



Financial Metrics

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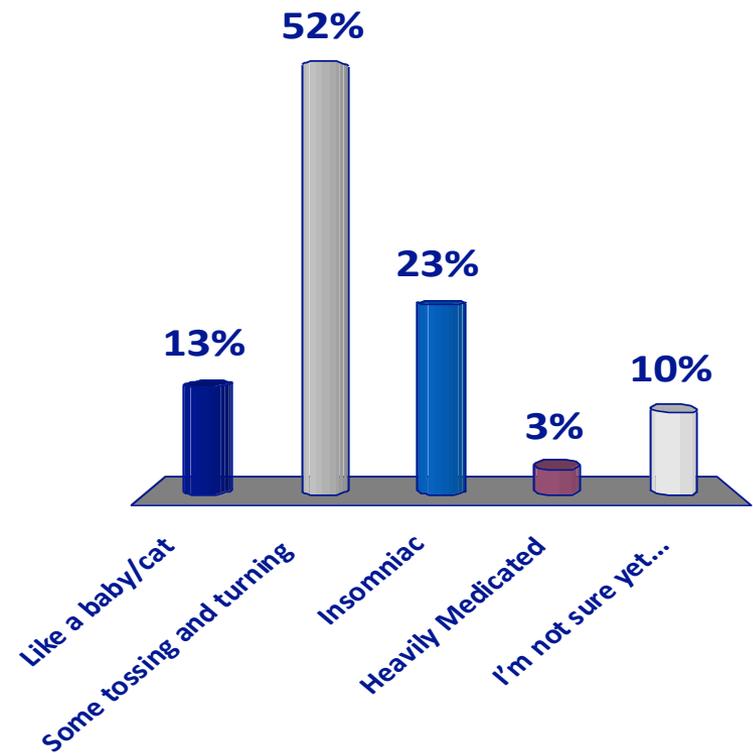


Can You Sleep at Night?

- 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...





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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>





What is Depreciation?

- Loss of value of an asset not restored by current maintenance
- An economic fact for any water system
- From both physical factors and functional or non-physical factors



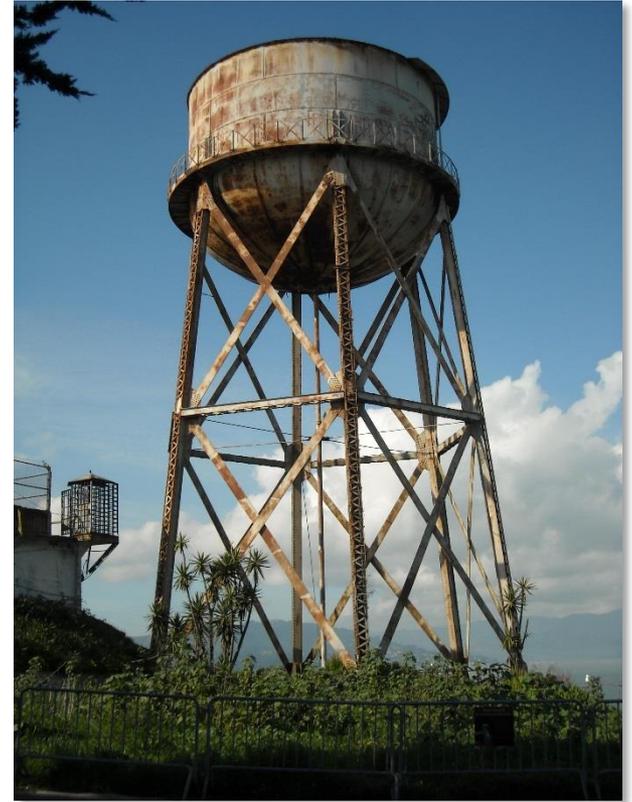
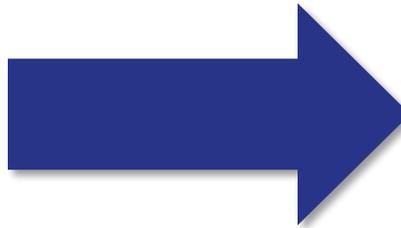
Causes of Depreciation

Physical Factors

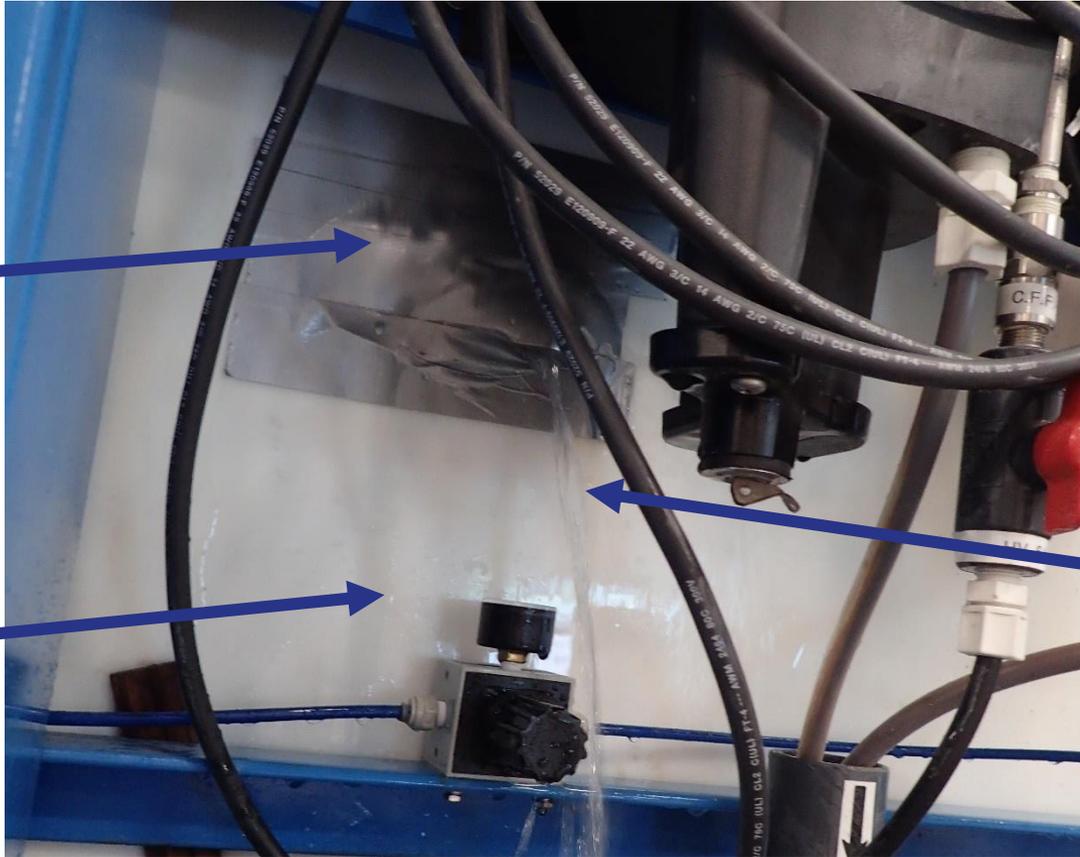
- Wear and tear resulting from use
- Decay, rot, rust, and corrosion from the passage of time and the elements
- Related to the extent that there is regular maintenance



Infrastructure Wears Out



Infrastructure Wears Out



Water
Tank

Leak



Causes of Depreciation

Functional or Non-Physical Factors

- Obsolescence due to new designs, innovations, and other improvements
- Inadequacy to meet current demand
- Changes in regulations

Straight Line Depreciation Example



Large Hydro-pneumatic
Tank

Purchase Price:
\$10,000

Useful Life:
10 years

Annual Depreciation:
(\$1,000)



2016

Remaining Value: \$10,000

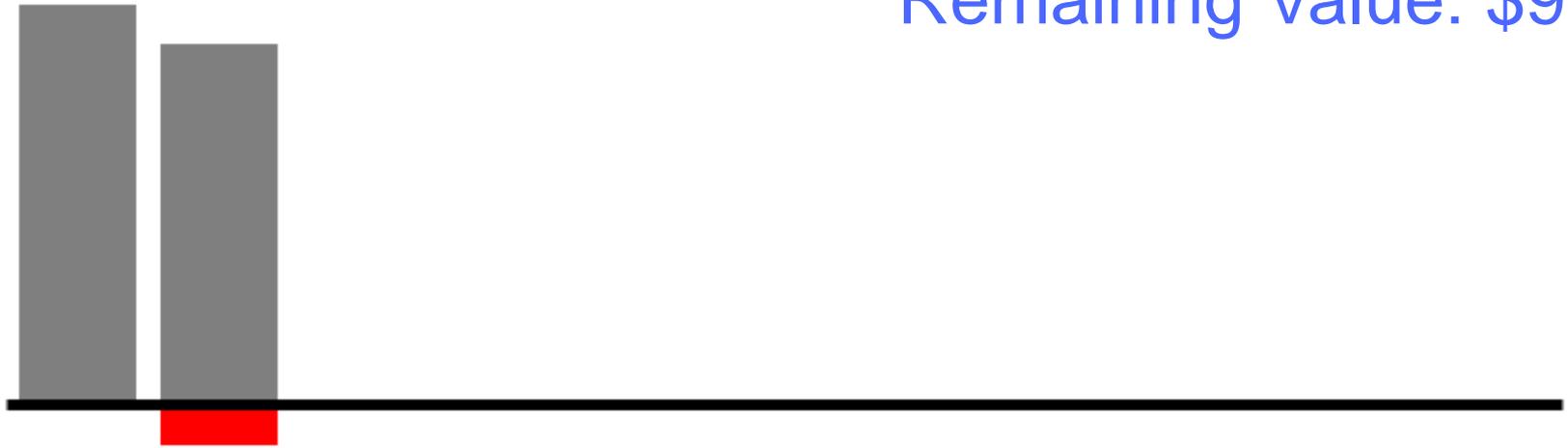


Accumulated Depreciation: \$0



2017

Remaining Value: \$9,000

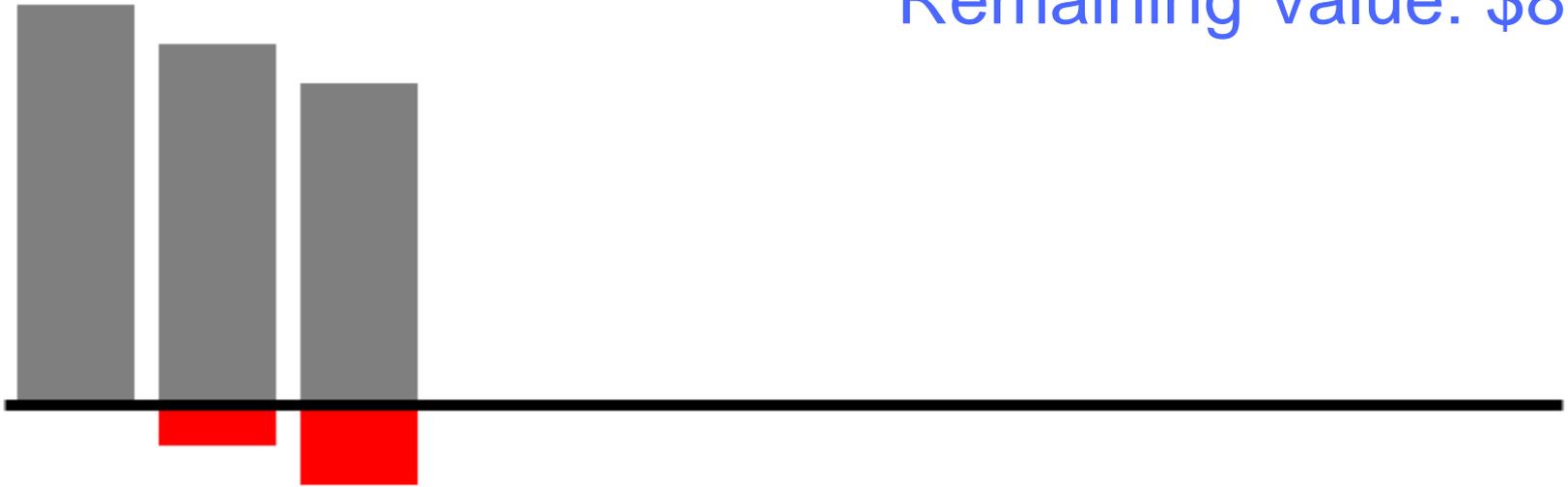


Accumulated Depreciation: \$1,000



2018

Remaining Value: \$8,000

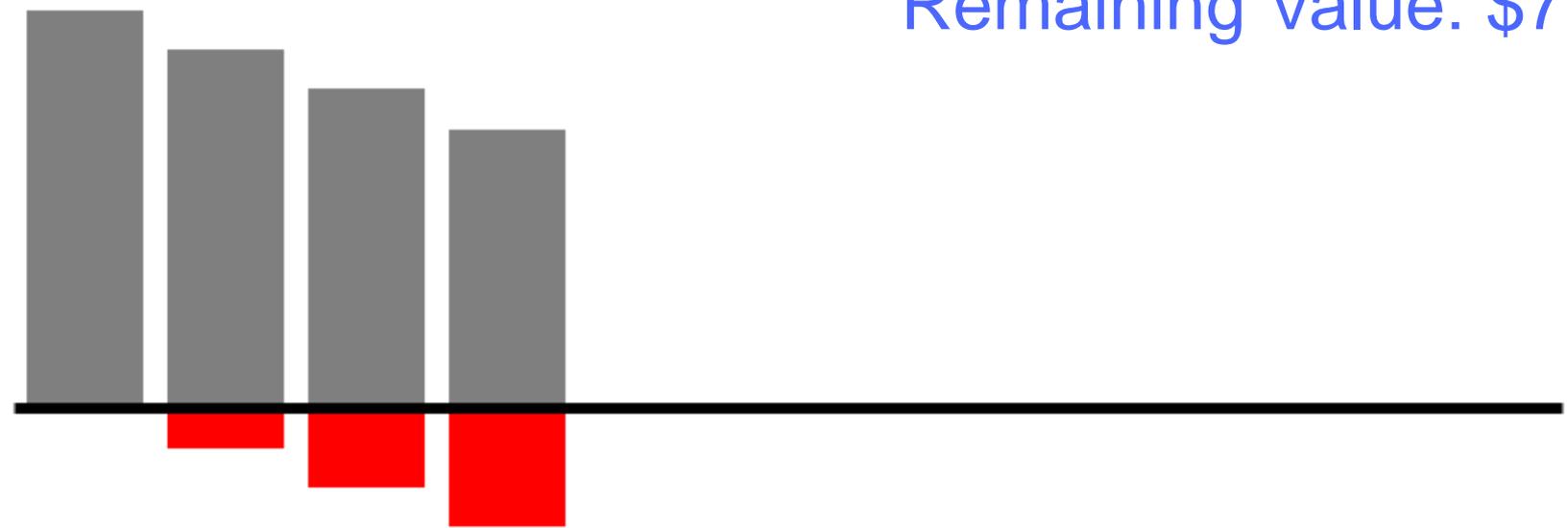


Accumulated Depreciation: \$2,000



2019

Remaining Value: \$7,000

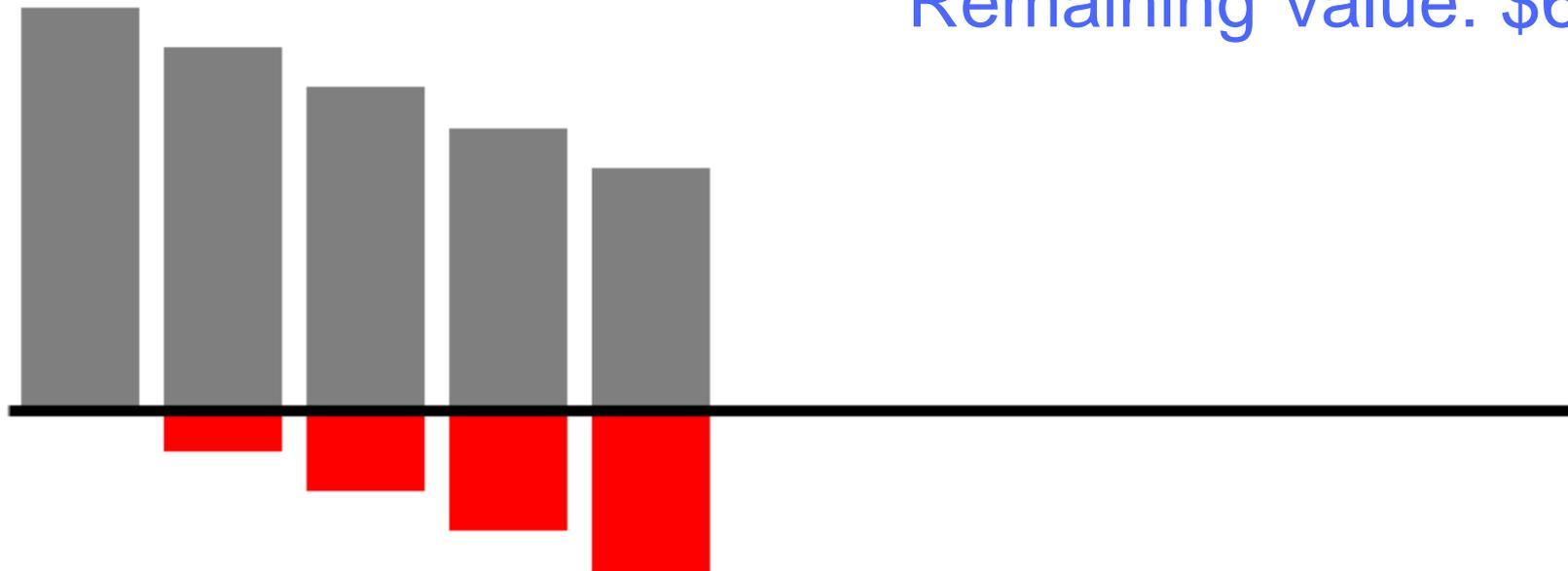


Accumulated Depreciation: \$3,000



2020

Remaining Value: \$6,000

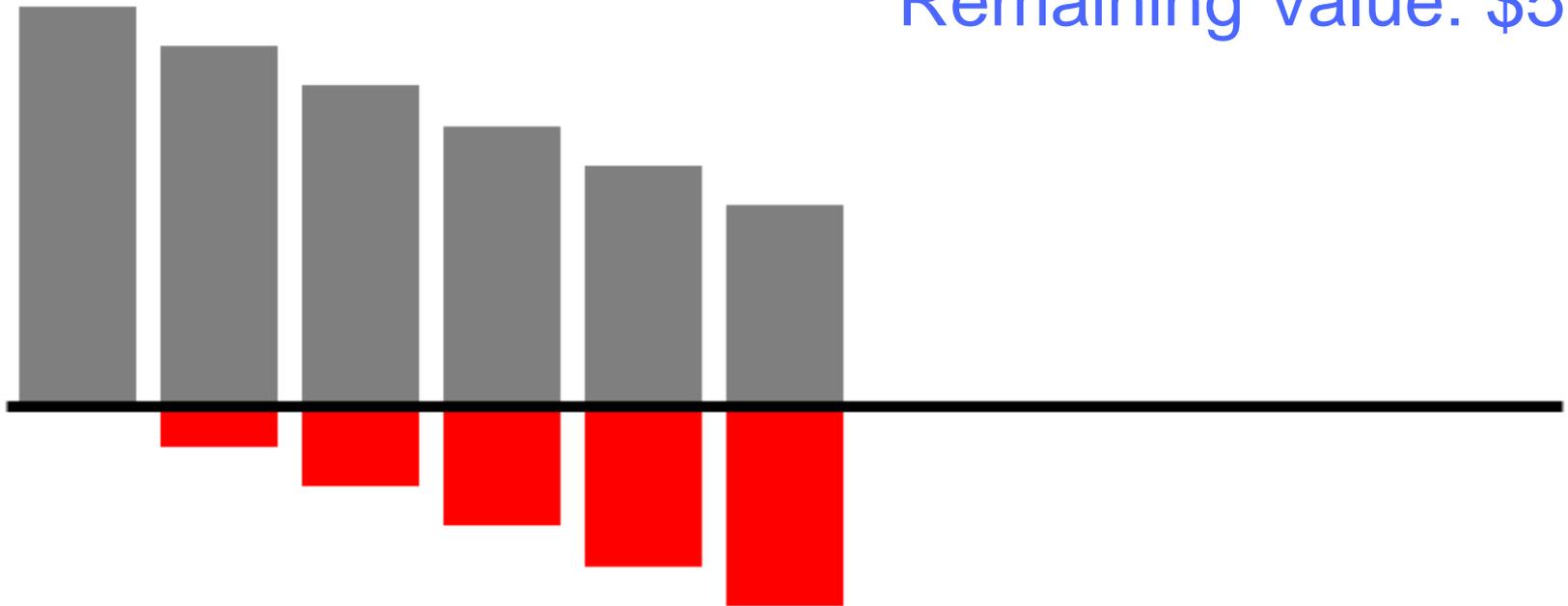


Accumulated Depreciation: \$4,000



2021

Remaining Value: \$5,000

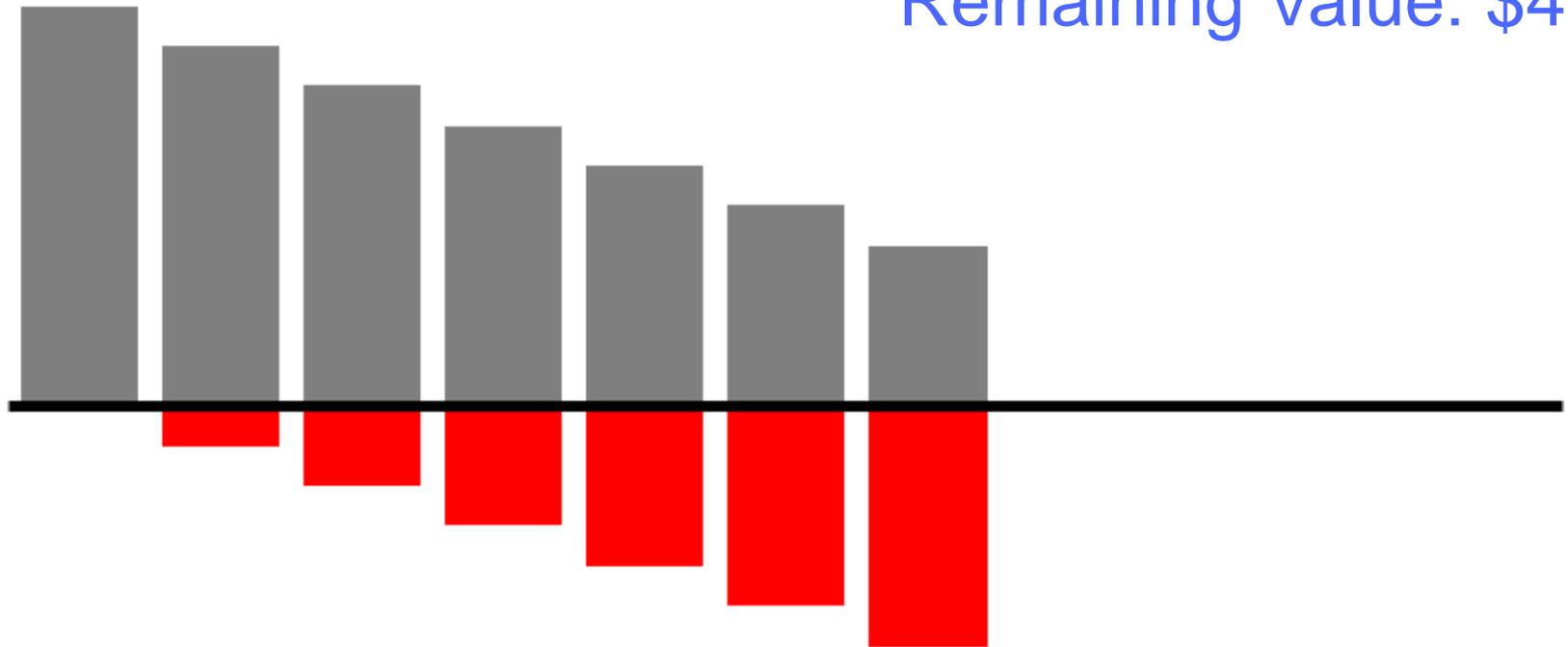


Accumulated Depreciation: \$5,000



2022

Remaining Value: \$4,000

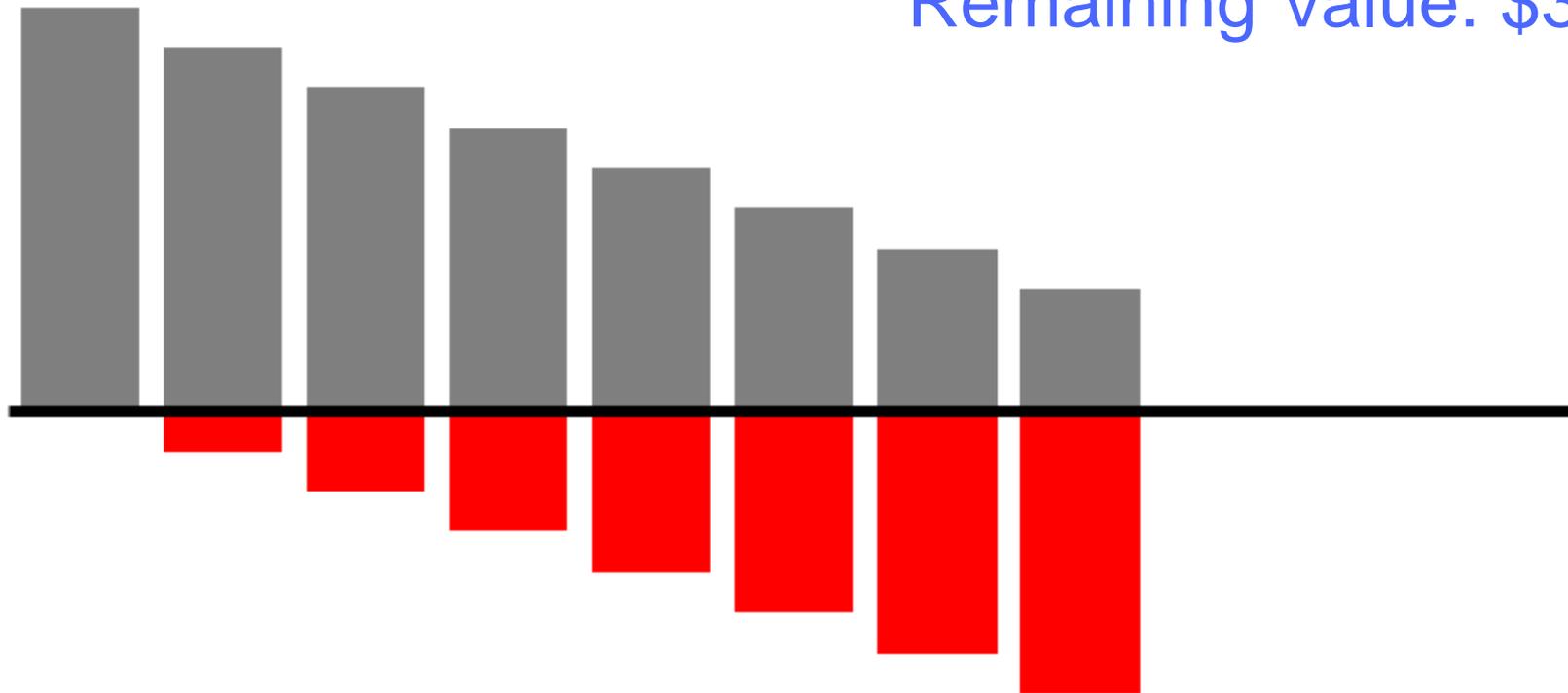


Accumulated Depreciation: \$6,000



2023

Remaining Value: \$3,000

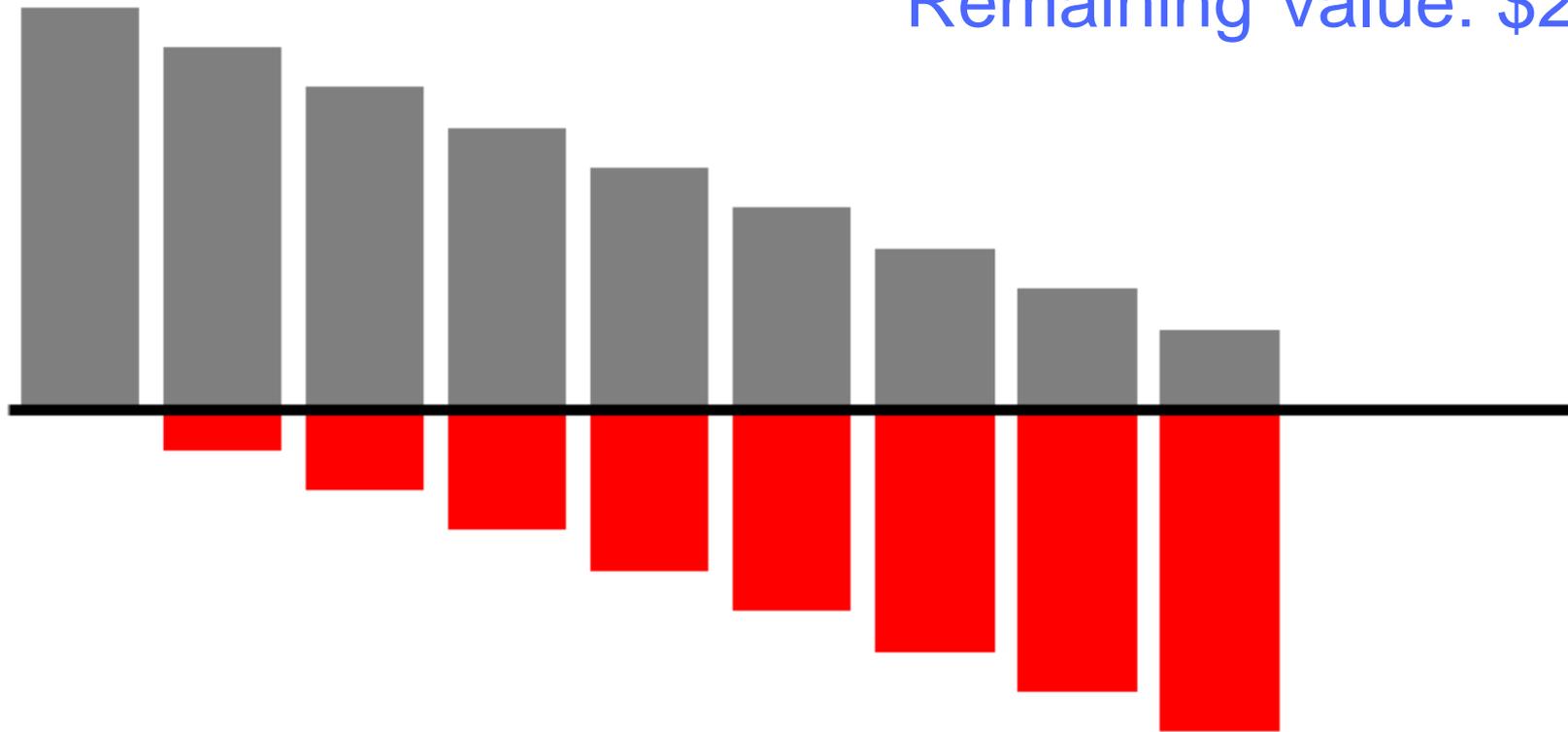


Accumulated Depreciation: \$7,000



2024

Remaining Value: \$2,000

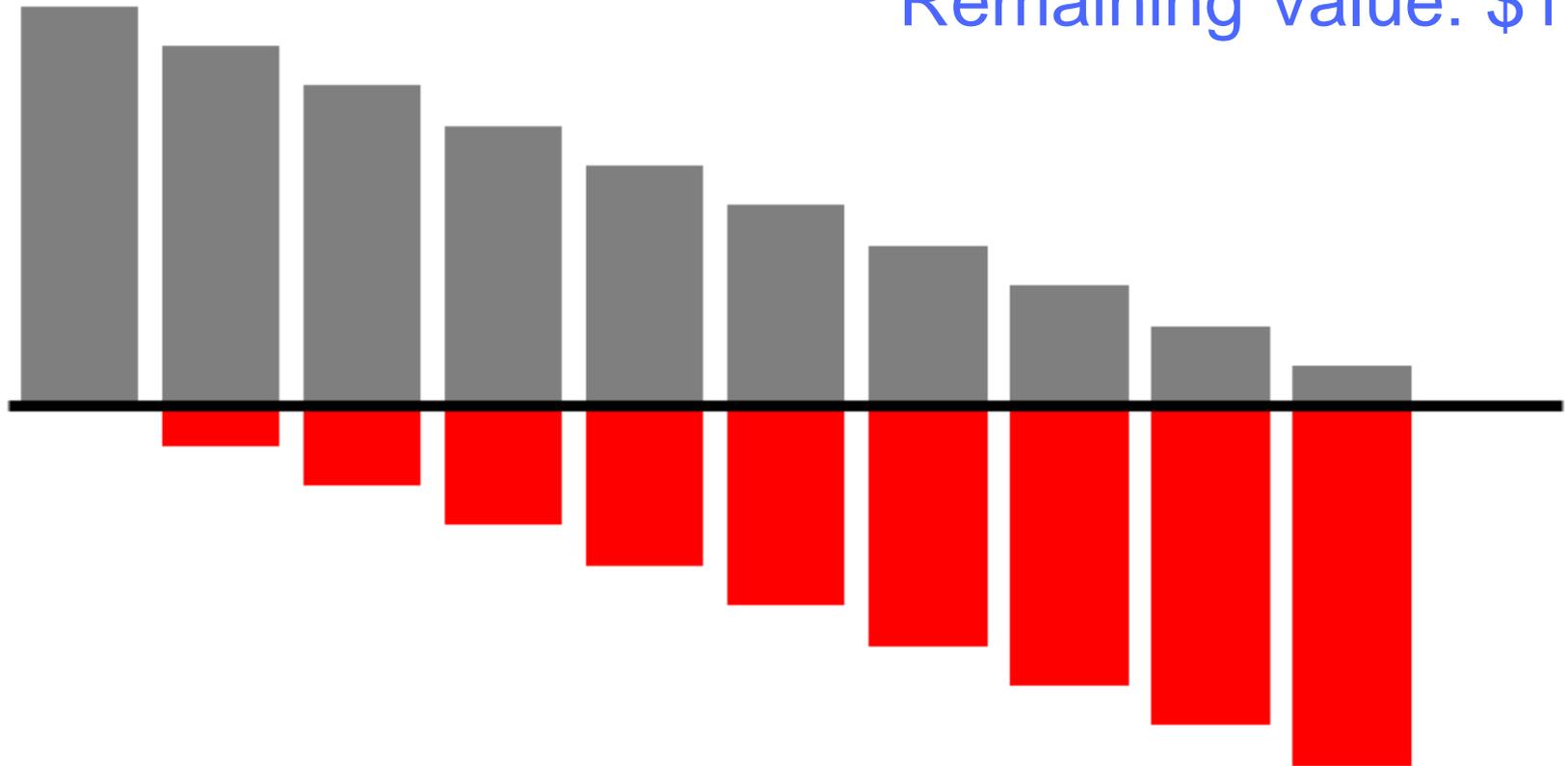


Accumulated Depreciation: \$8,000



2025

Remaining Value: \$1,000

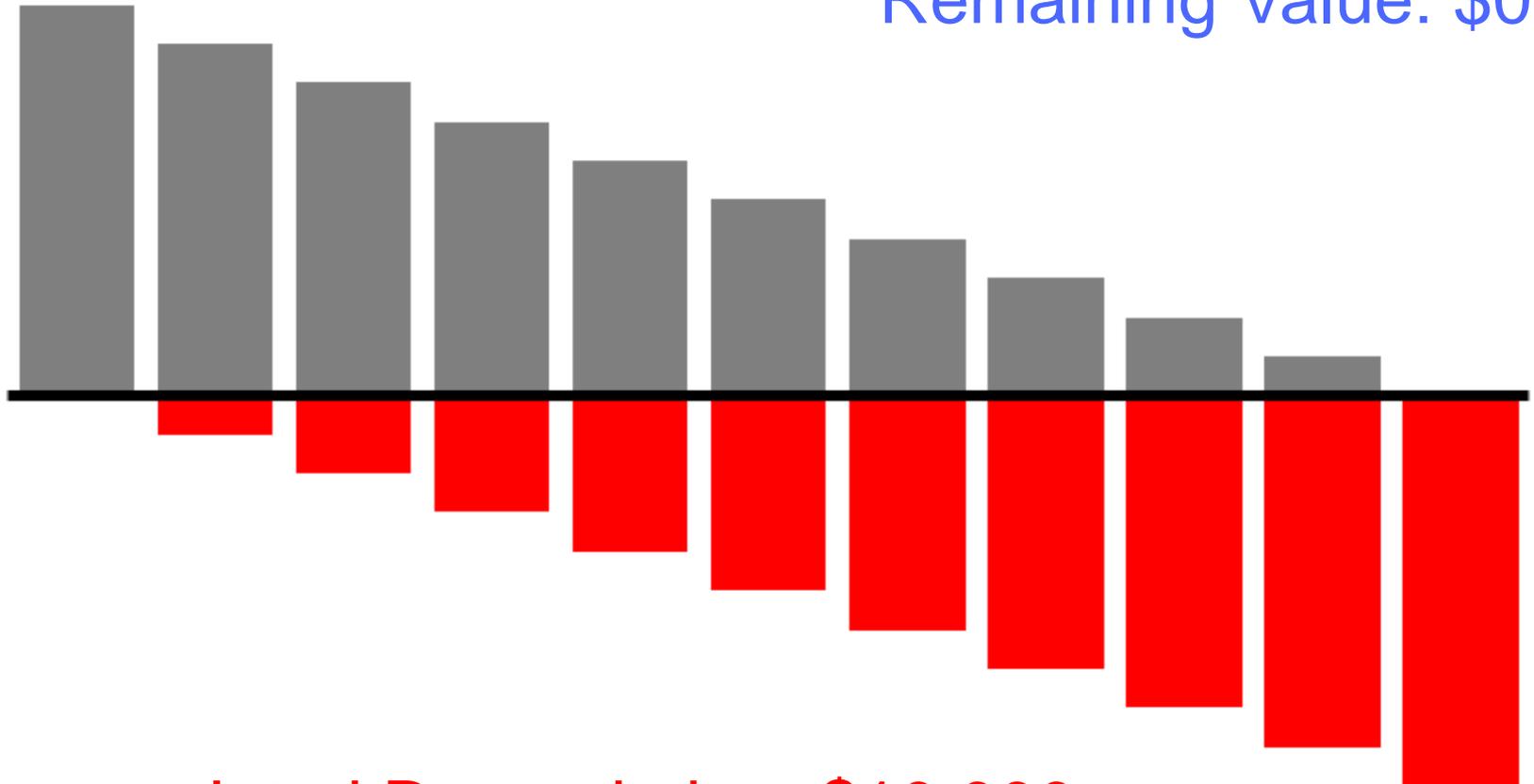


Accumulated Depreciation: \$9,000



2026

Remaining Value: \$0



Accumulated Depreciation: \$10,000



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





Operating Ratio

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

Please calculate this number
including 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	<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>	- ②
Total operating expenses	<u>511,448</u>	
Operating income (loss)	<u>(67,217)</u>	



Operating Ratio – Mayberry

Including Depreciation

$$\frac{\boxed{\$444,231}}{\boxed{\$511,448}} = \boxed{0.87}$$

Operating Revenues (1)

Operating Expenses (including depreciation) (2)



Operating Ratio – Bavaria

Including Depreciation

\$709,972

Operating Revenues (1)

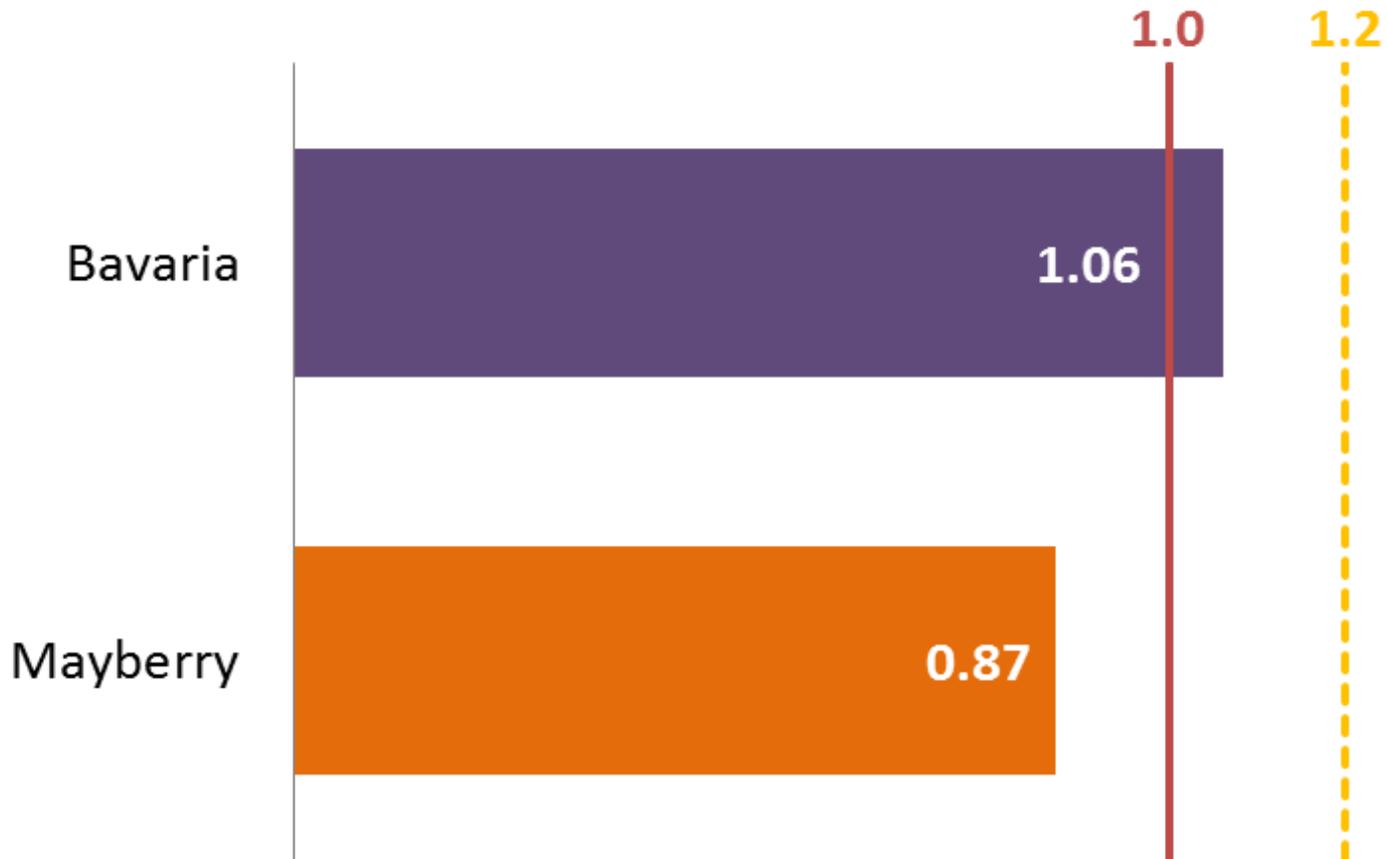
\$671,333

Operating Expenses (including depreciation) (2)

=

1.06

Operating Ratio Including Depreciation





Operating Cost per Connection

$$= \frac{\textit{Operating Expenses}}{\textit{Service Connections}}$$

Please calculate this number
including depreciation

Operating Cost per Connection Including Depreciation

MAYBERRY
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Cost / Connection – Mayberry

Including Depreciation

\$511,448

Operating Expenses

580

Total Connections

=

\$881.81



Cost / Connection – Bavaria

Including Depreciation

\$671,333

Operating Expenses

505

Total Connections

=

\$1,329.37



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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