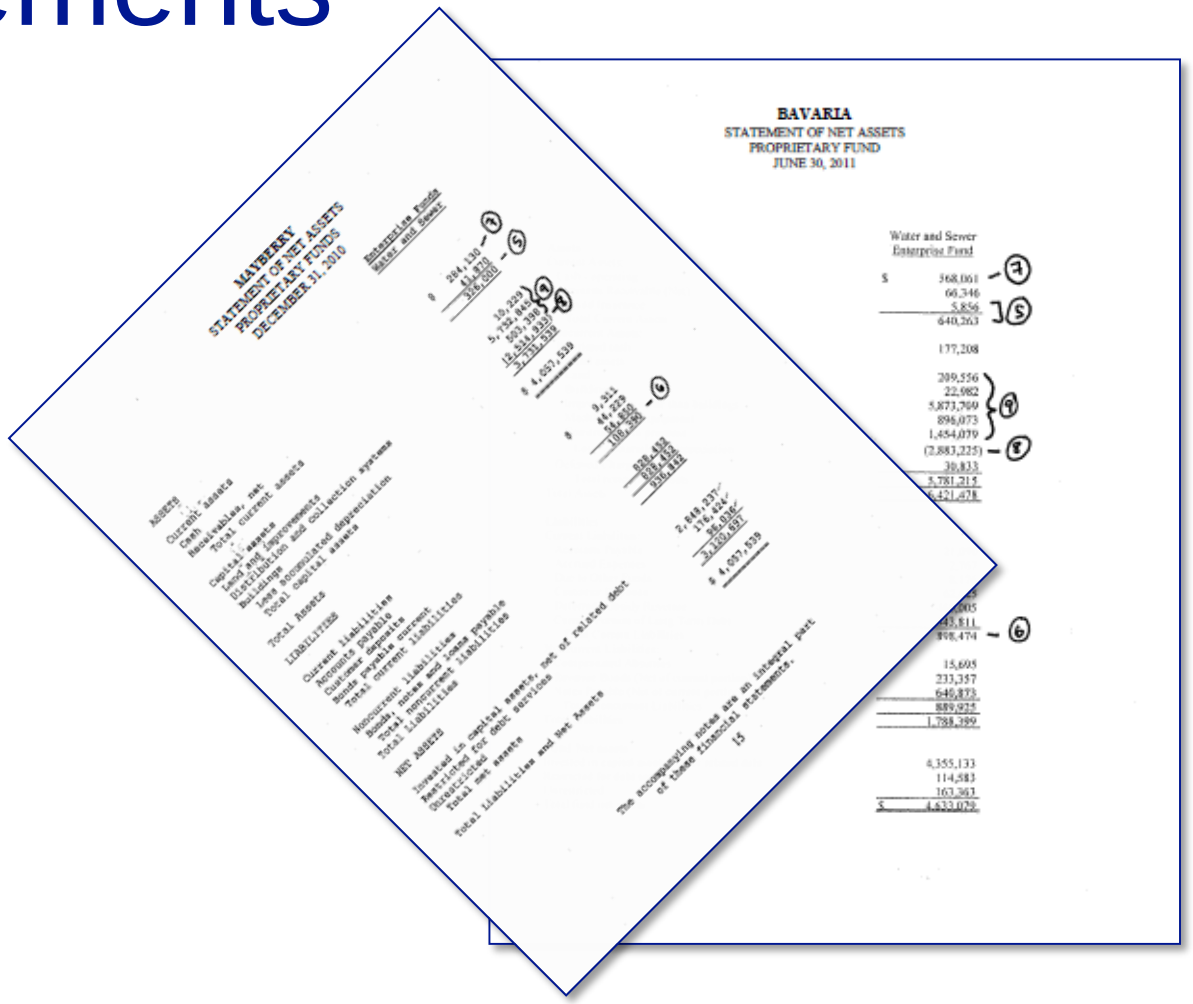


...Though Vastly Different in Financial Indicators (and In Actual Appearance)

Mayberry

Bavaria

Quick Overview of Financial Statements



MAYBERRY
STATEMENT OF NET ASSETS
PROPRIETARY FUNDS
DECEMBER 31, 2010

BAVARIA
STATEMENT OF NET ASSETS
PROPRIETARY FUND
JUNE 30, 2011

Statement of Net Position

- The assets and liabilities of the water system on the day the financial statements were prepared

Statement of Revenues, Expenses & Changes in Net Position

- 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

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

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

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

Operating Ratio – Mayberry

Including Depreciation

1a. $\dfrac{\text{\$444,231}}{\text{\$511,448}} = 0.87$

Operating Revenues ***(1)***

Operating Expenses (including depreciation) ***(2)***

Operating Ratio
Excluding Depreciation

MAYBERRY

STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET ASSETS

PROPRIETARY FUNDS

FOR THE YEAR ENDED DECEMBER 31, 2010

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

Operating Ratio – Mayberry

Excluding Depreciation

1b.

$444,231

Operating Revenues ***(1)***

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

$368,985

Operating Expenses (excluding depreciation) ***(2-3)***

OE $511,448
- Dep $142,463

Debt Service Coverage Ratio

$$= \frac{\textit{Total Operating Revenues – Operating Expenses (excluding depreciation)}}{\textit{Principal + Interest Payments on Long Term Debt}}$$

Debt Service Coverage Ratio

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

OPERATING REVENUES
- Charges for services
- Grants
- Total operating revenues

OPERATING EXPENSES
- Personnel services
- Contractural services
- Other supplies and expense
- Depreciation
- Total operating expenses
- Operating income (loss)

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

	Enterprise Funds Water and Sewer
CASH FLOWS FROM OPERATING ACTIVITIES	
Receipts from customers	$ 437,947
Payments to suppliers	(187,296)
Payments to employees	(178,885)
Net cash provided by operating activities	71,766
CASH FLOWS FROM NONCAPITAL FINANCING ACTIVITIES	
Transfers in (out)	(60,000)
Net cash (used) by noncapital financing activities	(60,000)
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES	
Loan proceeds	0
Purchases of capital assets	(39,841)
Principal paid on capital debt	(49,655)
Interest paid on capital debt	(35,128)
Net cash (used) by capital and related financing activities	(124,624)

④

Debt Service Coverage Ratio – Mayberry

OE $511,448
- Dep $142,463

2. $\dfrac{\$444{,}231 - \$368{,}985}{\$84{,}783} = 0.89$

Operating Revenues ***(1)*** — *Operating Expenses* ***(2-3)*** *(excluding depreciation)*

Principal & Interest on Long-Term Debt ***(4)***

P $49,655
+ I $35,128

Days of Cash on Hand

$$= \frac{\textit{Unrestricted cash and cash equivalents}}{\textit{(Operating Expenses excluding depreciation) / 365}}$$

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 (5)
Restricted cash	176,424
Receivables, net	41,870 (6)
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. $\dfrac{\text{\$107,706}}{\text{\$368,985}} \div 365 = 107$

Unrestricted Cash & Cash Equivalents ***(5)***

Operating Expenses (excluding depreciation) ***(2-3)***

OE $511,448
- Dep $142,463

Current Ratio

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

Current Ratio – Mayberry

4. $\dfrac{\text{\$107,706 (Unrestricted Cash & Cash Equivalents (5)) + \$41,870 (Receivables, net (6))}}{\text{\$108,390 (Current Liabilities (7))}} = 1.38$

Now you calculate the four ratios for **Bavaria**

Operating Ratio – **Bavaria**

Including Depreciation

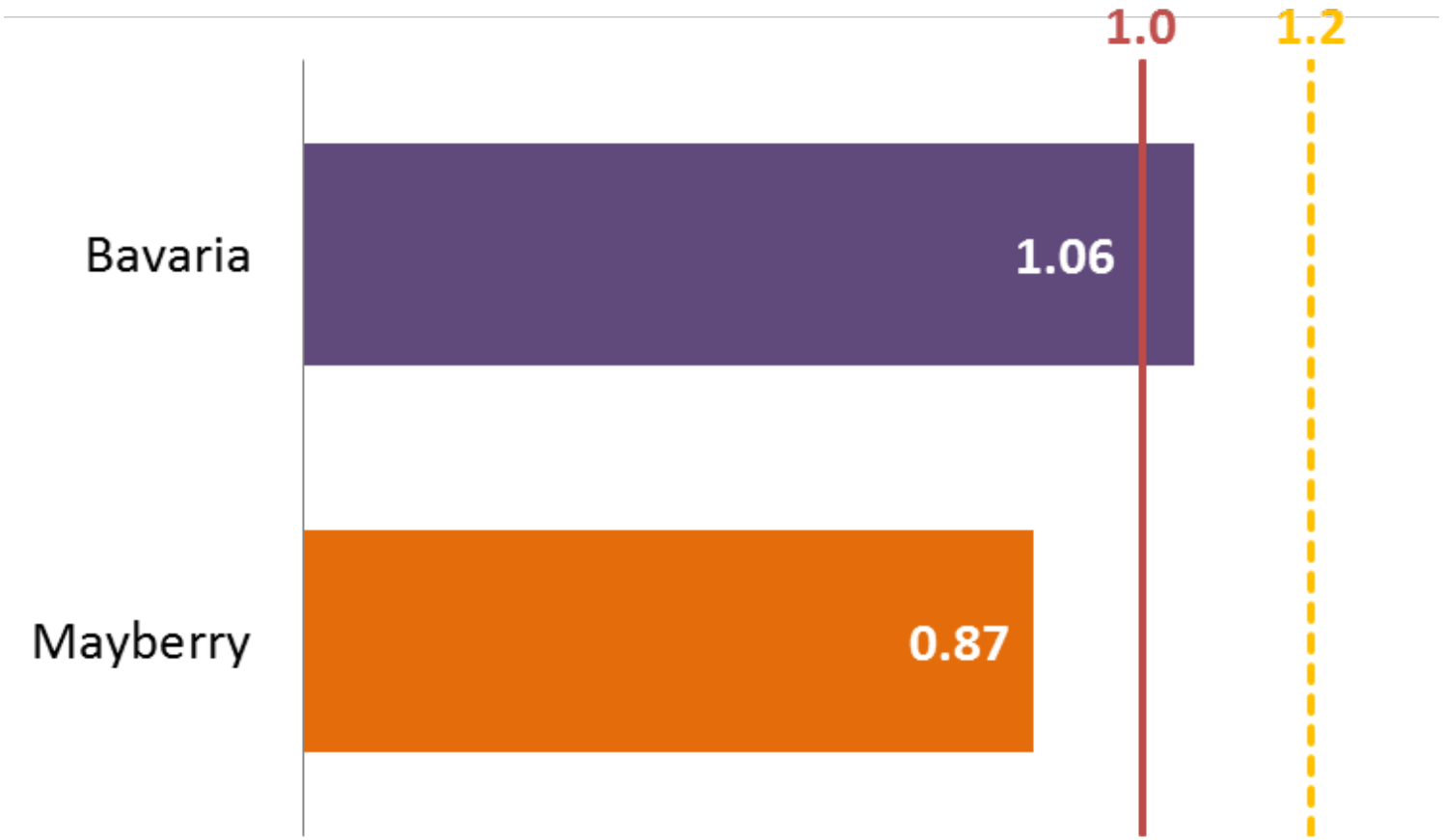
1a. $\dfrac{\text{\$709,972}}{\text{\$671,333}} = 1.06$

Operating Revenues ***(1)***

Operating Expenses (including depreciation) ***(2)***

Operating Ratio

Including Depreciation



Operating Ratio – **Bavaria**

Excluding Depreciation

1b.

$709,972

Operating Revenues ***(1)***

$459,082

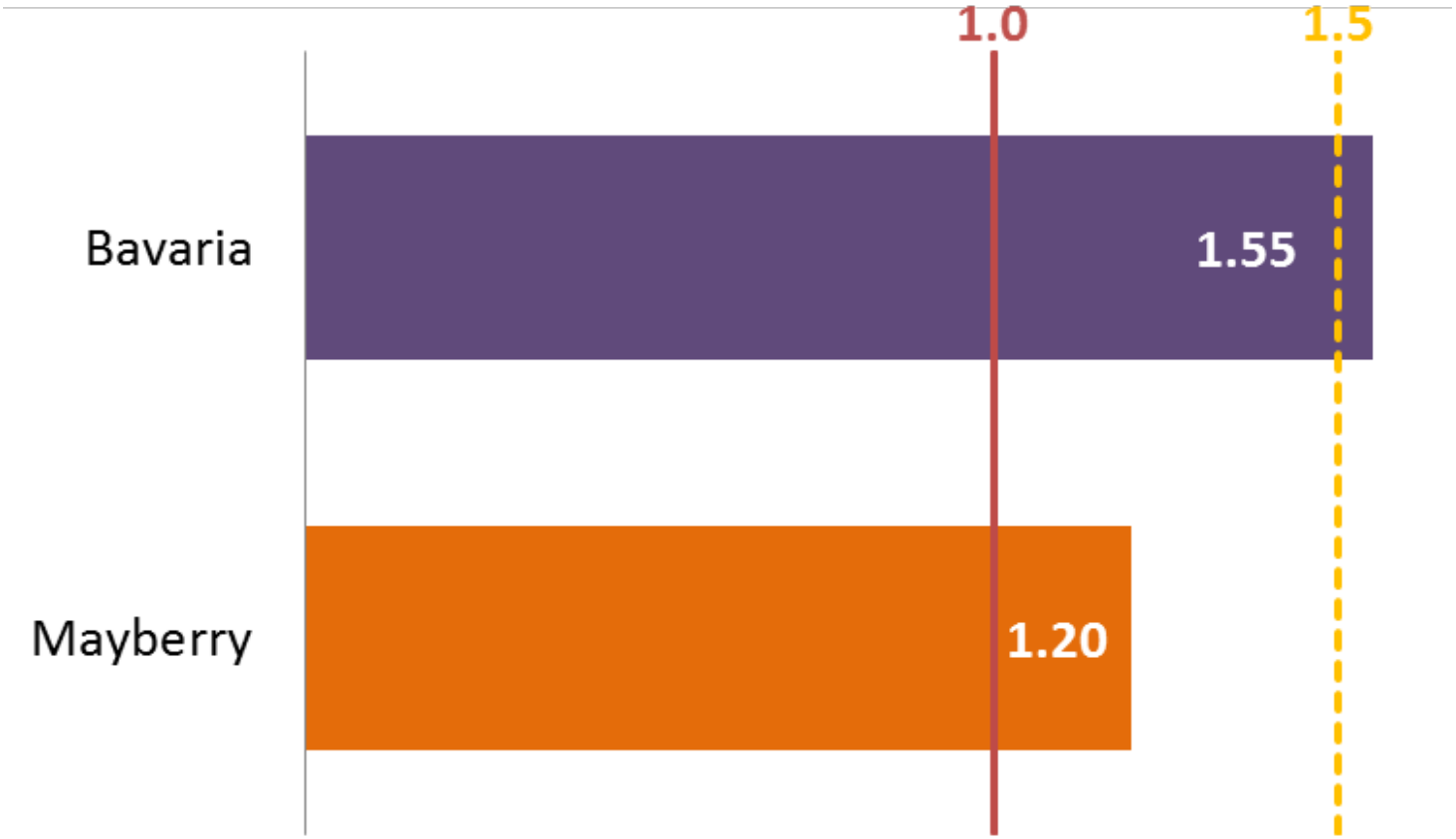
Operating Expenses (excluding depreciation) ***(2-3)***

= 1.55

OE $671,333
- Dep $212,251

Operating Ratio

Excluding Depreciation



Debt Service Coverage Ratio – **Bavaria**

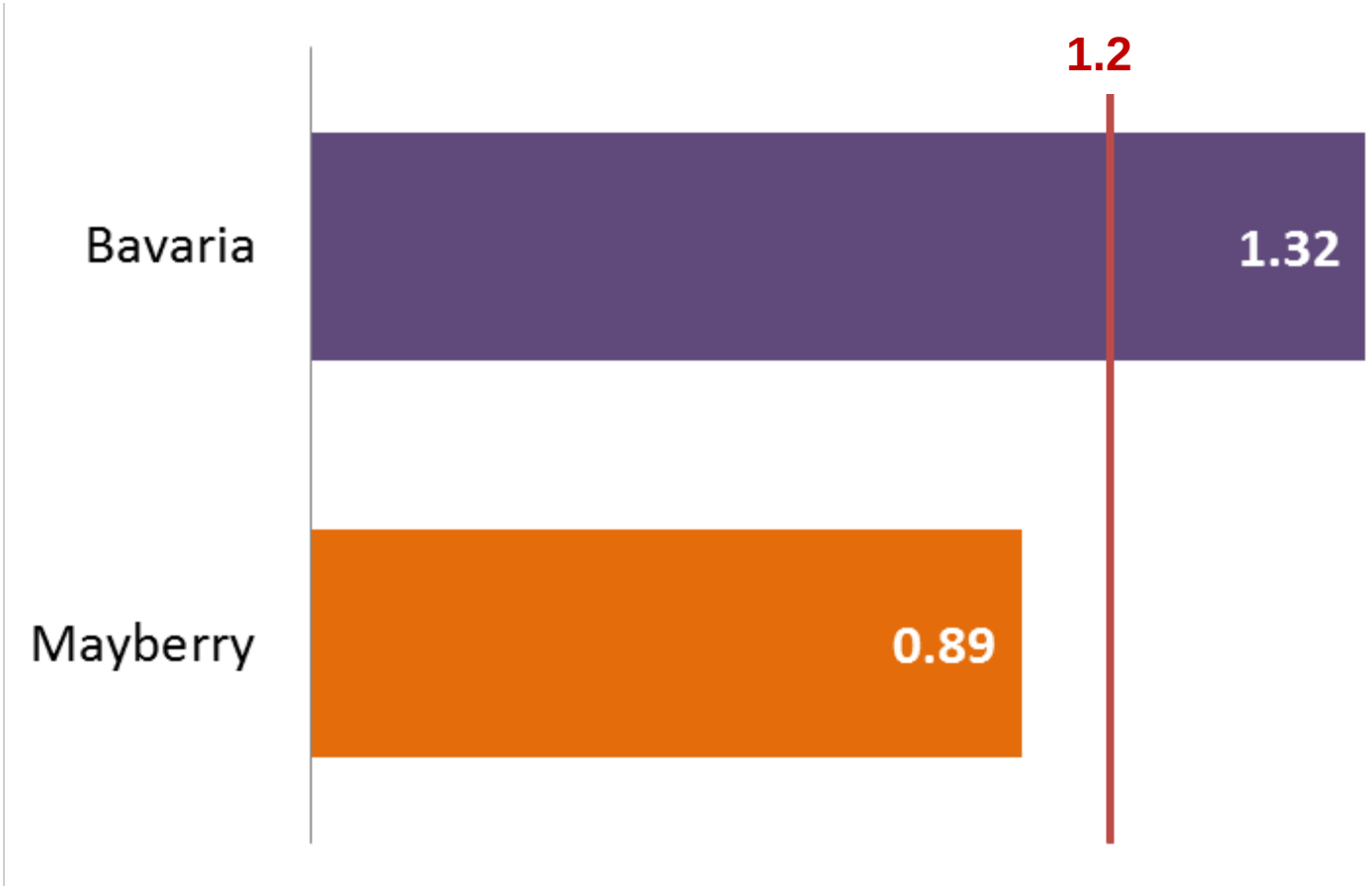
OE $671,333
- Dep $212,251

2. $\dfrac{\text{\$709,972} - \text{\$459,082}}{\text{\$190,633}} = 1.32$

Operating Revenues ***(1)*** − *Operating Expenses* ***(2-3)*** *(excluding depreciation)*

Principal & Interest on Long-Term Debt ***(4)***

Debt Service Coverage Ratio

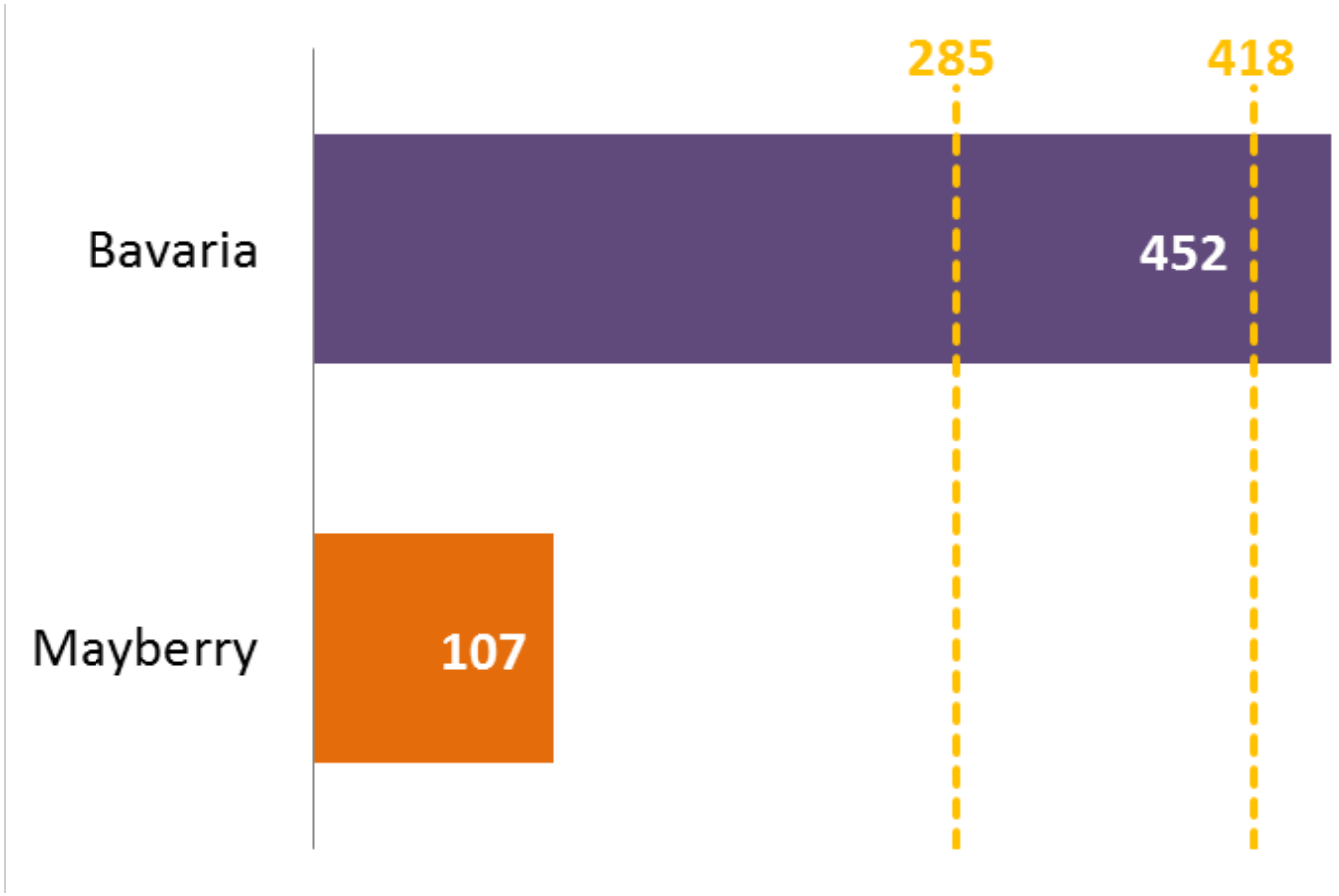


Days of Cash on Hand – **Bavaria**

3. $\dfrac{\$568{,}061 \text{ — Unrestricted Cash \& Cash Equivalents (5)}}{\$459{,}082 \text{ — Operating Expenses (excluding depreciation) (2-3)} \;/\; 365} = 452$

OE $671,333
- Dep $212,251

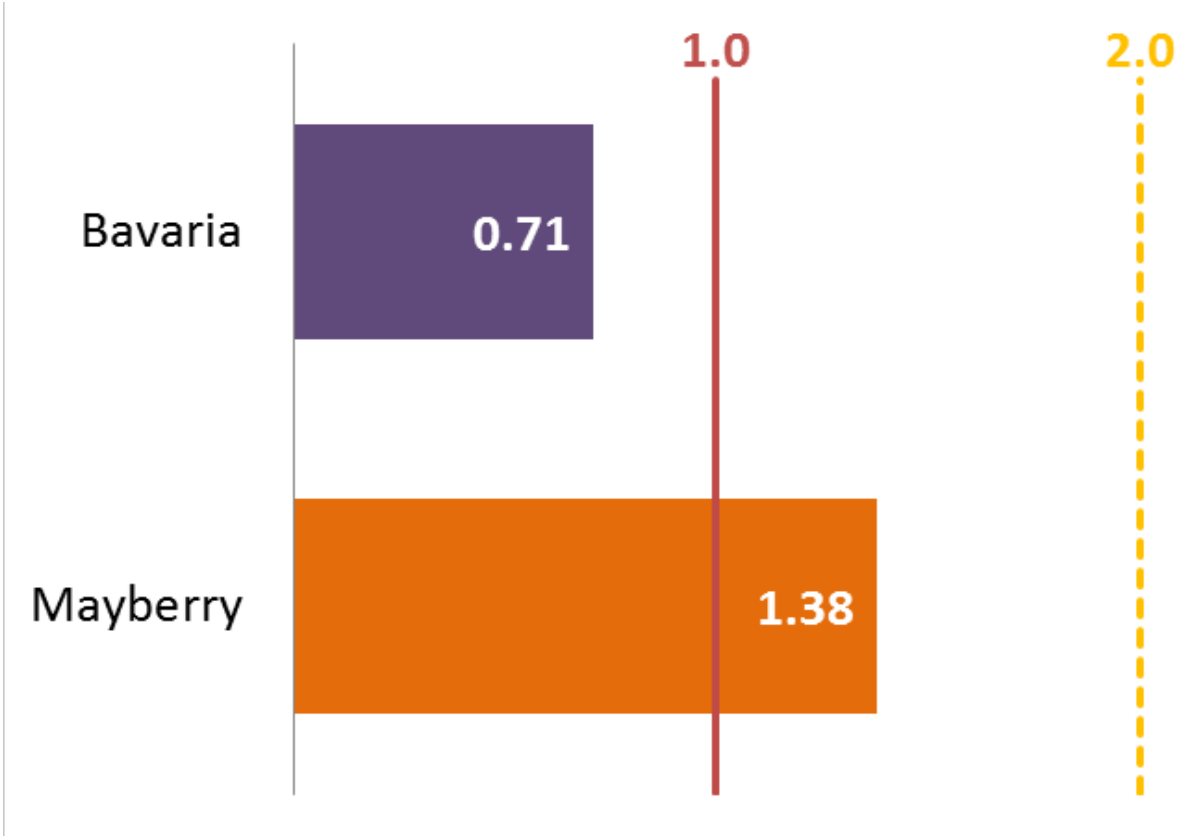
Days of Cash on Hand



Current Ratio – Bavaria

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

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.

15

Bavaria corrected

C $568,061
+ G $460,005

4. $\dfrac{\$1{,}028{,}066 + \$66{,}346}{\$898{,}474} = 1.22$

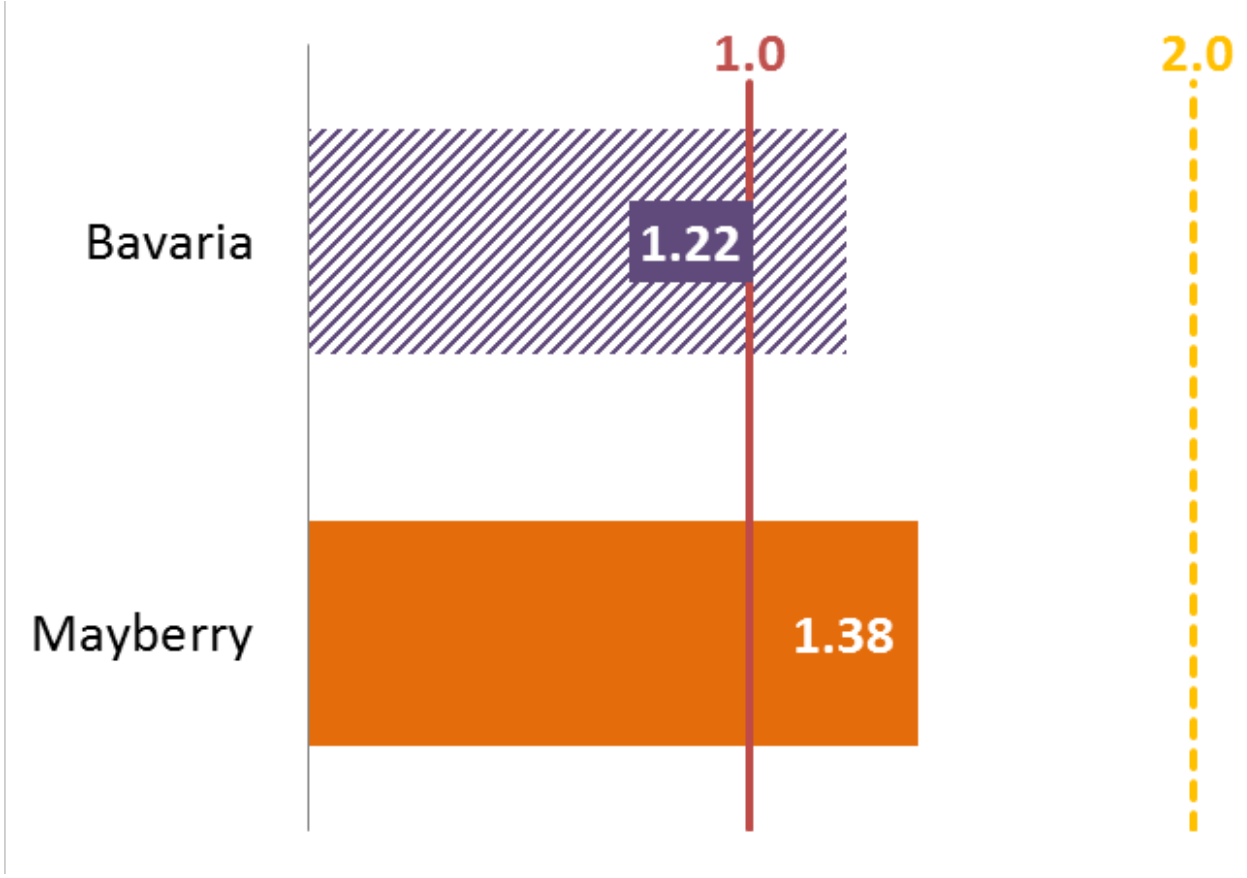
Unrestricted Cash & Cash Equivalents ***(5)***

Receivables, net ***(6)***

Current Liabilities ***(7)***

Current Ratio

Bavaria Corrected for Missing Grant Funds



One More to Mention: Asset Depreciation*

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

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

Print PDF

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

Print PDF

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

Print PDF

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

Print PDF

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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Caution: don’t just look at last year

Example from a different utility.

Last fiscal year’s ratios:

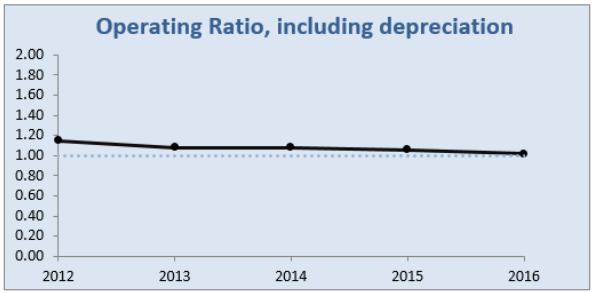
- Operating ratio = 1.02 ✓
- Debt service coverage ratio = 1.15 ?
- Days cash on hand = 145 ✓
- Current ratio = 1.2 ✓

Potential conclusion: “we’re on the right track”

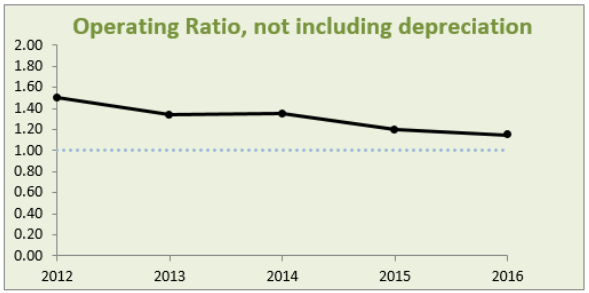
But consider the trends in the last 5 years

Assessment for Example utility

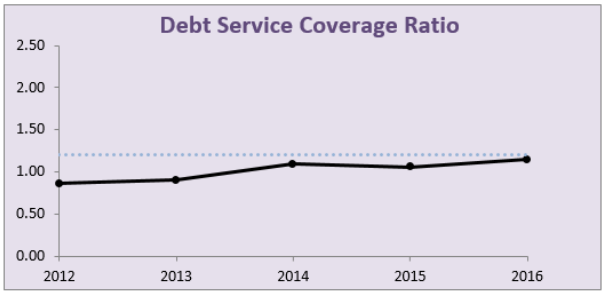
Did you generate the revenues needed to pay for O&M and a little for capital?



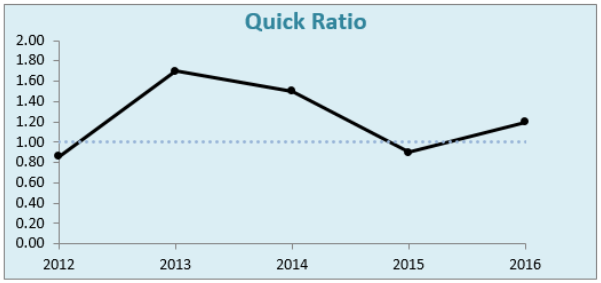
Did you generate the revenues needed to pay for O&M by itself?



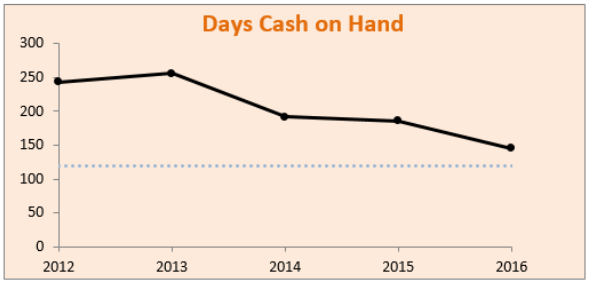
Did you generate the revenues needed to pay for O&M and existing debt service?



Did you have enough liquidity to pay your current liabilities at the end of the year?



How many days could you continue to operate the utility with the cash levels available?

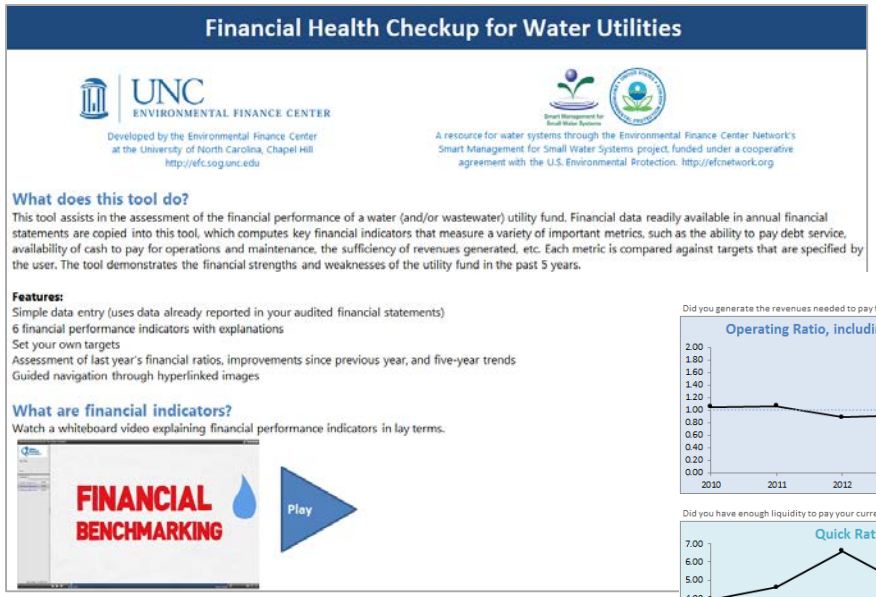


New conclusion: “we were OK, but something needs to change”

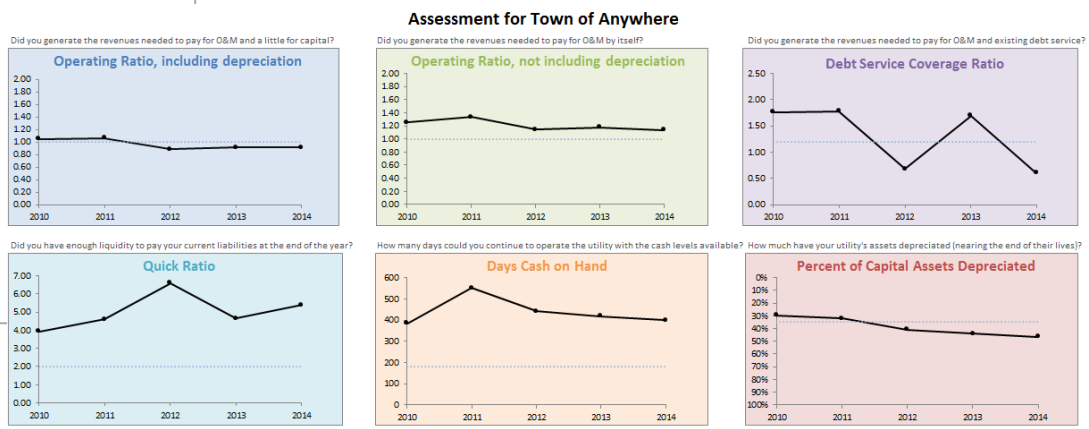
Tool: Financial Health Checkup for Water Utilities

http://efc.sog.unc.edu or http://efcnetwork.org

Find the most up-to-date version in Resources / Tools



Excel®- based tool
Free to use



Created by the Environmental Finance Center at the University of North Carolina, Chapel Hill
A resource for water systems from the EFCN's Smart Management for Small Water Systems project funded under a cooperative agreement with the U.S. E.P.A.

Tool: Financial Health Checkup for Water Utilities

Key	Field in the financial statement/CAFR	2012	2013	2014	2015	2016	Instructions
[1]	Total Operating Revenues	$ 3,984,193	$ 3,965,968	$ 3,901,253	$ 4,459,727	$ 5,074,590	Enter as shown in the Total Operating
[2]	Total Operating Expenses	$ 4,165,641	$ 3,736,470	$ 4,378,937	$ 4,789,087	$ 4,896,441	Enter as shown in the Total Operating
[3]	Depreciation & Amortization Expenses	$ 681,808	$ 635,807	$ 656,255	$ 668,160	$ 684,561	Depreciation and amortization are list
[4]	Debt Principal Payments	$ 323,177	$ 331,520	$ 339,490	$ 342,512	$ 265,342	Enter $0 if there were no debt service
[4b]	Debt Interest Payments	$ 55,289	$ 53,350	$ 47,011	$ 38,474	$ 147,909	Enter $0 if there were no debt service
[5]	Current Assets, excluding inventories, restricted cash, prepaids	$ 6,614,237	$ 4,004,526	$ 4,756,504	$ 5,362,317	$ 7,808,389	Total Current Assets minus all invento
[6]	Current Liabilities, excluding deposits & bond anticipation notes	$ 1,247,456	$ 456,465	$ 425,164	$ 750,171	$ 691,223	Total Current Liabilities minus all refu
[7]	Unrestricted Cash & Investments	$ 6,297,233	$ 3,406,963	$ 4,149,266	$ 4,929,329	$ 7,580,205	Unrestricted Cash & Investments (and
[8]	Total Accumulated Depreciation	$ 12,976,114	$ 13,611,921	$ 14,268,176	$ 14,936,336	$ 15,620,897	Total accumulated depreciation on ca
[9]	Total Depreciable Capital Assets	$ 30,575,353	$ 30,686,885	$ 30,867,768	$ 30,994,872	$ 31,291,993	Enter the total value of capital assets