

2019

Alabama Water and Wastewater Rates Report



SCHOOL OF GOVERNMENT
Environmental Finance Center



ABOUT THIS REPORT

This report is just one resource in a series on Alabama water and wastewater rates, funded by the Alabama Department of Environmental Management (ADEM) and compiled by the Environmental Finance Center at the University of North Carolina at Chapel Hill (EFC) .

In addition to this report, there is an accompanying set of **tables** and standardized water and wastewater **rate sheets** for each participating utility. Furthermore, with the online, interactive **Rates Dashboard**, users can compare utilities against various attributes such as geographic location, system characteristics, and customer demographics, as well as financial indicators and benchmarks.



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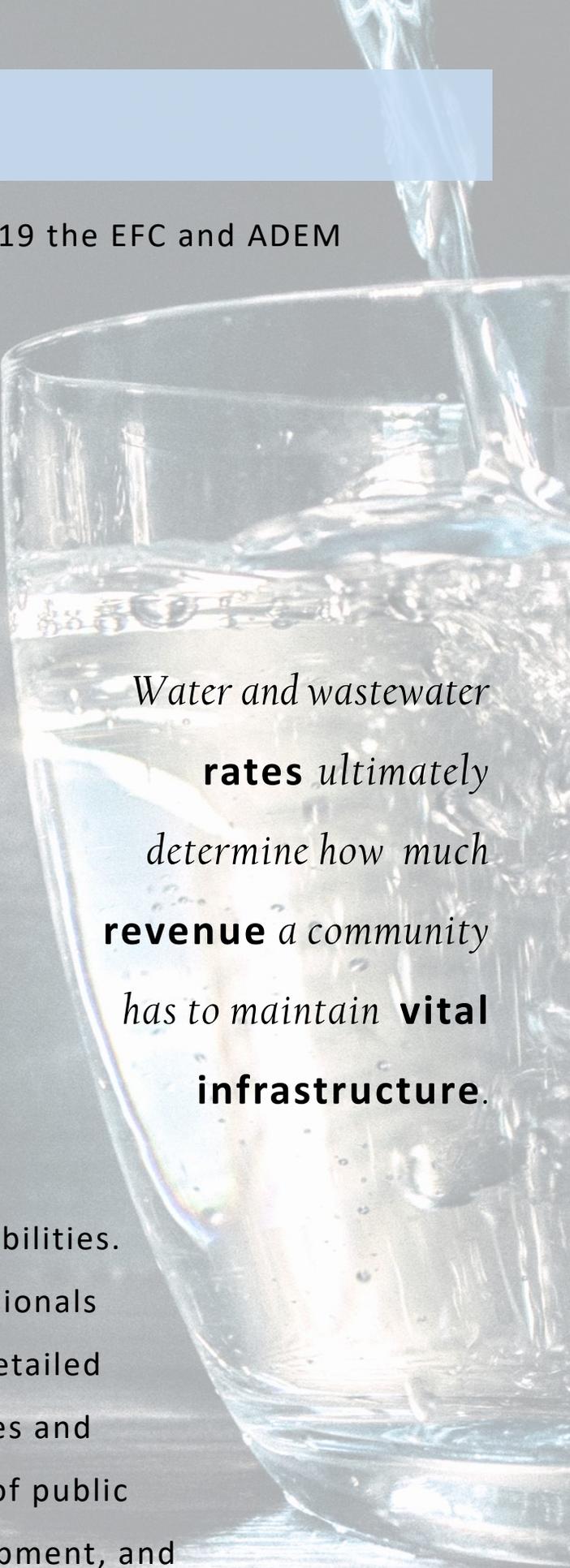
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INTRODUCTION

Between September 2017 and January 2019 the EFC and ADEM conducted a survey of 571 rate-charging water and wastewater utilities in Alabama.

A total of **485** utilities participated by providing their rate schedules, yielding a response rate of **85%** of utilities, and accounting for **97%** of all Alabama citizens served by community water systems. Utilities from all 67 counties in the state are represented in this survey group.

Water and wastewater rate setting is one of a local government's most important environmental and public health responsibilities. This report aims to provide utility professionals and public officials with an up-to-date, detailed survey of current statewide rate structures and trends, and thus assist in the protection of public health, improvement of economic development, and promotion of sustainability in Alabama.



*Water and wastewater
rates ultimately
determine how much
revenue a community
has to maintain **vital
infrastructure.***

UTILITIES IN THE SURVEY

 240 utilities serving
WATER ONLY

 26 utilities serving
WASTEWATER ONLY

 219 utilities serving
WATER AND WASTEWATER



43%
MUNICIPALITY

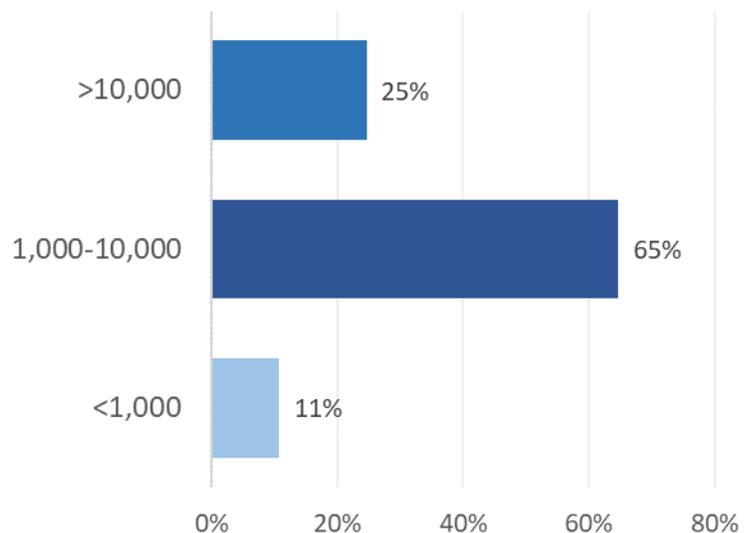
26%
NOT-FOR-PROFIT

24%
AUTHORITY

7%
OTHER

Percent of Responding Utilities by Service Population

N=485 Utilities



WHAT DO RATE STRUCTURES LOOK LIKE?

BASE CHARGES

Considerable variation exists in how utilities model rate structures, but almost all use a combination of **base charges** and **volumetric charges** to determine billing for their services.

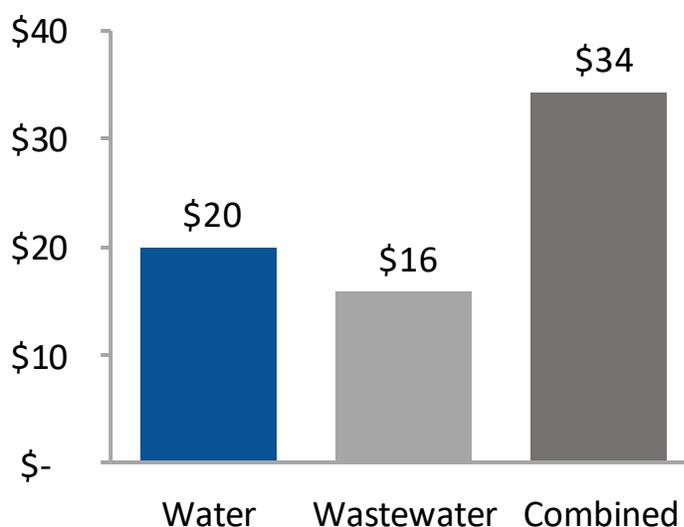
Base charges do not vary from month to month regardless of consumption. These charges can be a constant, universal amount for all customers, or vary based on customer class (e.g. residential vs. commercial) or meter size. Base charges sometimes feature a *consumption allowance*, an included amount of usage that the customer is not separately charged for.

100% of water rate structures and 97% of wastewater rate structures in Alabama include a base charge.

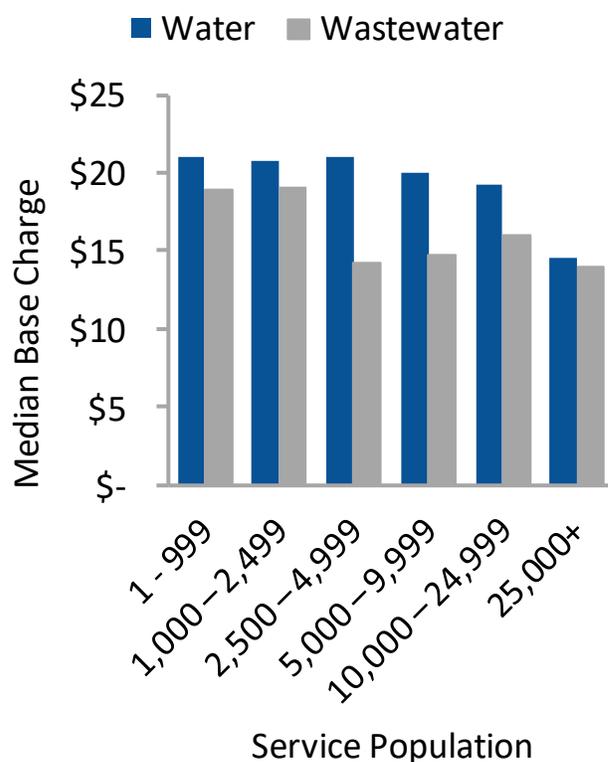
92% of water rate structures with a base charge include a consumption allowance.

Standardized to monthly billing, the median consumption allowance included with a base charge is 2,000 gallons or 267 cubic feet.

Median Monthly Base Charge Amounts



Larger water utilities tend to have **lower** base charges than smaller utilities, likely because they are able to spread **fixed costs** across a greater customer base.



WHAT DO RATE STRUCTURES LOOK LIKE?

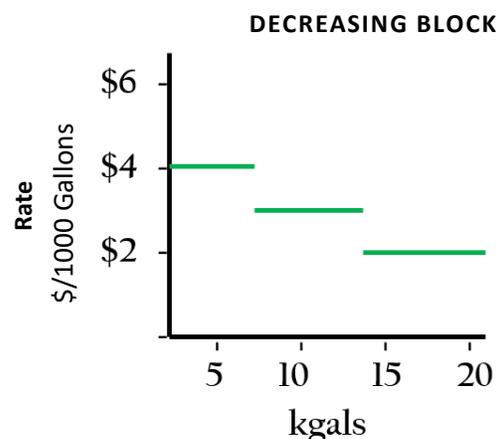
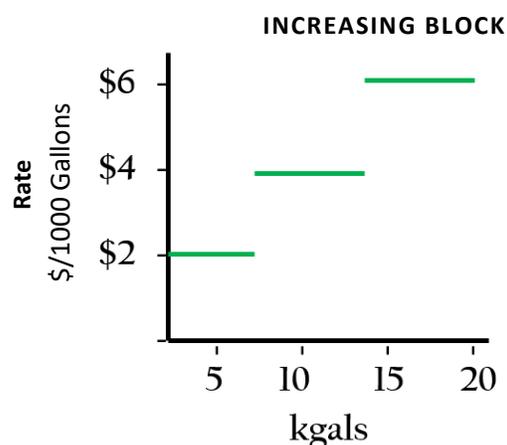
VOLUMETRIC CHARGES

Volumetric (variable) charges are based on the volume used after exceeding the consumption allowance included with the base charge (if any). Three common rate structures are uniform, increasing block, and decreasing block.

With a **uniform rate** structure, the rate does not change as the customer consumes more.

In an **increasing block rate** structure, the rate increases as the customer uses more. This structure is often employed by utilities that want to encourage conservation by making higher volumes of consumption more expensive.

The rate per unit decreases with greater consumption in a **decreasing block** structure. This type of rate structure is more often employed in commercial and industrial rate structures only affecting high volumes of water use.



WHAT IS THE MOST COMMON VOLUMETRIC RATE STRUCTURE?

In Alabama the majority (55%) of residential water and wastewater rate structures use a **uniform rate** to charge for volume. Standardized to thousands of gallons, the median uniform rate is **\$5.02 for water** and **\$3.90 for wastewater** services.

WHAT ARE UTILITIES CHARGING?

Alabama's Median Bills

Residential (5,000 GALS)

\$36.13
MONTH

\$433.56
YEAR

WATER



Commercial (50,000 GALS)

\$242.50
MONTH

\$2,910.00
YEAR

\$28.34
MONTH

\$340.08
YEAR

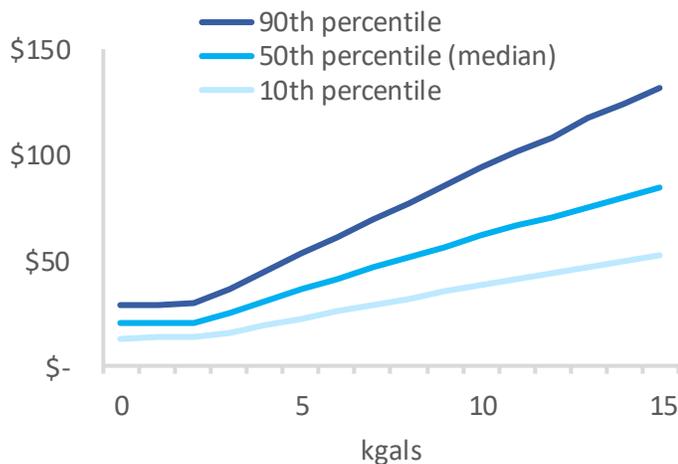


\$198.34
MONTH

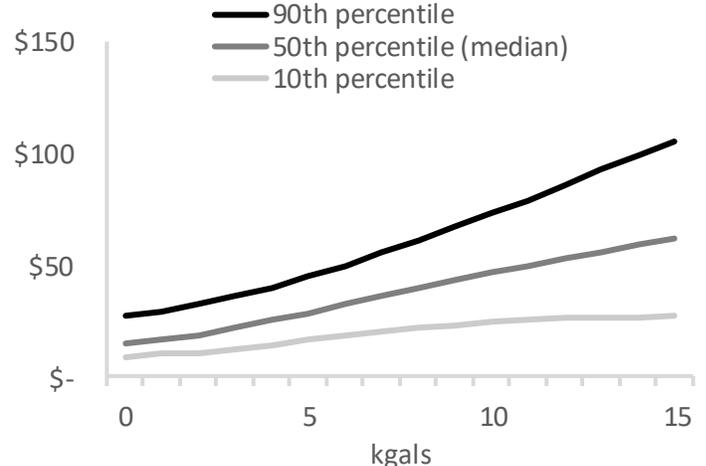
\$2,380.08
YEAR

WASTEWATER

Spread of Middle 80% of Water Bills



Spread of Middle 80% of Wastewater Bills



RANGE OF BILLS

As volume increases, the median water bill tends to rise at a *greater rate* than the median wastewater bill. Water bills are from *12% to 37% higher* than wastewater bills.

While reporting the median bill is helpful for understanding the “big picture” for water and wastewater bills, it does not show the total distribution of bills, including the lowest and highest costs at different consumption levels. The graphs above show the range of the middle 80% of bills (from the 10th percentile to the 90th percentile) for 0 to 15,000 gallons.

HOW DO OUTSIDE RATES COMPARE?

INSIDE VS OUTSIDE RATES

All of the charges presented above refer to what utilities charge customers that live within their political boundaries. Municipal utilities often serve customers who live outside of city limits, and a handful of other utilities specify geographical boundaries within their service areas and identify their customers as residing “inside” and “outside” those boundaries. In many cases, utilities charge different rates for customers living inside or outside the boundary.

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In Alabama, most outside residential customers pay the same bill at 5,000 gallons as inside residential customers. Of those that may more, 100% pay less than double that of inside customers.

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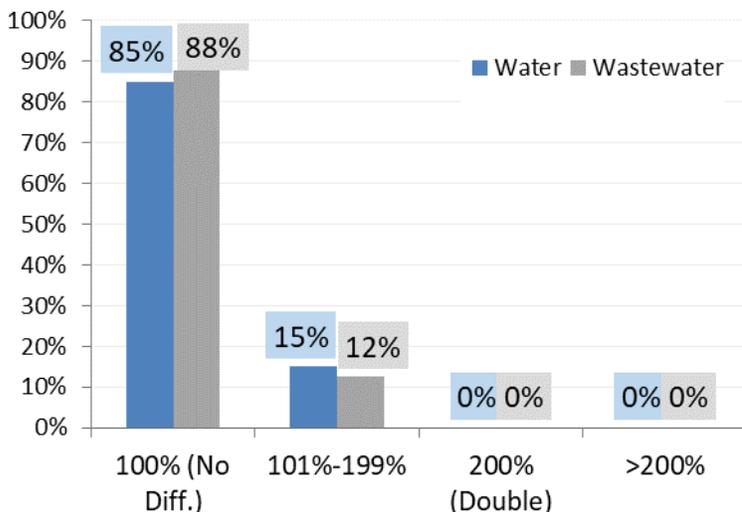
As volume increases, the median combined water and wastewater bill for outside rates tends to rise at a *greater rate* than the median combined water and wastewater bill for inside rates. Outside bill amounts are from *11% to 31% higher* than inside bill amounts.

For inside rates, the median combined water and wastewater bill at 5,000 gallons is **\$63.30** and for out-side rates, the median combined wa-ter and wastewater bill at 5,000 gal-lons is **\$70.88**.

Generally, outside rates are greater than inside rates because customers reside farther, on average, from the water and wastewater treatment plant than inside customers. Extra costs for distribution and collection systems justify higher rates for outside customers.

Ratio of Outside Residential Bills to Inside Bills at 5,000 Gallons/Month

Water N=488 Rate Structures, Wastewater N=257 Rate Structures



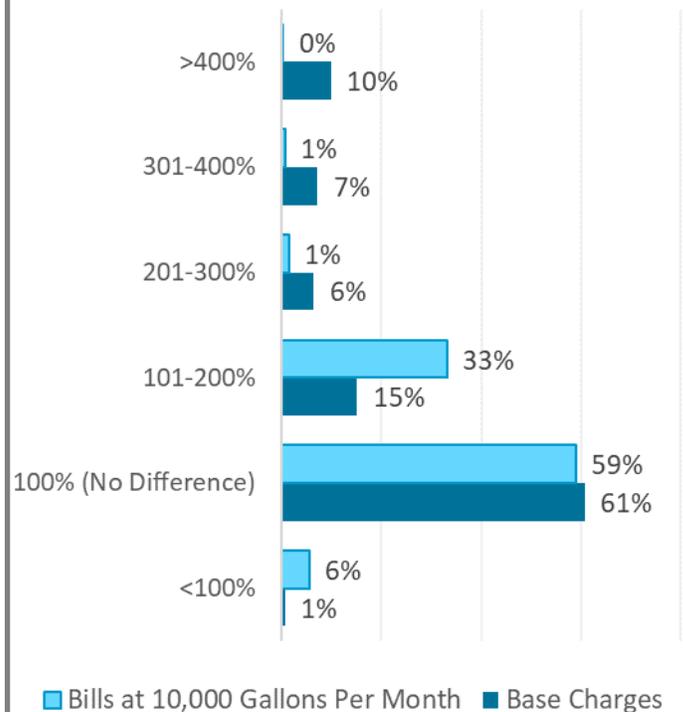
WHAT ABOUT INDUSTRIAL & IRRIGATION RATES?

Most water and wastewater utilities use the same rate structure for residential, commercial, and industrial customers, but some have separate rate structures for different customer classes. In Alabama, few utilities charge distinct industrial rates. Of the **488 water** rate structures in the survey, **only 36** have unique industrial rates. Of the **257 wastewater** rate structures, **29** have unique industrial rates.

Industrial rates often include a higher base charge and lower volumetric charge, to better reflect the costs of service and to promote business-friendly pricing strategies. The graph to the right shows the ratio of commercial water bills to residential water bills at 0 gallons/month, or effectively the base charge, and 10,000 gallons per month.

Ratio of Inside Commercial Water Bills to Inside Residential Water Bills at 0 Gallons/Month (Base Charge) and 10,000 Gallons/Month

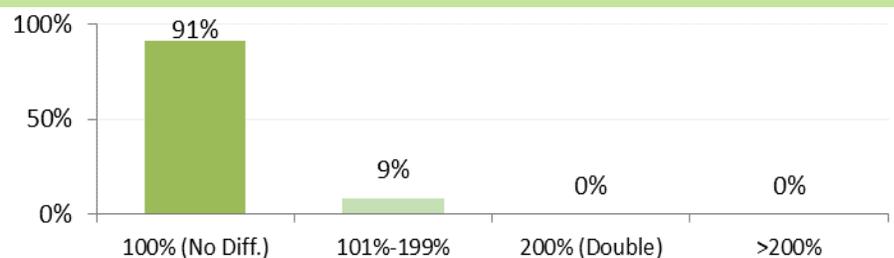
N=488 Rate Structures



Sometimes utilities will craft **irrigation bills** that are slightly higher than the water bill but do not have the associated wastewater charge. In Alabama, most irrigation bills at 5,000 gallons/month do not differ from

Ratio of Inside Residential Water Bills to Irrigation Bills at 5,000 Gallons/Month

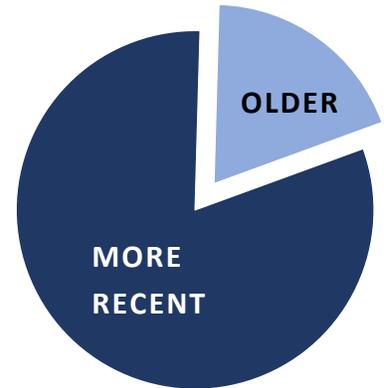
N=488 Rate Structures



inside residential water bills at the same consumption level. Much like outside customers in Alabama, of those irrigation customers that pay more than the inside residential water rate, **all pay less than double.**

WHEN WERE RATES LAST CHANGED?

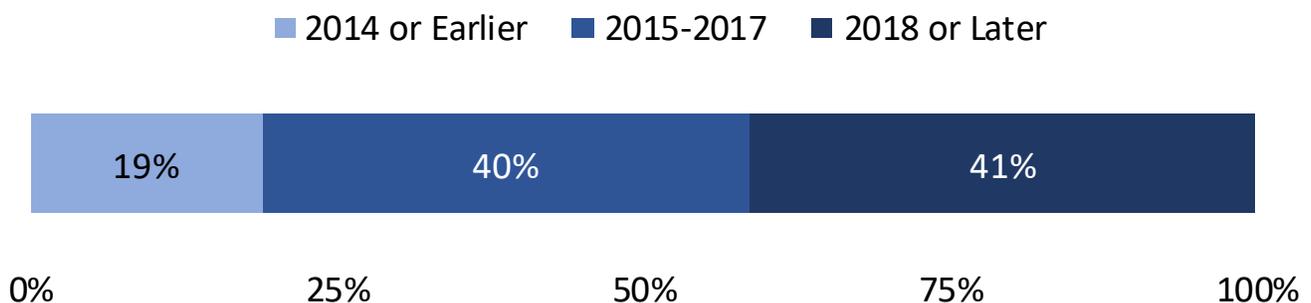
- **81%** of utilities have updated rates since **AT LEAST 2015**.
- About **1 IN 5** utilities have not updated their rates since **2014** or earlier.



In Alabama **most utilities** are actively evaluating and modifying their rate structures every one to two years. The EFC recommends that utilities review their rates **at least every two years**, at the minimum, to keep in pace with inflation. An annual or biennial review gives utilities the opportunity to evaluate if their current rates are enough to cover the necessary operating expenses and depreciation, not to mention savings goals for capital planning, emergencies, or other funds.

Utilities that modestly raise rates at more frequent intervals accumulate more revenue over time than those that implement less frequent, but more drastic rate increases. Customers are also less likely to balk at more gradual, periodic rate increases than a one-time price hike.

The calendar year when sampled rate structures were first put into effect is shown below for 387 rate structures*.



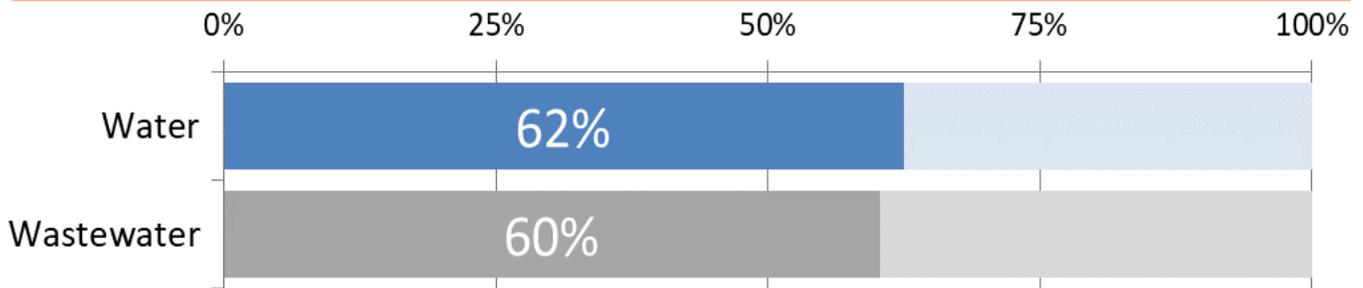
*The year that rates became effective is known for 387 out of the 519 rate structures in the survey.

WHEN WERE RATES LAST CHANGED?

As costs of providing service rise, so should rates. Providing water and wastewater service is costly and infrastructure intensive. Regular, predictable rate increases are common and recommended. The graph below reflects changes in residential rates over the past year for both water and wastewater services.

Percent of Rate Structures that Raised Residential Rates in the Last Year

Water N=381, Wastewater n=184

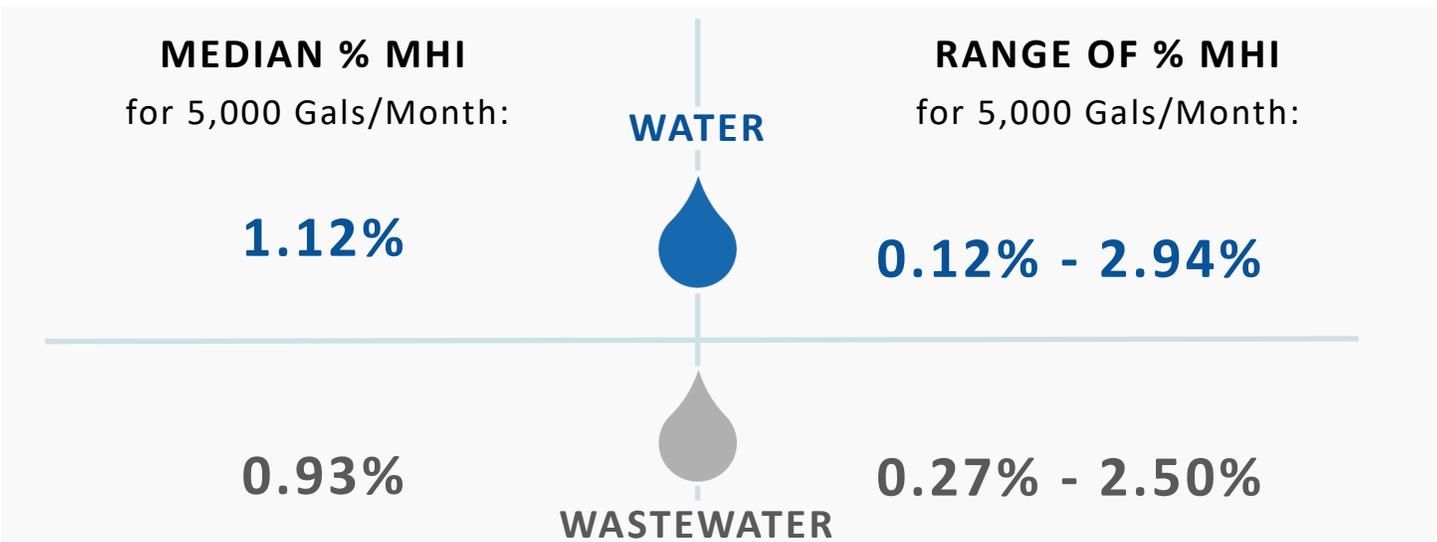


Of those rate structures with data available for both 2018 and 2019, most 2019 water and wastewater rate structures in Alabama reflected rate increases relative to 2018.

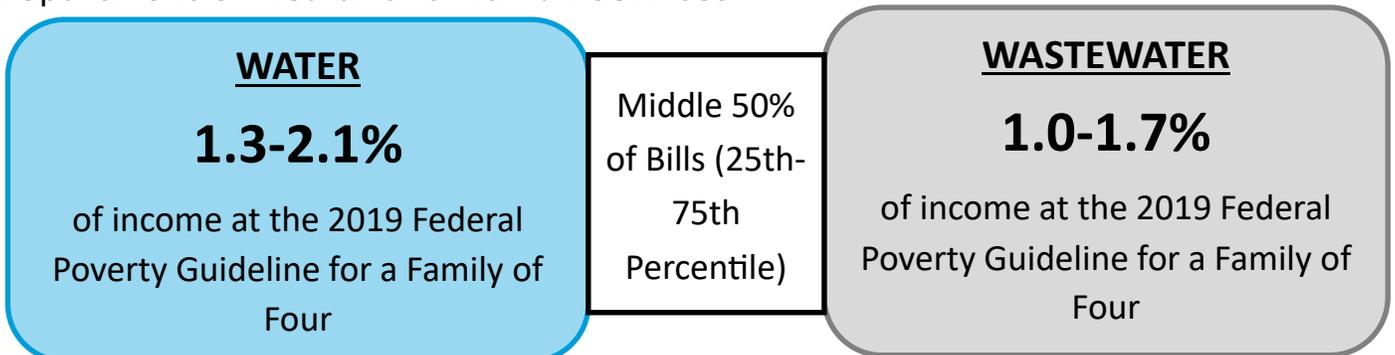


HOW AFFORDABLE ARE RESIDENTIAL BILLS?

Assessing rate affordability remains a challenge, because there is no one true, universal measure of affordability. The most commonly used indicator, **Percent Median Household Income**, or “**Percent MHI**,” calculates how a year’s worth of water and wastewater bills, in this case 5,000 gallons/month, compares to the MHI of the community served by the utility. MHI is provided by the most recent 5-year estimates of the US Census Bureau’s American Community Survey.



As all communities have a range of income brackets, it is important to keep in mind that what may seem like a small percentage of the community’s MHI can have a proportionally larger impact on lower-income populations. A growing concern for utilities is how rising rates will affect the lowest income customers. This includes households making less than or equal to the **federal poverty guideline for a family of four (\$25,750 in 2019)**, according to the US Department of Health and Human Services.



For a more in-depth look at the affordability of water and wastewater services in a community, the EFC offers the free, Excel-based [Residential Rates Affordability Assessment Tool](#), available for download online.

DO PRICES REFLECT THE TRUE COST OF SERVICE?

Utilities sometimes fall into the trap of pricing services based on what their customers have always paid, rather than focusing on the bottom line of their balance sheets. This year **165 utilities** out of the total 485 utilities (34%) provided their most recent annual financial reports to the survey. While statewide conclusions cannot be drawn from this limited dataset, there are some notable trends. First, some essential definitions:

WHAT IS OPERATING RATIO?

Operating ratio is a financial benchmark that determines if an entity is operating at a loss, gain, or just breaking even. The ratio is simply the division of operating revenues by operating expenses, which can include or exclude depreciation. A utility's operating ratio must be *at least 1.0* to break even.

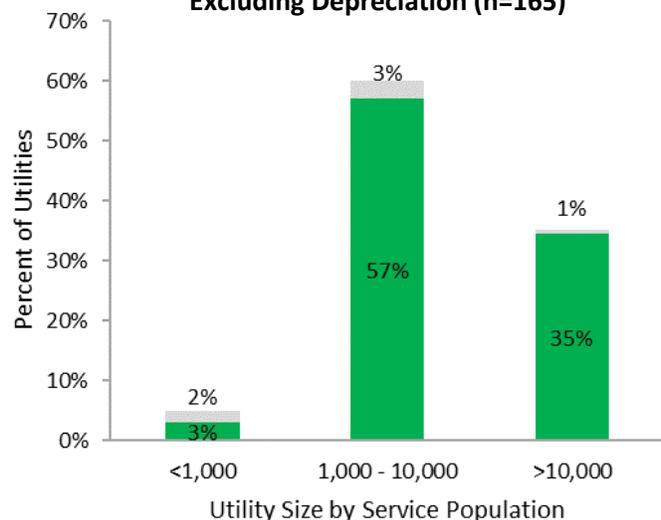
WHY INCLUDE DEPRECIATION?

Whenever possible, depreciation should be included in operating expenses to account for the inevitable cost of replacing equipment and infrastructure at the end of its expected useful life. Depreciation allows costs to be

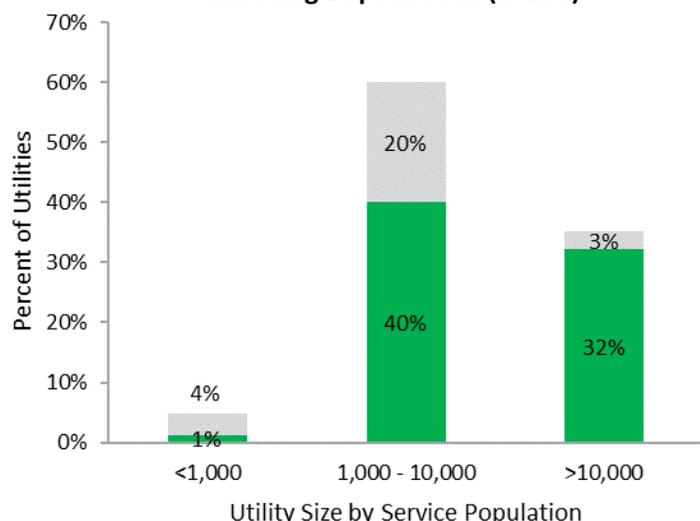
figuratively parceled out over time, avoiding a sudden, enormous expense when the time comes to replace assets. Consider the differences in the graphs below with and without depreciation factored into operating expenses.

- Operating expenses < Operating revenues
- Operating expenses > Operating revenues

Proportion of Utilities with Operating Ratio ≥ 1 , Excluding Depreciation (n=165)



Proportion of Utilities with Operating Ratio ≥ 1 , Including Depreciation (n=165)



DO PRICES REFLECT THE TRUE COST OF SERVICE?

Without accounting for depreciation, **156 out of 165** utilities with financial data (95%) generated enough revenue to recover operating costs (operating ratio of 1.0 or greater). *With* depreciation included, **121 of the 165** (73%) utilities generated enough revenue to cover operating expenses. 39 out of 44 of the utilities with an operating ratio of less than 1.0 serve fewer than 10,000 people.

All utilities face the issue of generating sufficient revenue to pay for the high fixed costs of providing safe and reliable services. However, smaller utilities must spread out those high fixed costs over a smaller customer base.

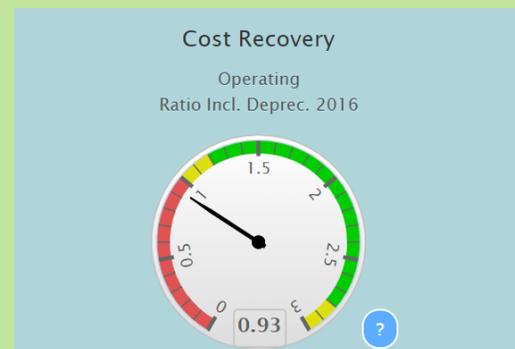
Monthly bills are not a perfect proxy for cost recovery, as costs can vary widely between utilities, but higher bills are sometimes correlated with improved financial indicators.

Of those utilities providing water and wastewater service and with available financial data, most (76) had operating ratios (including depreciation) greater than or equal to one. Of those with operating ratios (including depreciation) greater

than or equal to one, 75% charged more than \$50/month for combined water and wastewater service at 5,000 Gallons. When comparing between the two groups, a greater proportion of those with higher operating ratios also had higher combined monthly bills.

WHAT IS CONSIDERED HEALTHY?

The Cost Recovery dial on the [Rates Dashboard](#) uses red, yellow, and green bands to give users a simplified but clear idea of the health of the utility's operating ratio at a glance.

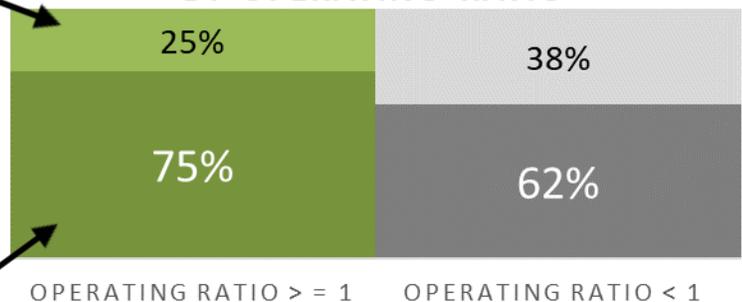


While it is clear that being “in the red” is not a good position to be in, there is no universal standard for what constitutes a healthy operating ratio beyond 1.0.

DISTRIBUTION OF MONTHLY BILLS AT 5,000 GALLONS/MONTH BY OPERATING RATIO

Low Combined Bills (<\$50)

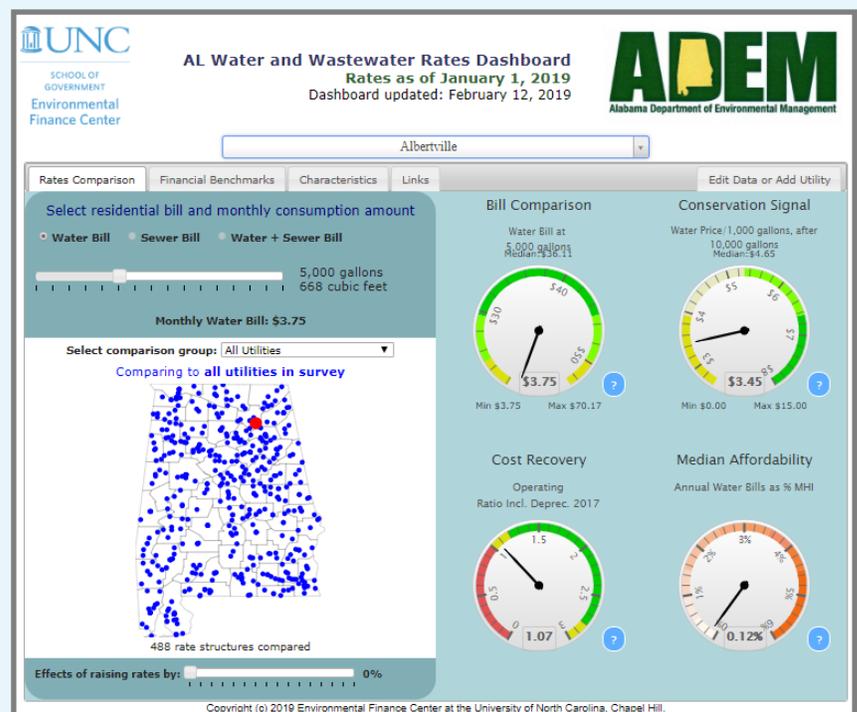
High Combined Bills (>\$50)



FURTHER RESOURCES

All of the following free resources are available at: <https://unc.live/2ShiFLU>

- ⇒ [2019 Water and Wastewater Rates Dashboard](#)
- ⇒ Recorded [webinar](#) demonstration of the Rates Dashboard
- ⇒ Downloadable [tables of rates](#) and rate structures for residential, commercial, industrial, and irrigation customer classes for water and wastewater
- ⇒ Standardized copies of [rate sheets](#) for all utilities in the survey



QUESTIONS? FEEDBACK?



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