

2021

NEW HAMPSHIRE WATER & WASTEWATER RATES REPORT



"New Hampshire Landscape" by Stanley Zimny

ABOUT THIS REPORT

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

In addition to this report, there is an accompanying set of [tables](#) of rate structures and monthly bill amounts. 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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4 Myths

About Water Pricing



1

MYTH: High Rates are Bad

FACT: Higher rates do not necessarily reflect poor or inefficient management. Some utilities may not be charging enough to properly maintain assets or have not re-examined rate structures.



2

MYTH: Comparing Rates is Simple

FACT: Rates alone do not tell the entire story. Rates should reflect the cost of providing service and can vary based on many factors. Comparing rates is really just a starting point for more analysis.



3

MYTH: Pricing is Simple

FACT: Utilities employ a variety of pricing structures and should be thoughtful in designing those structures to meet their needs, objectives, and priorities as they evolve over time.



4

MYTH: Promoting Conservation Requires Increasing Block Rate Structures

FACT: Many different types of pricing structures can be employed to encourage conservation, not just increasing block rate. Utilities should aim to focus on all aspects of pricing, not just rate structure design.



For more information on The Four Myths of Water Pricing, visit the original blog post at <http://efc.web.unc.edu/2015/02/12/myths-about-water-rate-setting/>

INTRODUCTION

Between September and December 2020 and the EFC and NHDES conducted a survey of 153 rate-charging water and wastewater utilities in New Hampshire.

A total of **138** utilities participated by providing their rate schedules, yielding a response rate of **90%** of utilities, and accounting for **89%** of all New Hampshire citizens served by community water systems. Utilities from all 10 counties in the state are represented in this survey group.

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

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 New Hampshire.

BY THE NUMBERS



57 utilities serving

WATER ONLY

75%

MUNICIPAL



17 utilities serving

WASTEWATER ONLY

13%

PRECINCT/DISTRICT



64 utilities serving

WATER AND WASTEWATER

12%

FOR-PROFIT



THE MAJORITY

of utilities are owned by
local governments

WHAT DO RATE STRUCTURES LOOK LIKE?

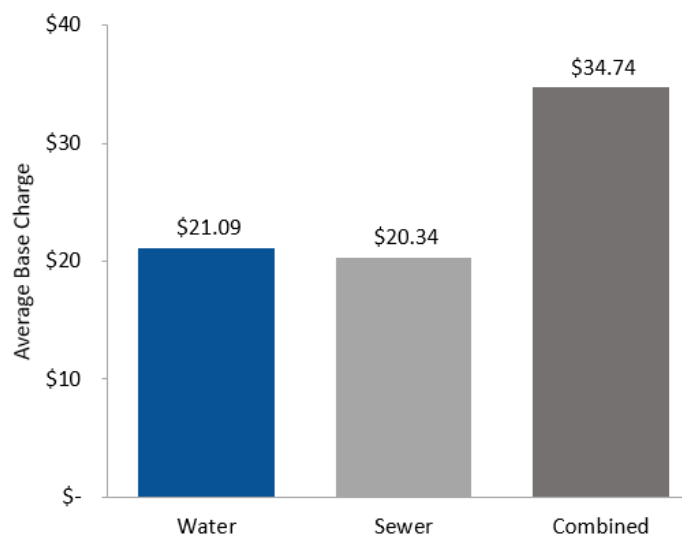
Structure Components

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 contribute to revenue stability by charging a consistent minimum to all customers. Structures that are volumetric-only can make consistent revenue difficult to predict and lead to unexpected shortfalls when customer use changes.

In New Hampshire, **94%** of water rate structures and **85%** of wastewater rate structures **include a base charge**.

Base charges do not vary from one billing period to the next, regardless of consumption. These charges can be a constant, universal amount for all customers, or vary based on customer class (i.e. residential vs. commercial) or meter size.

A **consumption allowance** is an amount of usage included in the base charge. Only 28% of water rate structures with base charges include a consumption allowance. The median consumption allowance included with a base charge is 2,000 gallons (267 cubic feet) per month.



CHARGING FOR VOLUME

Volumetric (variable) charges are based on the volume used after exceeding the consumption allowance included in the base charge. In New Hampshire, 16% of water rate structures *only* charge customers a base charge, so all customers pay a single fixed price for service, regardless of how much volume they use. On the opposite end of the rate structure spectrum, 6% of water rate structures in New Hampshire *only* charge for volumetric units used.

WHAT DO RATE STRUCTURES LOOK LIKE?

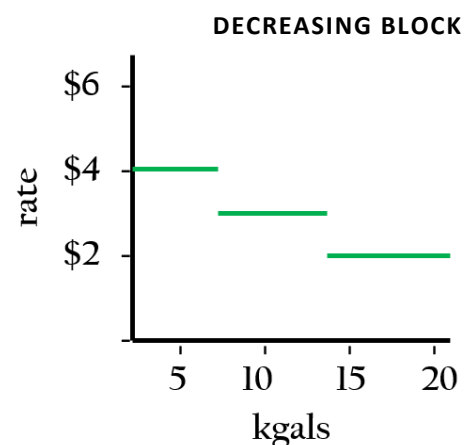
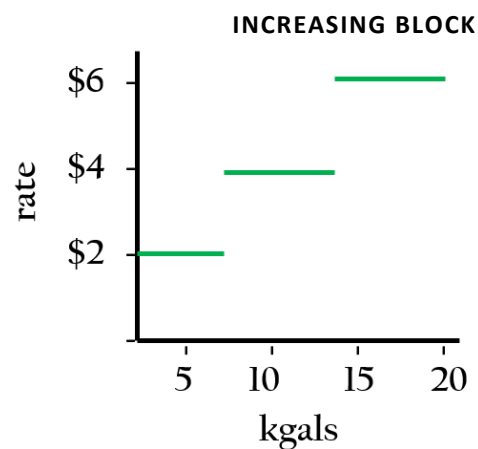
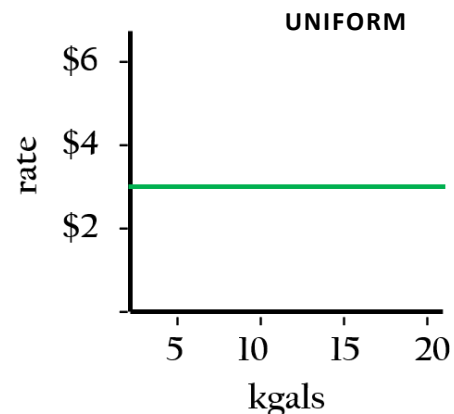
WAYS TO CHARGE FOR VOLUME

As mentioned, most rate structures are a combination of a fixed base charge plus a volumetric charge. Three common ways to charge for volume are uniform, increasing block, and decreasing block rates.

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 may be used to encourage economic development, however, NHDES discourages the use of decreasing block structures for conservation reasons.

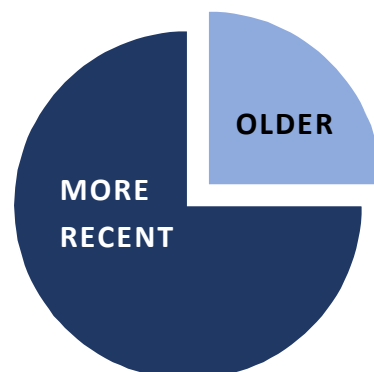


WHAT IS THE MOST COMMON VOLUMETRIC RATE STRUCTURE ?

In New Hampshire the majority of residential water (71%) and wastewater (76%) rate structures use a **uniform rate** to charge for volume. Standardized to thousands of gallons, the median uniform rate is **\$6.44 for water** and **\$8.89 for wastewater** services.

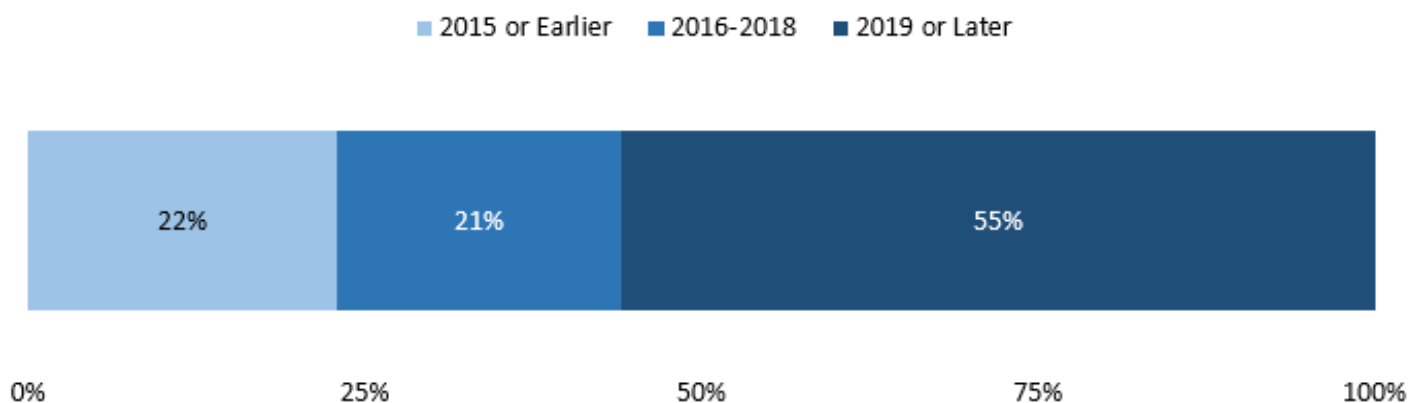
WHEN WERE RATES LAST CHANGED?

- The **MAJORITY** of utilities have updated rates since **AT LEAST 2016**.
- About **1 IN 4** utilities have not updated their rates since **2015** or earlier.



In New Hampshire **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 year that rates became effective is known for 121 out of the 142 rate structures in the survey.

WHAT ARE UTILITIES CHARGING?

New Hampshire's Average Bills

Residential (6,000 GALS)

Commercial (50,000 GALS)

WATER

\$48.12

MONTH

\$577.44

YEAR

\$311.97

MONTH

\$3,743.64

YEAR

WASTEWATER

\$59.36

MONTH

\$712.32

YEAR

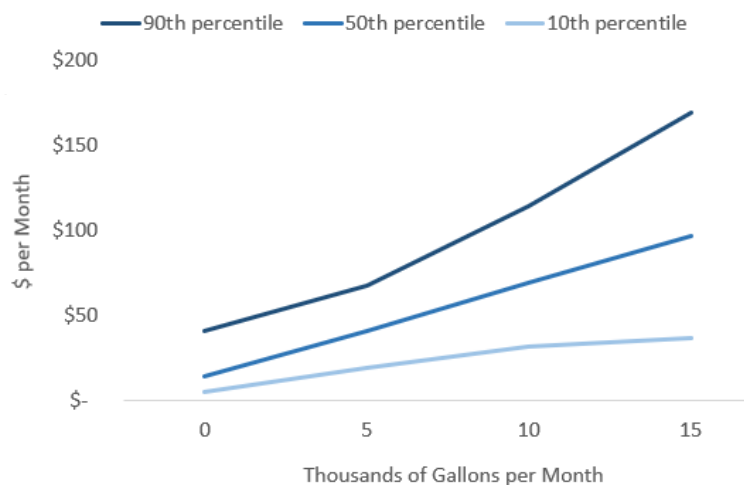
\$440.07

MONTH

\$5,280.85

YEAR

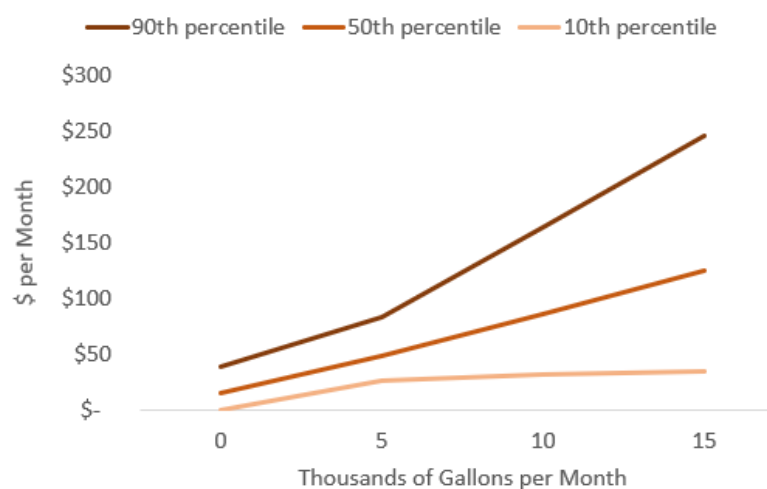
SPREAD OF MIDDLE 80% OF WATER BILLS



RANGE OF BILLS

As volume increases, the average wastewater bill tends to rise at a greater rate than the average water bill. At zero consumption, water bills are 15% higher, but wastewater bills are 26% higher than water bills at 6,000 gallons.

SPREAD OF MIDDLE 80% OF WASTEWATER BILLS



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

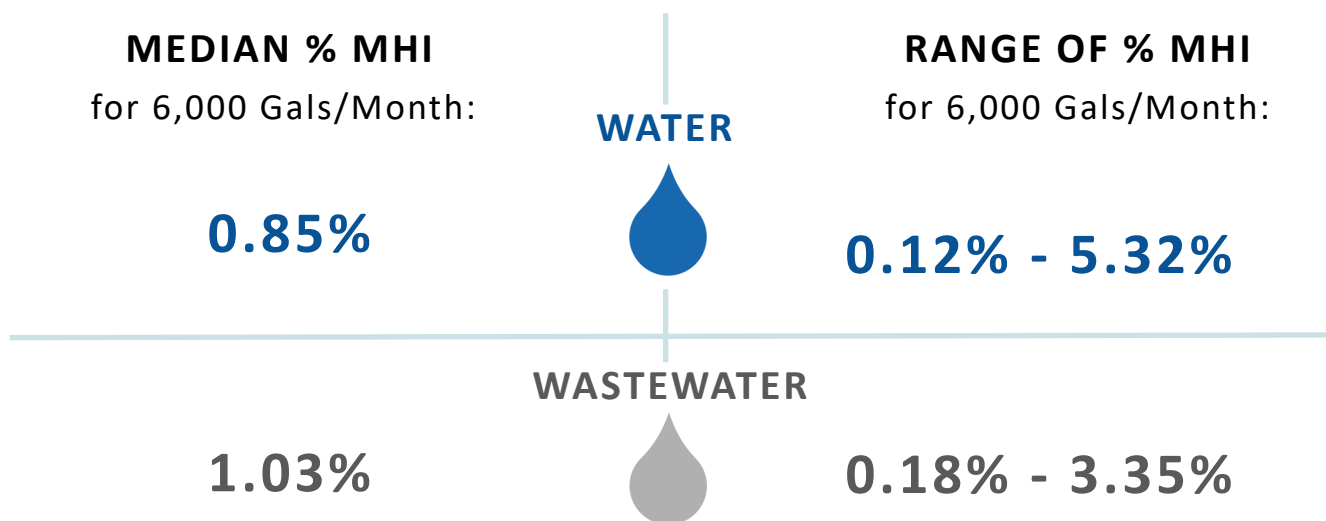
WHAT ABOUT INDUSTRIAL RATES?

In New Hampshire, *very* few utilities charge distinct industrial rates. Even commercial rates are uncommon. Of the **126 water** rate structures in the survey, **only 14** have unique commercial rates and **2** have unique industrial rates. Of the **84 wastewater** rate structures, **15** have unique commercial rates and **2** have unique industrial rates.

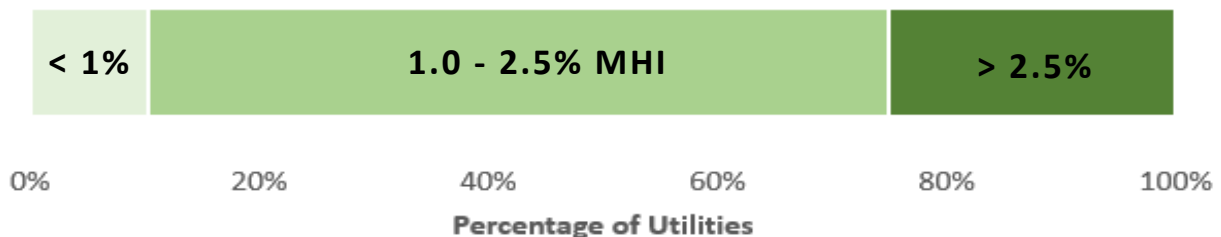


HOW AFFORDABLE ARE RESIDENTIAL BILLS?

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 6,000 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.



Based on results from the 2021 rates survey and 2014-2019 American Community Survey 5-year Estimates, the median bill as a percentage of the service area MHI for annual combined water and wastewater bills ranges from 0.30% to 4.70%, with an average of **2.1%**. However, **25%** of utilities serving both water and wastewater annually charge **over 2.5%** of their community’s MHI for



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. 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 on their website.

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 **91 municipally-owned utilities** out of the total 138 utilities (66%) provided their most recent annual financial reports to the survey. Let's start with some essential definitions:

WHAT IS OPERATING RATIO?

Operating ratio, also known as cost recovery 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.

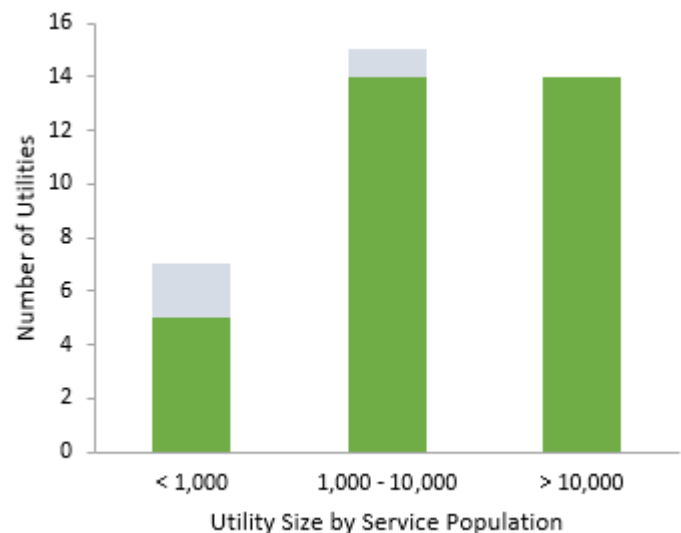
WHY INCLUDE DEPRECIATION?

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.

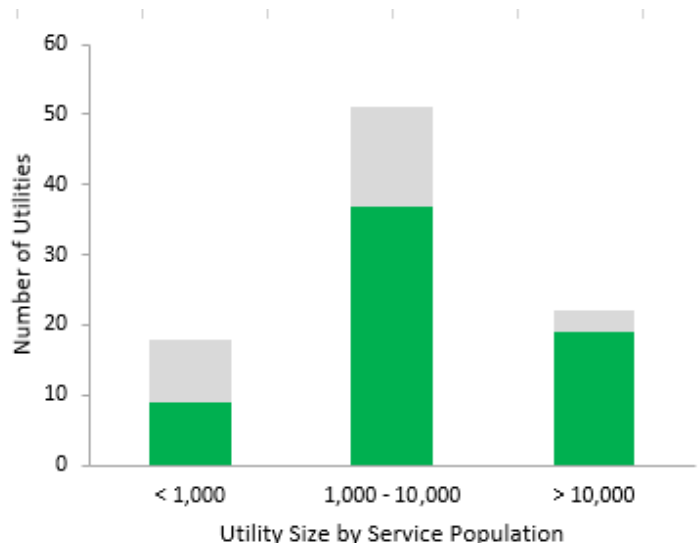
Consider the differences in the graphs below with and without depreciation factored into operating expenses.

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

Proportion of Utilities with Operating Ratio ≥ 1 ,
Excluding Depreciation (n = 91 utilities)



Proportion of Utilities with Operating Ratio ≥ 1 ,
Including Depreciation (n = 52 utilities)



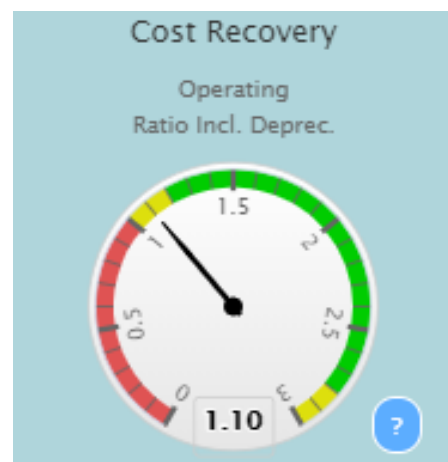
DO PRICES REFLECT THE TRUE COST OF SERVICE?

Without including depreciation, **33 out of 36** utilities for which depreciation data was available (92%) generated enough revenue to recover operating costs (operating ratio of 1.0 or greater). Depreciation data was available for only 36 of the 91 utilities for which financials were provided. By default, depreciation is included in operating expenses, so we could only remove depreciation from expenses for 36 utilities. Of the utilities that were not able to recover expenses, all three serve fewer than 10,000 people.

With depreciation included, **65 of the 91** (71%) utilities generated enough revenue to cover operating expenses. 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. 23 out of 26 of the utilities with an operating ratio of less than 1.0 serve fewer than 10,000 people.

WHAT IS CONSIDERED HEALTHY?

The Cost Recovery dial on the [Rates Dashboard](#) uses red, yellow, and green colored bands to give the viewer a simplified 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, there is no universal standard for what constitutes a healthy operating ratio beyond 1.0. Generally, as the Cost Recovery dial shows in the green band above, an operating ratio including depreciation of **at least 1.2** allows utilities to account for day-to-day operations and maintenance expenses, as well as for future capital costs.

33% of utilities that provided financial information have an operating ratio including depreciation of 1.2 or greater.

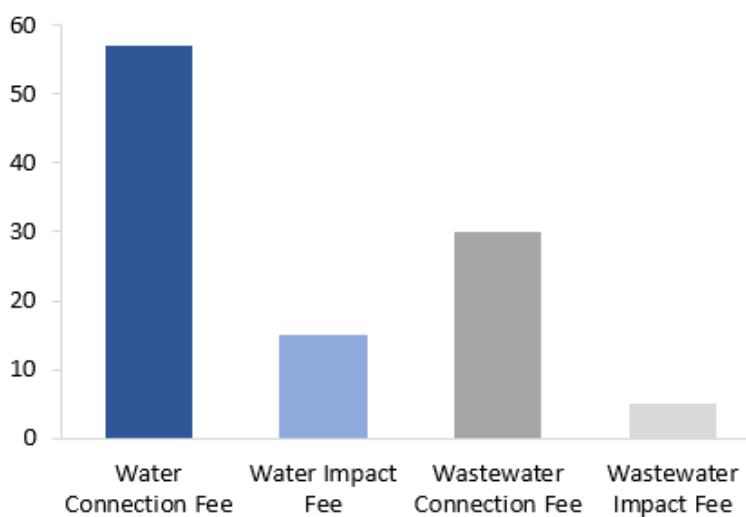
TRENDS IN FINANCIAL STABILITY

The 39 utilities for which we have data from both 2018 and 2021 have improved their financial stability. In 2018, 33% had operating ratios of at least 1.2. This has increased to 38% in 2021.

WHAT ONE-TIME FEES DO UTILITIES CHARGE?

Connection and impact fees are one-time charges to new customers. Connection fees recover all or a portion of the cost of connecting a customer to the nearest drinking water or wastewater line. Impact fees fund the development of the capacity of the system to accommodate the extra demand placed on this system by the new customer. The EFC identified that

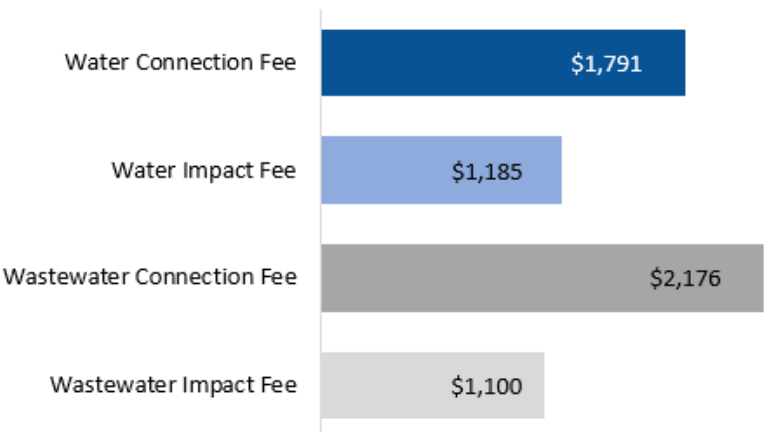
Prevalence of One-time Fees



half of utilities in this survey charge one-time fees, but connection fees are much more common. As shown at left, connection fees are used by utilities about 4x more than impact fees for water service, and 6x more for wastewater. Of the utilities serving both water and wastewater, 61% charge connection fees for both services.

Very few utilities charge impact fees alone. Impact fees could be less prevalent due to their abstract purpose, which can be harder for customers to understand, and for utilities to quantify.

Average Fee



As shown at right, the average impact fee is between 50 - 66% of the price of a connection fee for the same service type. Similarly to rates for service, wastewater fees are on average greater than those for water. This is in line with the greater costs associated with providing wastewater service compared to water service.

INSIGHTS AND RECOMMENDATIONS

With data covering the majority of all rate-charging utilities in the state, the 2021 Water and Wastewater Rates Survey can offer high level insights for current rate setting trends and practices in New Hampshire.

RATE CHANGES

22% of utilities **have not updated** their rates within the last five years. *All utilities should regularly (at least annually) review their rate structures to ensure they continue to serve their priorities and maintain utility financial stability.*

FINANCIAL STABILITY

33% of New Hampshire utilities that provided financial data were not **able to recover operating expenses including depreciation** in their most recent fiscal year. Ultimately, the ability of water and wastewater utilities to provide safe, reliable service in their communities depends on their continued financial sustainability. *All utilities should assess their financial stability annually and increase or restructure rates if their operating ratio is below 1.2.*

COMMERCIAL AND INDUSTRIAL RATES

The **lack of unique commercial and industrial rates** in New Hampshire suggests that those customer classes are not a priority, or customers are adequately served through a universal customer class. *For communities that want to encourage those types of business activities, it may be worth considering if rate structures specifically geared towards promoting commercial and/or industrial use could be a viable tool for economic development.*

ONE-TIME FEES

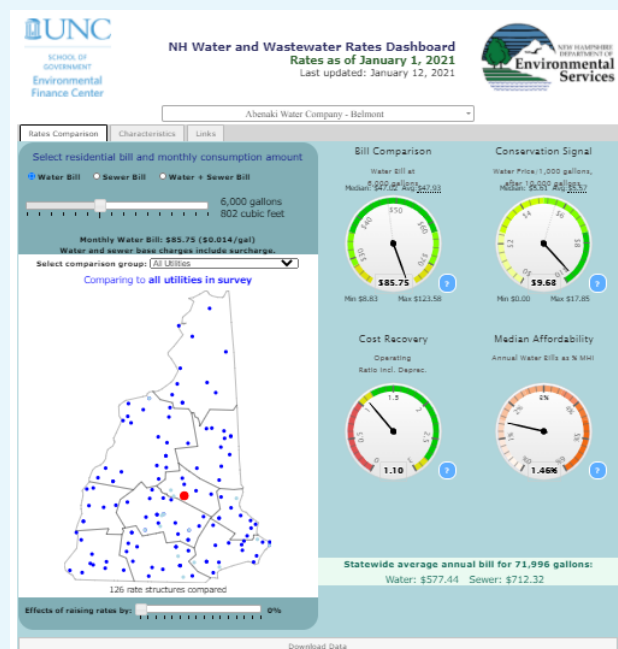
50% of utilities **do not charge one-time fees** to customers when they connect to the system for the first time. One-time fees are an opportunity to recover the costs of materials, labor, and increased capacity on the system when new users are added. *While many utilities do not have growing service populations, all utilities should understand the trend in the service population and quantify the costs of connecting a new customer to the system.*

Further Resources

All of the following free resources are available at:

⇒ <http://bit.ly/nh-2021>

- ⇒ **2021 Water and Wastewater Rates Dashboard**
- ⇒ **2018 webinar** demonstration of the Rates Dashboard
- ⇒ Downloadable **tables of rates** and rate structures for residential, commercial, and irrigation customer classes for water and wastewater
- ⇒ Downloadable **tables of connection and impact fees**
- ⇒ Tableau software tool with standardized **rate sheets** for all utilities in the survey



Questions? Feedback?



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