

# Benchmarking with the Missouri Regulated Water Rates Dashboard

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Annalee Harkins, Data Specialist & Project Manager



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Environmental  
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[www.efc.sog.unc.edu](http://www.efc.sog.unc.edu)

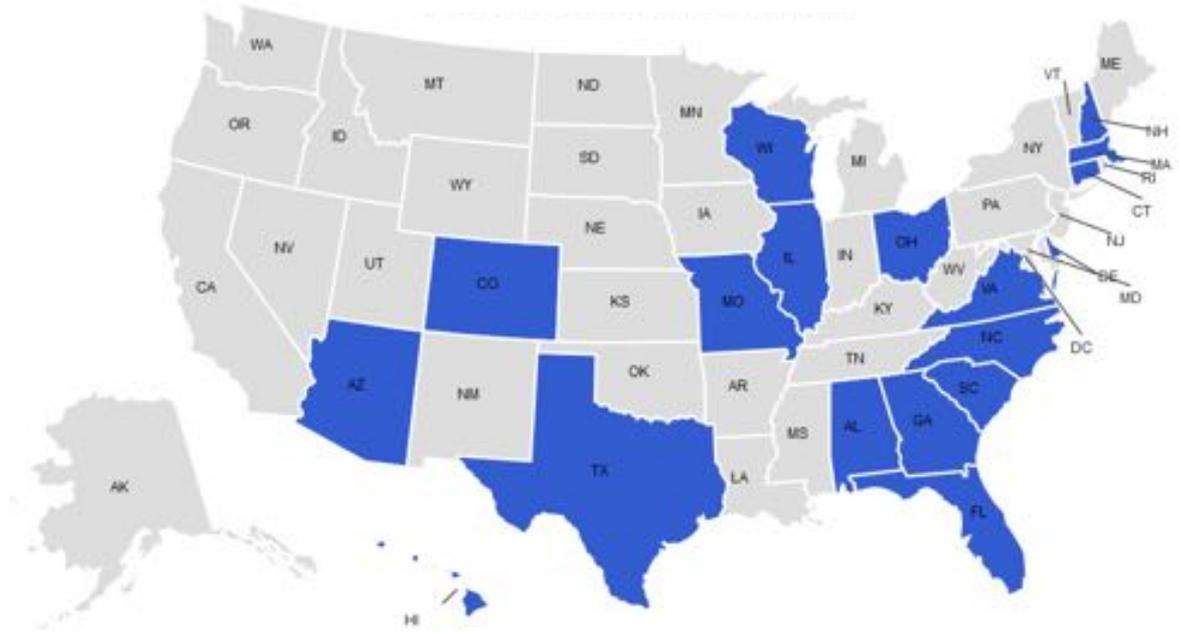
# Presenter



**Annalee Harkins**

Data Specialist and Project Manager  
EFC at UNC Chapel Hill

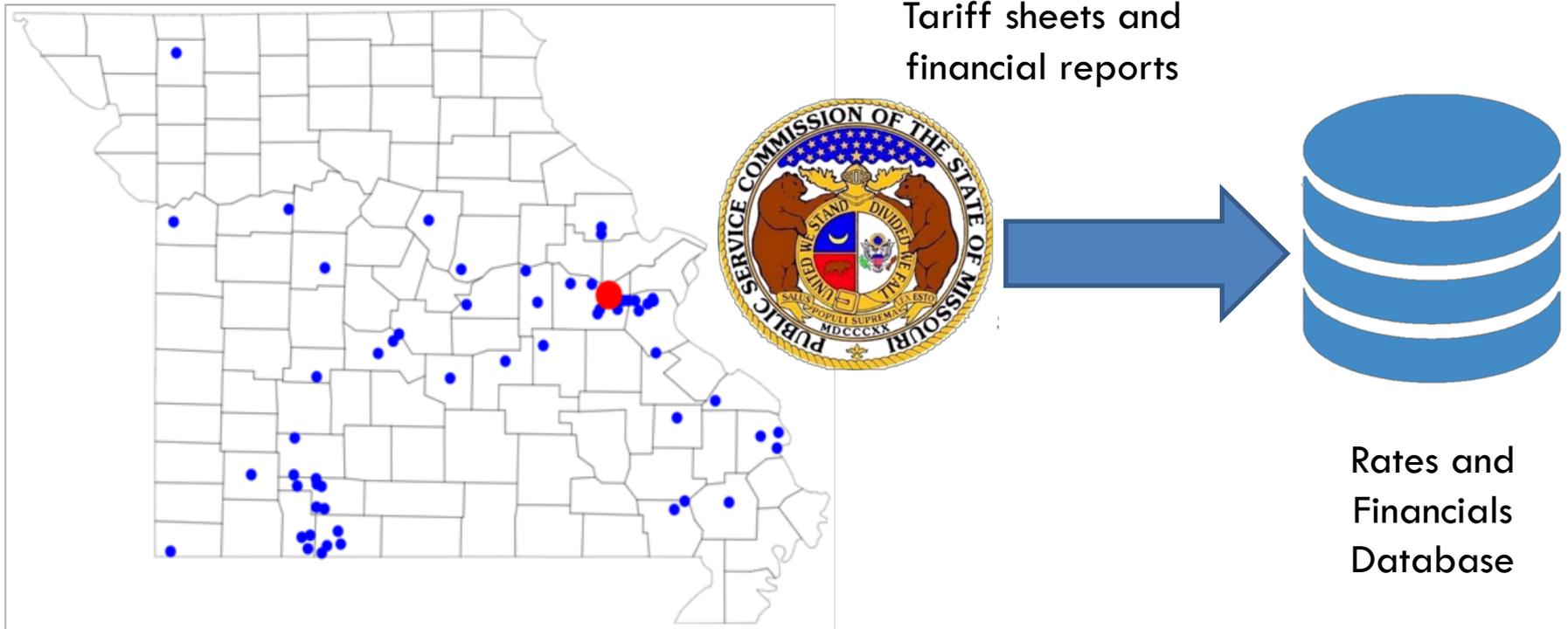
## Dashboard states



# Webinar Objectives

- Learn what data goes into the Rates Dashboard
- Become familiar with the features and benefits of the Missouri Water Regulated Rates Dashboard
- Learn how to compare one system's rates with others
- Explore additional tools that can help communicate rates

# Rates Data Collection



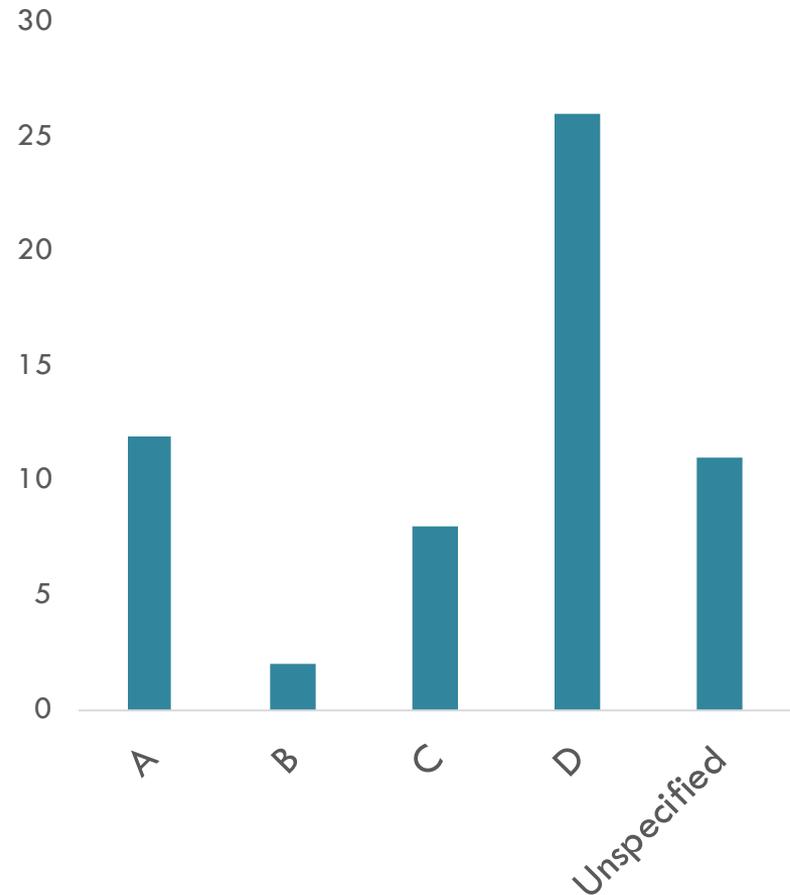
# Additional Data Sources



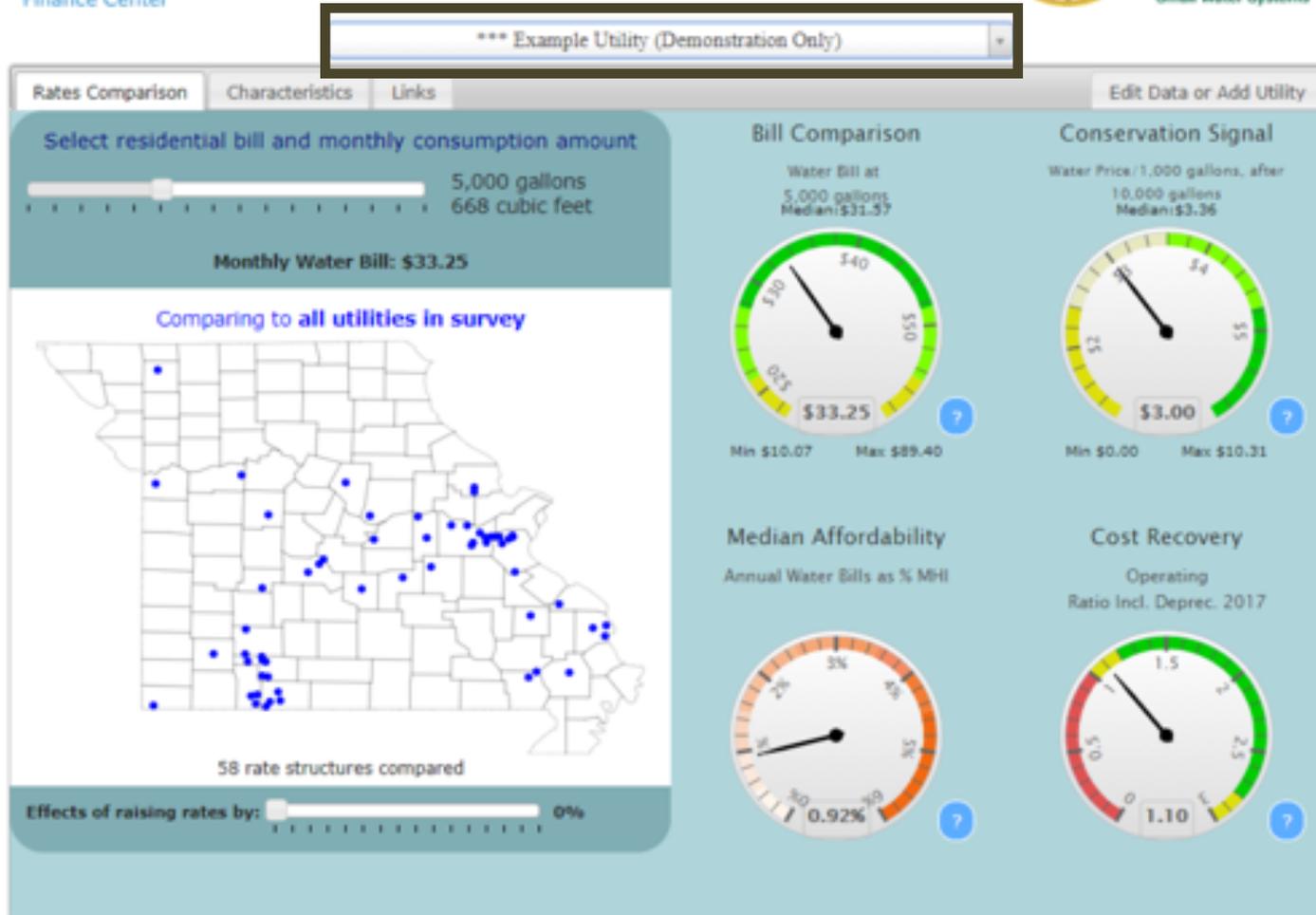
# Survey Group

## 59 total water utilities

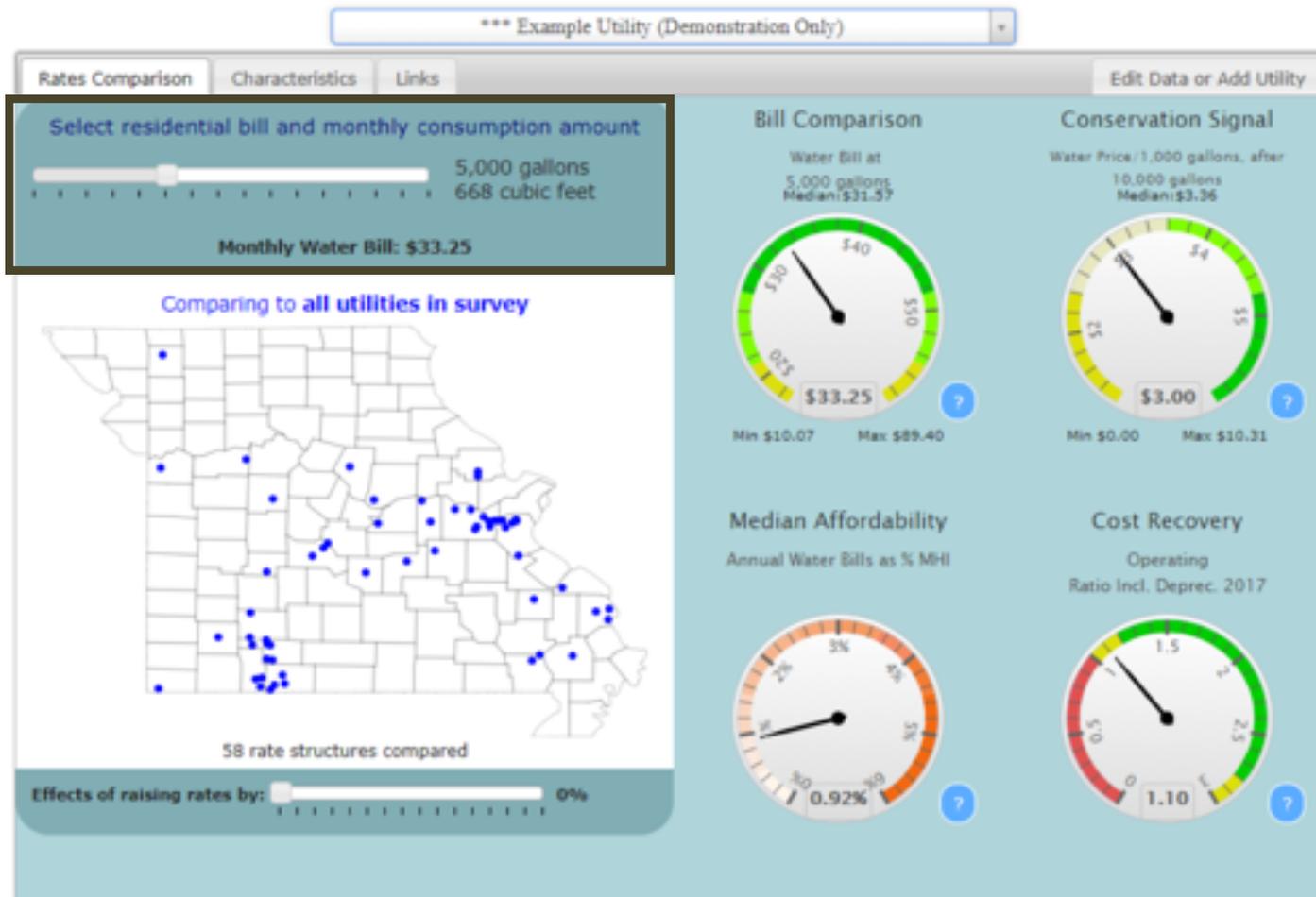
- 26 Class D  
(\$50,000 or less)
- 8 Class C  
(\$50,000 - 250,000)
- 2 Class B  
(\$250,000 – 500,000)
- 12 Class A  
(Over \$500,000)
- 11 unspecified  
(no revenue data provided)



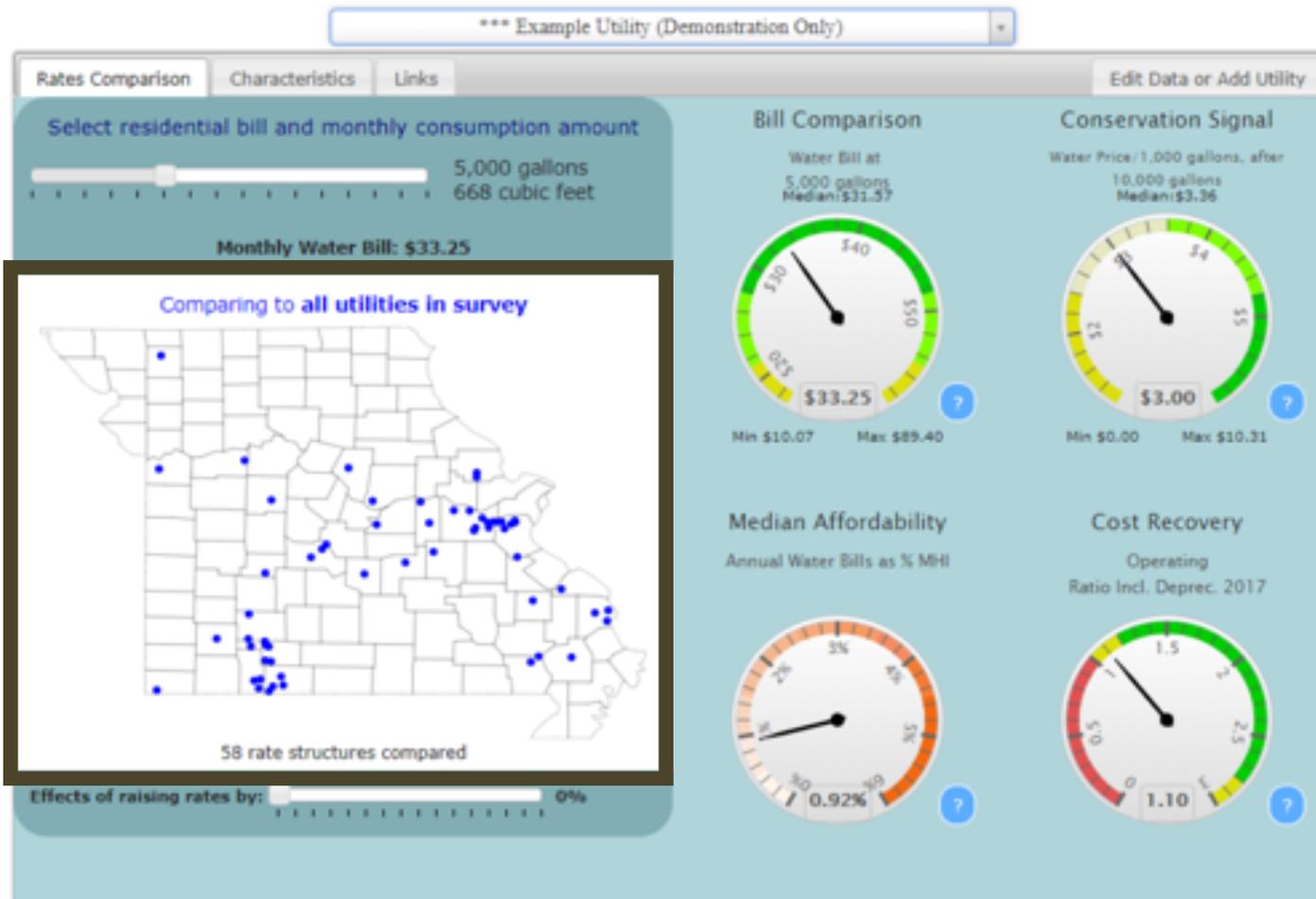
# Anatomy of the Dashboard



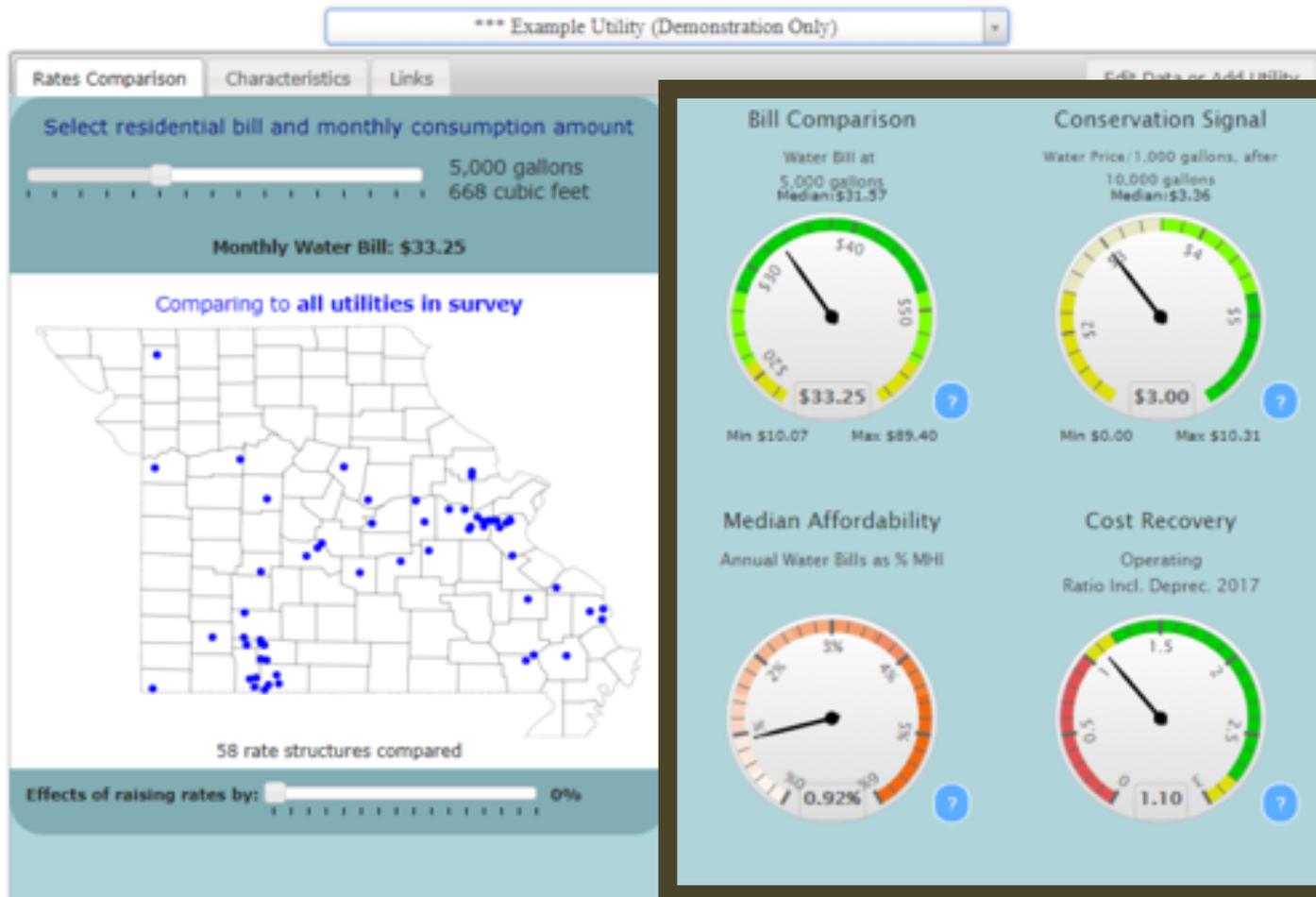
# Anatomy of the Dashboard



# Anatomy of the Dashboard



# Anatomy of the Dashboard



# Anatomy of the Dashboard



\*\*\* Example Utility (Demonstration Only)

Rates Comparison Characteristics Links

Select residential bill and monthly consumption amount

5,000 gallons  
668 cubic feet

Monthly Water Bill: \$33.25

Comparing **all utilities in survey**

58 rate structures compared

Effects of raising rates by: 0%

Compare to your peer group

Water Bill at 5,000 gallons Median: \$31.57

Water Price / 1,000 gallons, after 10,000 gallons Median: \$3.36

Min \$10.07 Max \$89.40

Min \$0.00 Max \$10.31

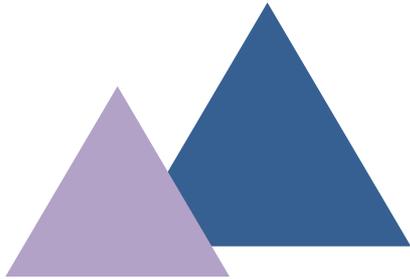
Median Affordability  
Annual Water Bills as % MHI

Cost Recovery  
Operating Ratio Incl. Deprec. 2017

0.92%

1.10

# Compare Your Rates to Rates of Systems that have Similar...



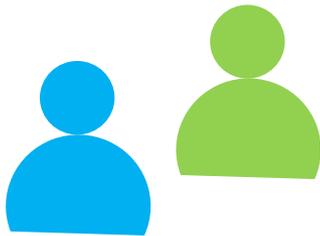
Size (Connections)



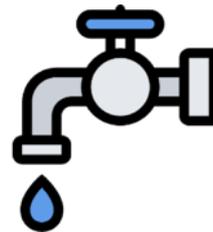
Rate Structure



Location



Demographics

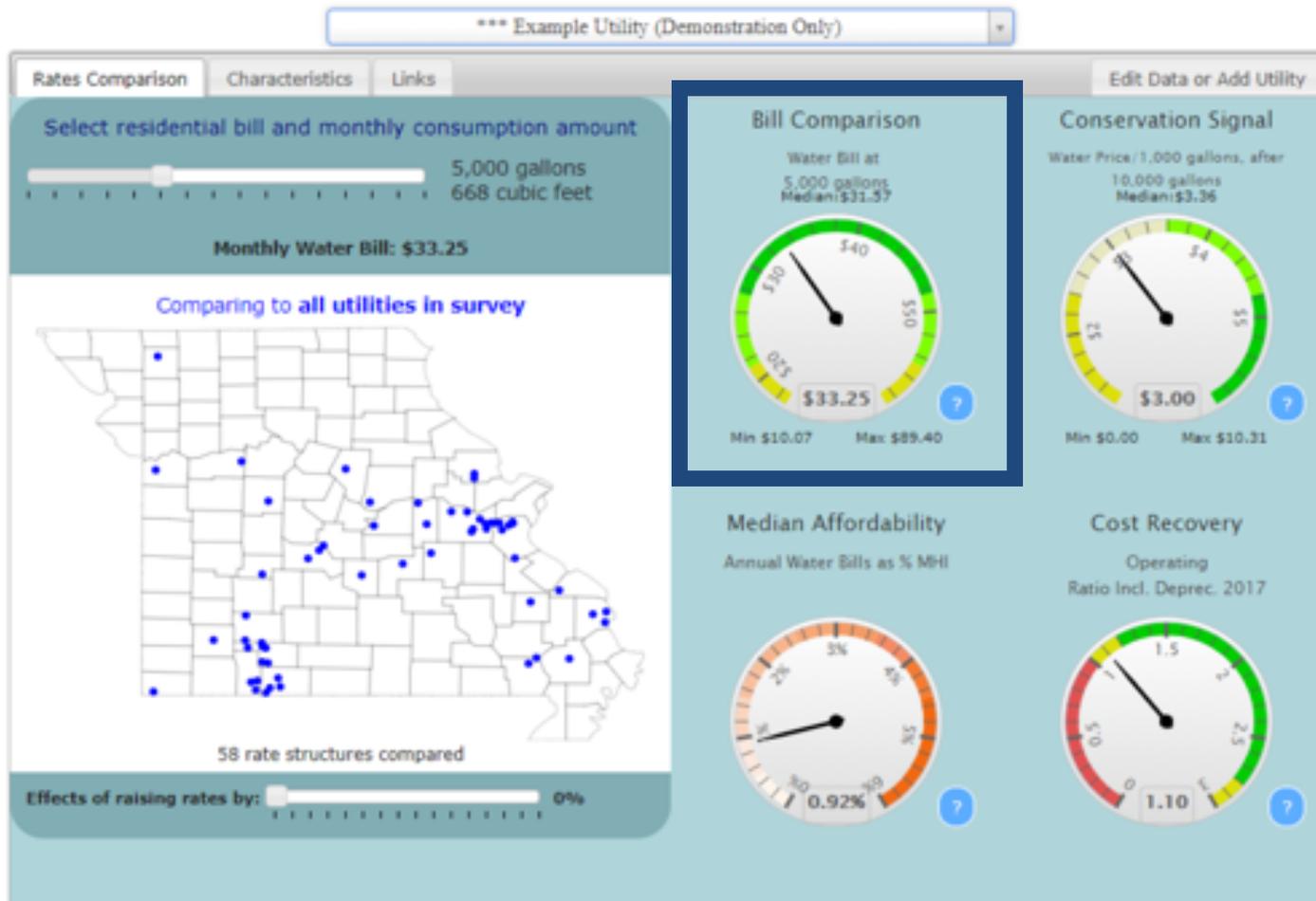


Water Source Type



Revenues

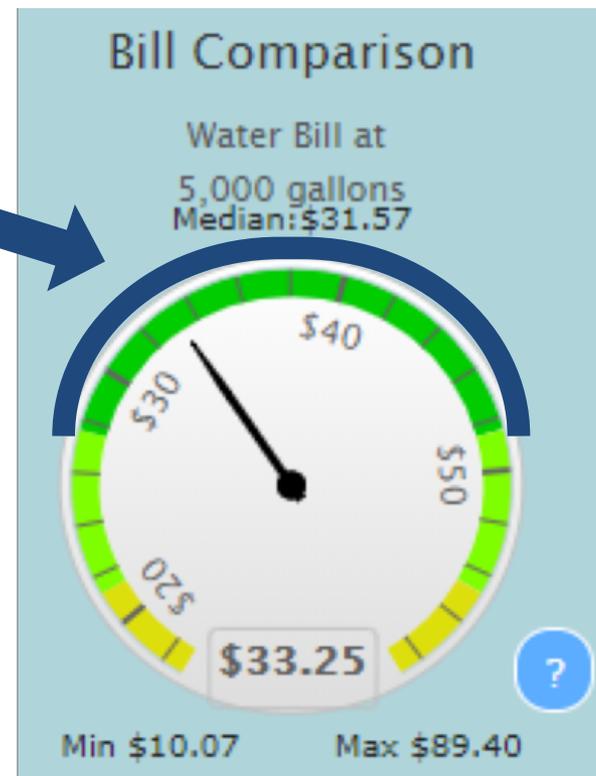
# Anatomy of the Dashboard



# Dial: Bill Comparison

Darkest green band = middle 50% of utilities

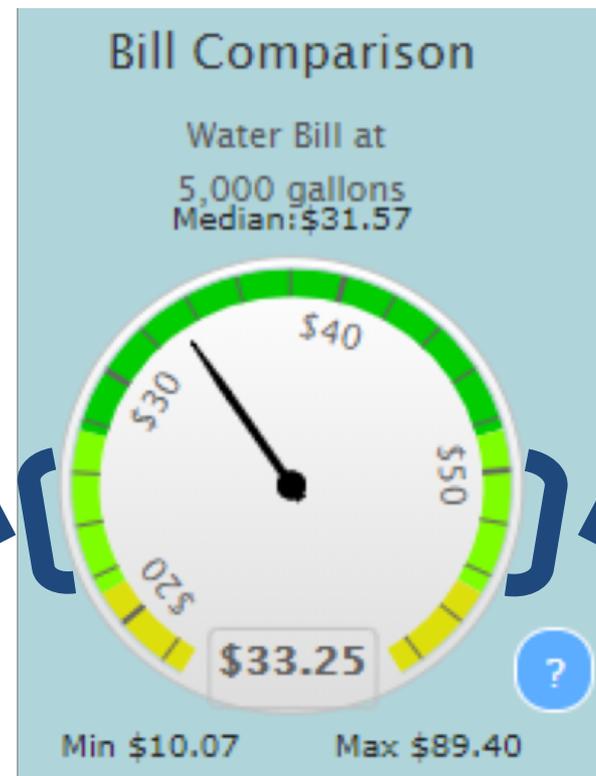
**Half** of all utilities  
in your peer group have  
bills that fall within this  
range



# Dial: Bill Comparison

Light green bands = the 15% below and above the middle 50%

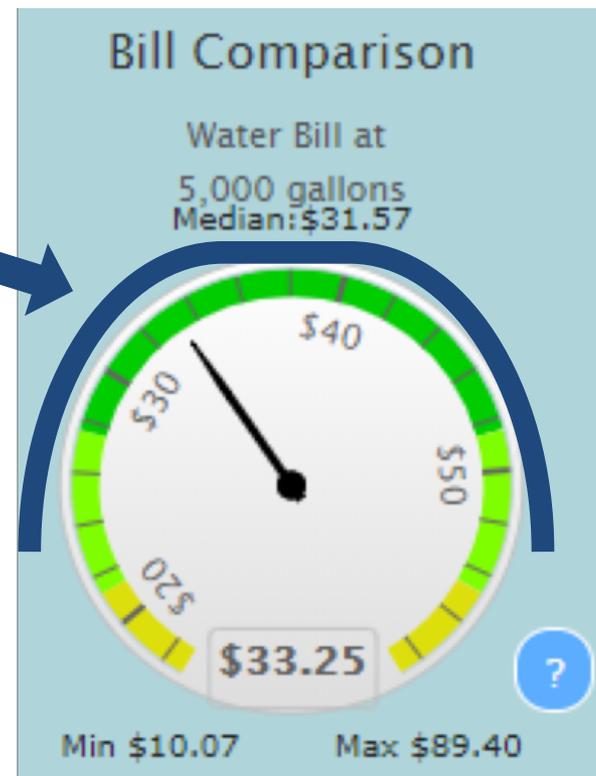
**15%** of utilities in your peer group have bills **lower** than the middle 50%,  
**15%** have bills **higher** than the middle 50%



# Dial: Bill Comparison

Both greens combined = 80% of utilities

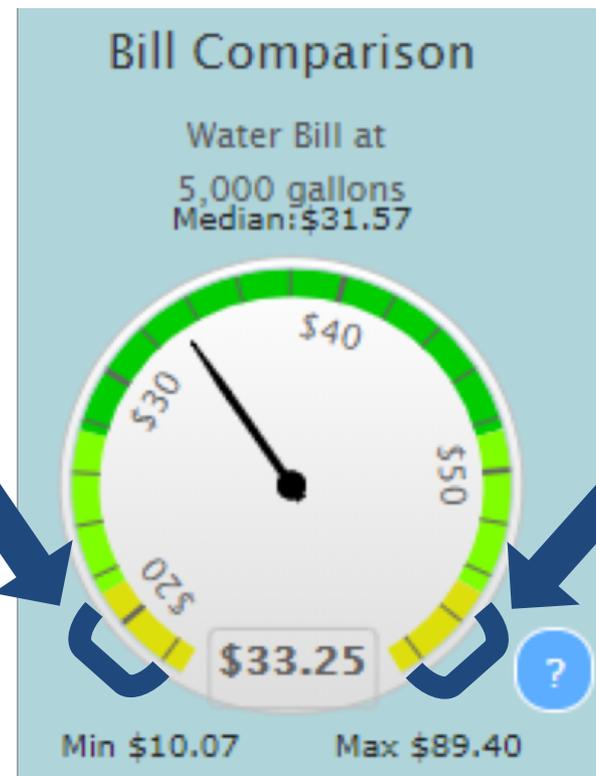
**The majority** of all utilities in your peer group have bills that fall within the range of the green bands



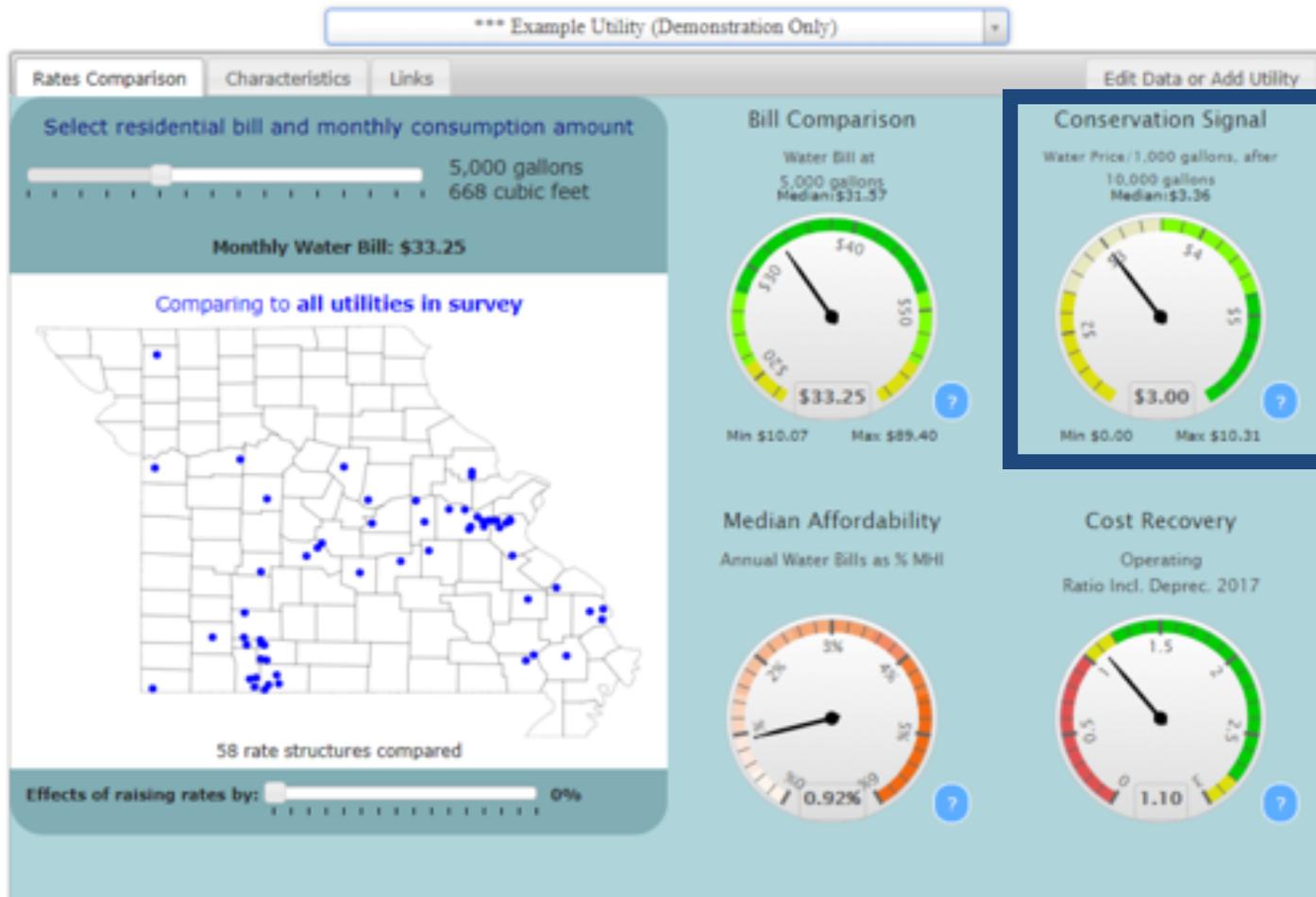
# Dial: Bill Comparison

Yellow = the lowest and highest 10% of utilities

**10%** of utilities  
in your peer group  
have bills **lower** than  
90% of other utilities,  
**10%** have bills **higher**  
than 90% of utilities



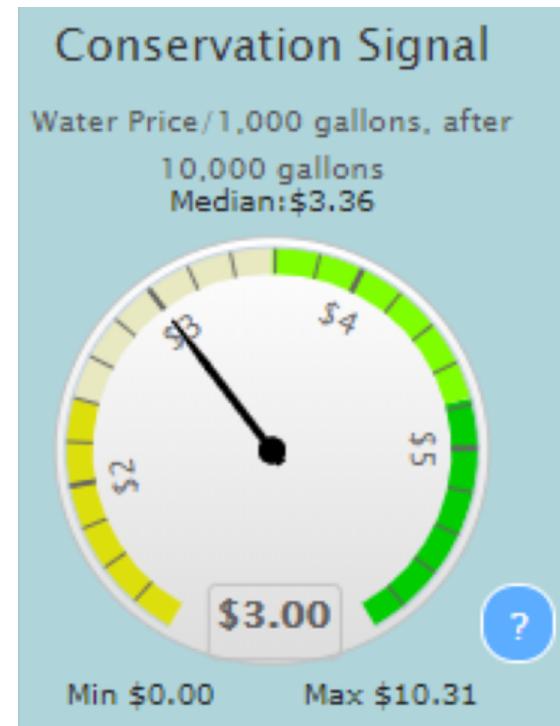
# Anatomy of the Dashboard



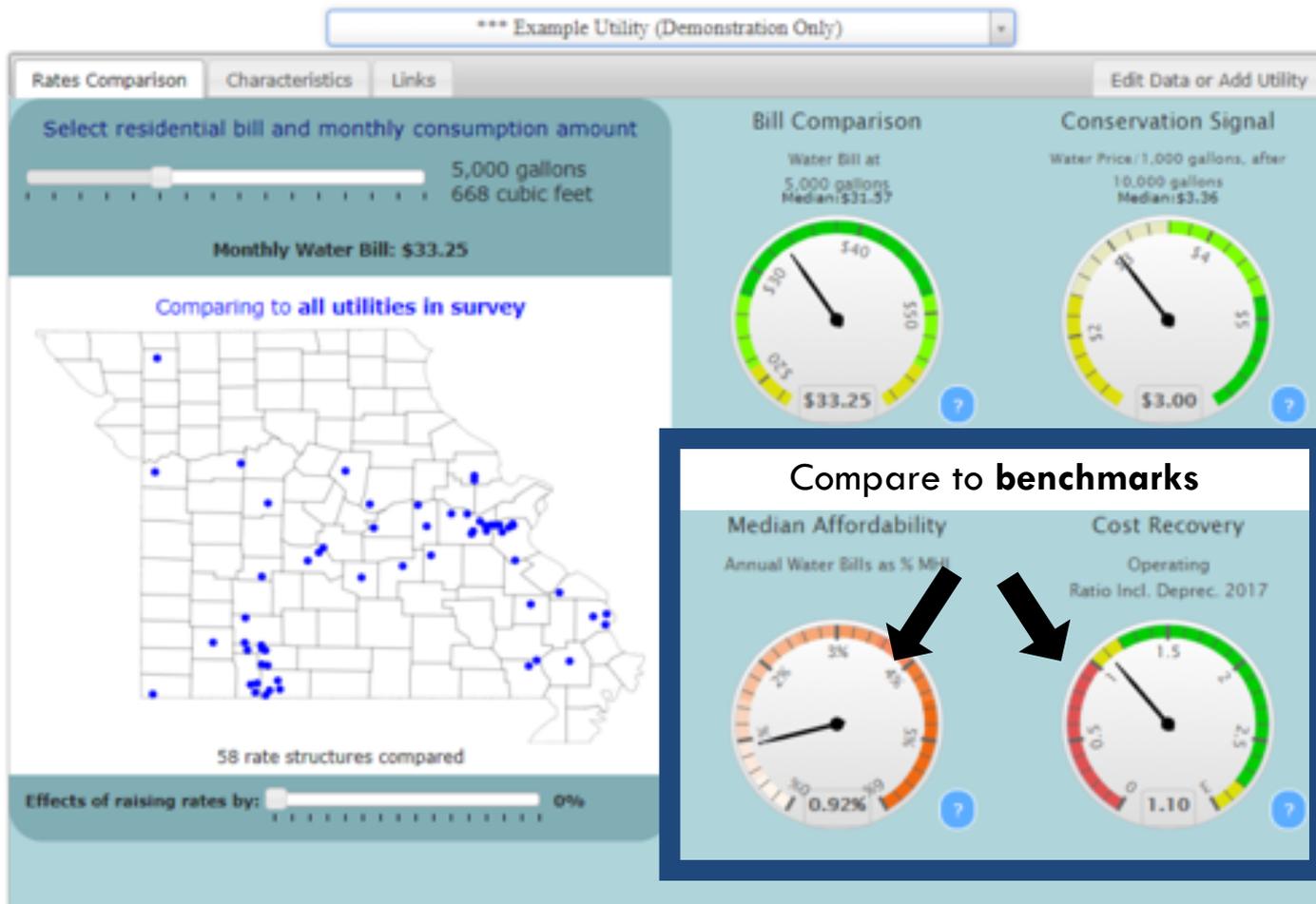
# Dial: Conservation Signal

Colored bands = quartiles

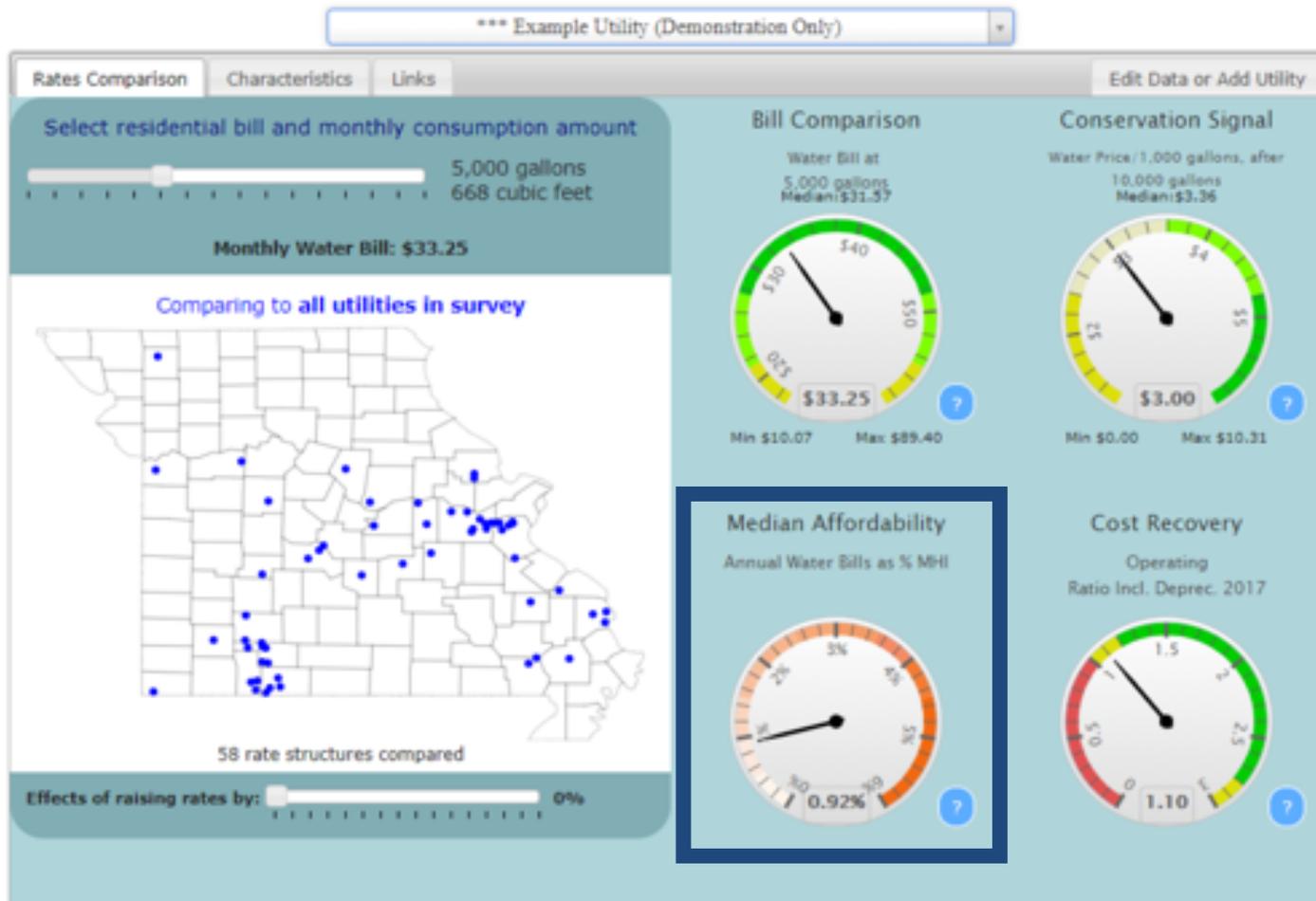
In this example, the marginal price of 1,000 gallons after 10,000 gallons is between the 26<sup>th</sup> and 50<sup>th</sup> percentile among its peer group, sending a fairly weak conservation signal



# Anatomy of the Dashboard



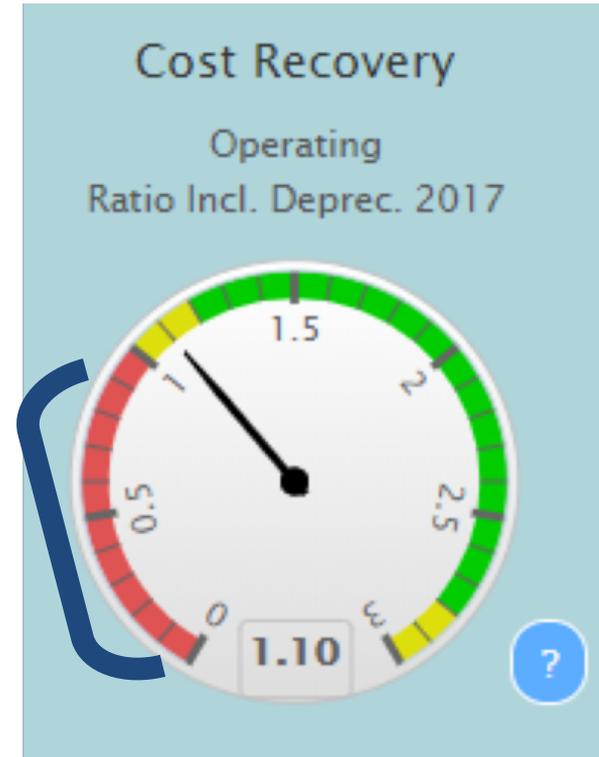
# Anatomy of the Dashboard



# Dial: Cost Recovery

Red = costs exceed revenues; a concern for financial sustainability

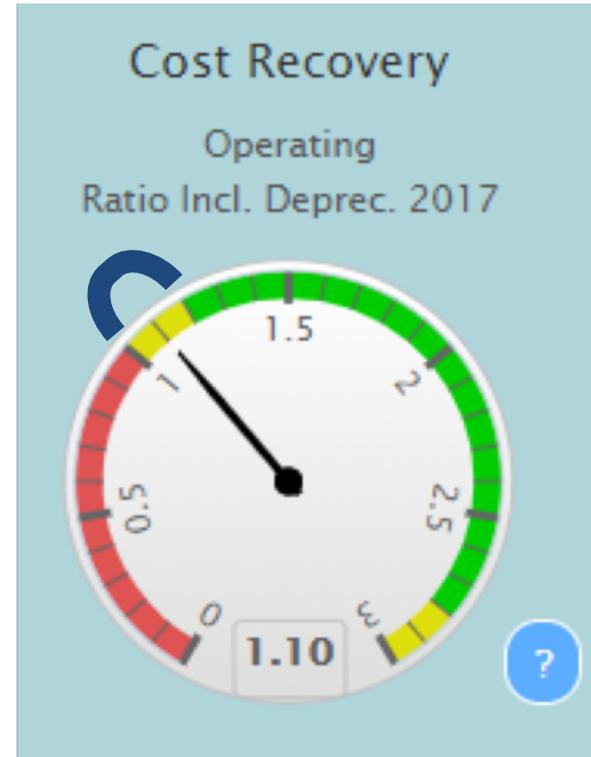
Operating revenues  
Operating expenses  
(including depreciation)



# Dial: Cost Recovery

Yellow = revenues are sufficient to cover costs, but could be problematic in long-term

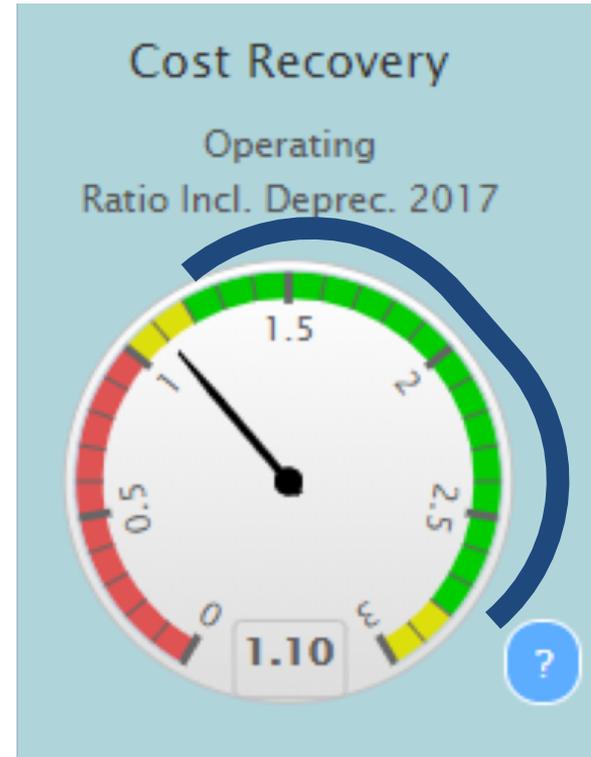
Operating revenues  
Operating expenses  
(including depreciation)



# Dial: Cost Recovery

Green = revenues are likely enough to pay for day to day costs as well as long-term goals

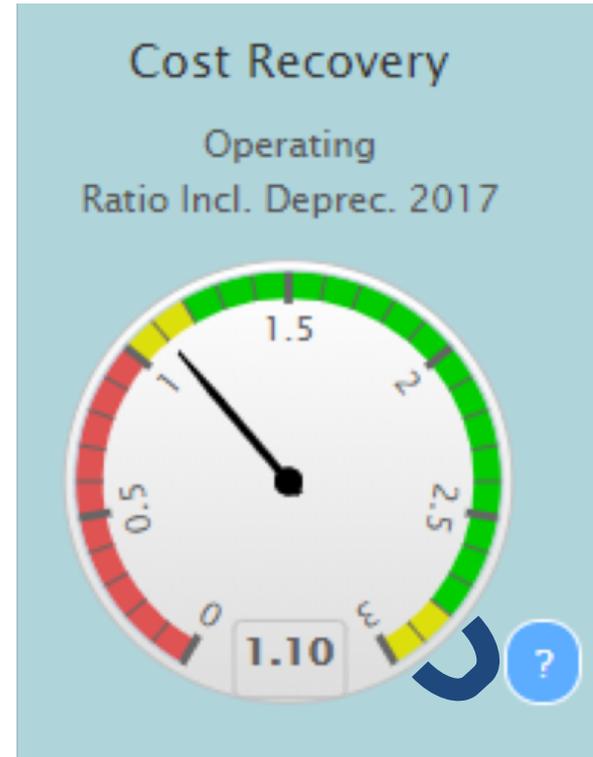
Operating revenues  
Operating expenses  
(including depreciation)



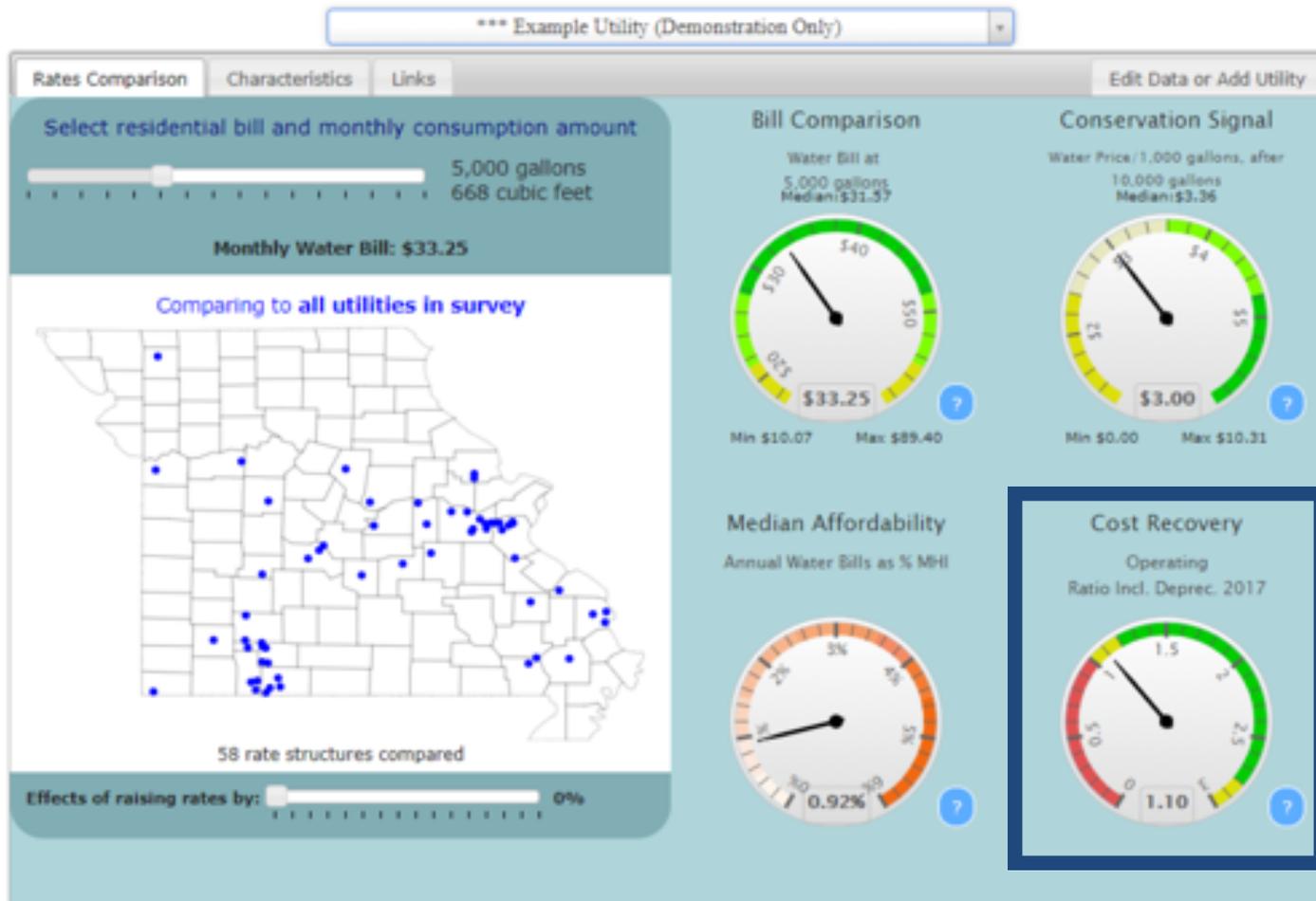
# Dial: Cost Recovery

Yellow = revenues may be “too” good

Operating revenues  
Operating expenses  
(including depreciation)



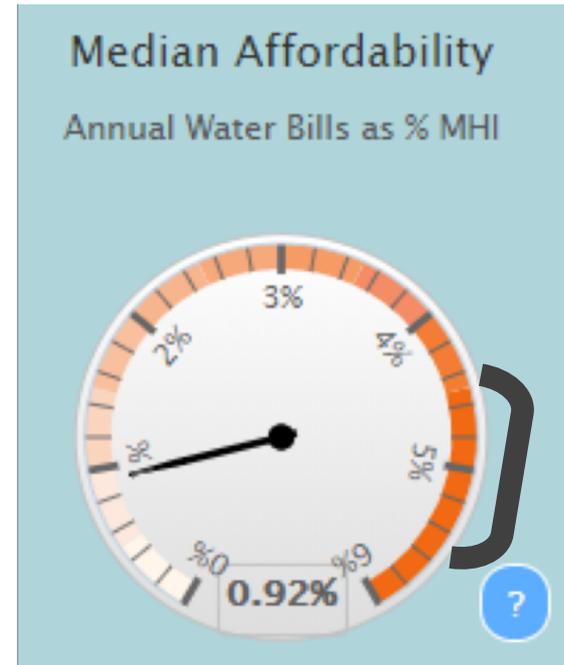
# Anatomy of the Dashboard



# Dial: Median Affordability

Darker shades of orange indicate a higher percentage of MHI spent annually on bills

The percentage of median household income (MHI) spent annually on water and wastewater bills





\*\*\* Example Utility (Demonstration Only)

Rates Comparison | Characteristics | Links | Edit Data or Add Utility

### Affordability

Select re

Annual Bill (Monthly Bill times 12 Months Per Year)

Annual Median Household Income

This dial shows what a household making the median level of income in would spend annually, as a percent of their income, on Water using 5,000 gallons per month. Half of the households in the community would be spending a greater portion of their income for these bills.

Raw Data
Annual Bills \$399.00
Annual MHI \$43,500

The median affordability metric is often referred to as "percent Median Household Income (MHI)." It is only one of many metrics that can be used to assess affordability. There is no universally accepted definition of what "affordable rates" means and other factors such as poverty rate, income distribution, and fixed income will influence the affordability of rates in a community. The color spectrum reflects that this metric is on a continuum, without any single threshold that dictates what is affordable or unaffordable. The MHI data are derived from the U.S. Census Bureau's 5-year American Community Survey estimates for 2013 - 2017 MHI (in 2017 dollars).

For a more comprehensive look at affordability in your community using multiple metrics, use our [Residential Rates Affordability Assessment Tool](#)

For more information about percent MHI, including considerations about its assumptions, [read this blog post about Percent MHI Indicator](#)

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Signal

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Ok

**Missouri Regulated Water Rates Dashboard**
  
**Rates as of July 1, 2018**
  
 Last updated: August 28, 2018



\*\*\* Example Utility (Demonstration Only)

[Rates Comparison](#) | [Characteristics](#) | [Links](#) | [Edit Data or Add Utility](#)

Utility Owner	
Ownership type	unknown
Primary County	unknown or serves multiple counties
Primary service area	
Date Rates Effective	unknown

Select comparison group:

		Median for all utilities in survey	Statewide Stats
Number of Systems	1	58	58
Est. Number of Connections	753	136	
Est. Service Population	unknown	285	
Operating Revenue	\$705,415	\$26,910	
Operating Expense	\$641,286	\$36,135	
Average Household Size	n/a	2.41	2.48
Median Household Income	\$43,500	\$40,938	\$49,593
Poverty Rate	12.00%	17.05%	15.23%

**Missouri Regulated Water Rates Dashboard**  
**Rates as of July 1, 2018**  
Last updated: August 28, 2018



\*\*\* Example Utility (Demonstration Only)

Rates Comparison

Characteristics

**Links**

Edit Data or Add Utility

This Rates Dashboard is designed to assist utility managers, finance directors, Board members, local officials, reporters, and customers to compare their utility's residential water rates against multiple factors, including system characteristics, customer base demographics, and geography. Rates and financial data for this dashboard were provided by the Missouri Public Service Commission.

Users can manually/temporarily input financial data using the Edit Data or Add Utility button to turn on the Cost Recovery dial (on the user's local machine only – this is cookie based).

This Rates Dashboard was constructed as part of the Smart Management for Small Water Systems, a nationwide project of the Environmental Finance Center Network (EFCN). The EFCN is composed of numerous Environmental Finance Centers around the country, including the Environmental Finance Center at the University of North Carolina, Chapel Hill, which created this dashboard. This dashboard was created under a cooperative agreement with the United States Environmental Protection Agency. Additional resources for water and wastewater utilities are provided below.

### Resources

[Missouri Public Service Commission](#)

[Missouri Dept of Natural Resources](#)

[Direct Assistance for Small Systems](#)

[Environmental Finance Blog](#)

[Email Feedback or Comments](#)

### Additional Tools

[Water & Wastewater Rates Analysis Model](#)

[Financial Health Checkup for Water Utilities](#)

[Plan to Pay: Fund Your Capital Improvement Plan](#)

[Residential Rates Affordability Assessment](#)

[EPA Water Finance Clearinghouse](#)



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Select residential bill and monthly consumption amount

5,000 gallons  
668 cubic feet

Monthly Water Bill: \$33.25

Comparing to all utilities in survey

Bill Comparison

Water Bill at  
5,000 gallons  
Median: \$31.57

Conservation Signal

Water Price / 1,000 gallons, after  
10,000 gallons  
Median: \$3.36



Let's take a live look at additional features...

58 rate structures compared

Effects of raising rates by: 0%

Median Affordability

Annual Water Bills as % MHI

0.92%

Cost Recovery

Operating Ratio Incl. Deprec. 2017

1.10



# When To Use This Tool

- Internally to help assess the need for a potential rate case
- When explaining rates to customers
- As part of a rate case (yes, this happens!)



# Additional Resources

[https://efc.sog.unc.edu/resource/  
missouri-2018-water-rates-  
dashboard](https://efc.sog.unc.edu/resource/missouri-2018-water-rates-dashboard)

# Additional Resources

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**UNC**  
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Environmental Finance Center

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# Questions? Feedback?



**Annalee Harkins**

Data Specialist and Project Manager

[aharkins@sog.unc.edu](mailto:aharkins@sog.unc.edu)

919-843-4958