2018 New Hampshire Water & Wastewater Rates Report

UNC SCHOOL OF GOVERNMENT Environmental Finance Center

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

Tighe&Bond Engineers | Environmental Specialists

Portsmouth Harbor Lighthouse, Portsmouth, New Hampshire

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, with assistance from Tighe and Bond, Inc.

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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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/

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INTRODUCTION

Between August 2017 and February 2018 the EFC, NH DES, and Tighe and Bond, Inc. conducted a survey of 162 rate-charging water and wastewater utilities in New Hampshire.

A total of **140** utilities participated by providing their rate schedules, yielding a response rate of **87%** of utilities, and accounting for **84%** 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

20 utilities serving
WASTEWATER ONLY

63 utilities serving
WATER AND WASTEWATER

74%
MUNICIPALITY

13%
PRECINCT/DISTRICT

13%
FOR-PROFIT

THE MAJORITY
of utilities are owned by *local governments*

Of the **For-Profit** and **Precinct/District** utilities, about three-quarters provide ***water only***

WHAT DO RATE STRUCTURES LOOK LIKE?

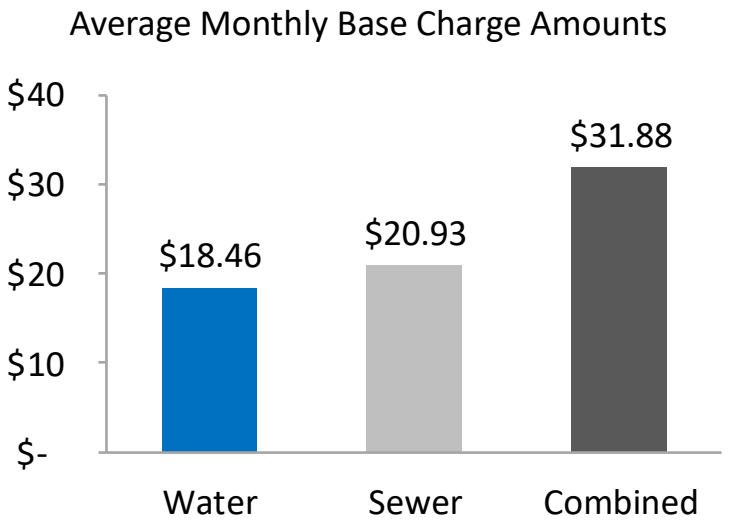
BASE CHARGES

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.

In New Hampshire **93%** of water rate structures and **89%** of wastewater rate structures **include a base charge**

Only 23% of water rate structures with base charges include a consumption allowance. Standardized to monthly billing, the average consumption allowance included with a base charge is 2,000 gallons or 267 cubic feet.



CHARGING FOR VOLUME

Volumetric (variable) charges are based on the volume used after exceeding the consumption allowance included in the base charge (if any). In New Hampshire *21%* of 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, *18%* of rate structures in New Hampshire *only* charge for volumetric units used.

Base-charge-only rate structures tend to disadvantage low-volume users and make it difficult to incentivize conservation.

Volumetric-charge-only rate structures can make consistent revenue difficult to predict and lead to unexpected shortfalls when customer use changes.

WHAT DO RATE STRUCTURES LOOK LIKE?

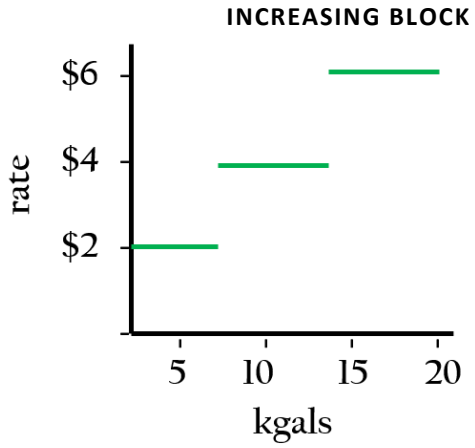
WAYS TO CHARGE FOR VOLUME

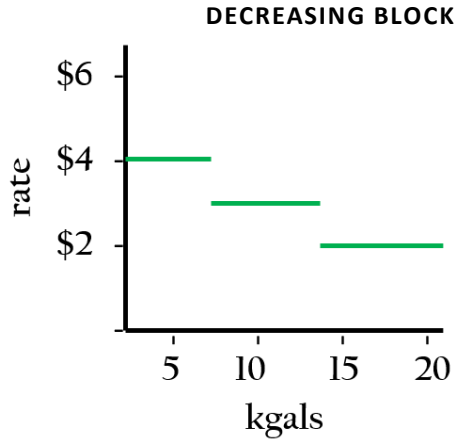
As mentioned, most rate structures are a combination of a fixed base charge plus a volumetric charge. Three common ways to charge for volume are uniform, increasing block, and decreasing block rates.

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 by high-volume users such as commercial businesses.



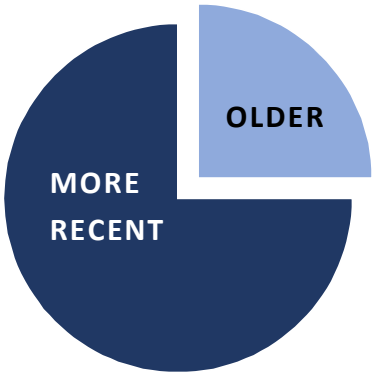


WHAT IS THE MOST COMMON VOLUMETRIC RATE STRUCTURE?

In New Hampshire the majority (76%) of residential water and wastewater rate structures use a **uniform rate** to charge for volume. Standardized to thousands of gallons, the average uniform rate is **$5.02 for water** and **$6.79 for wastewater** services.

WHEN WERE RATES LAST CHANGED?

- *The* **MAJORITY** *of utilities have updated rates since* **AT LEAST 2014**.

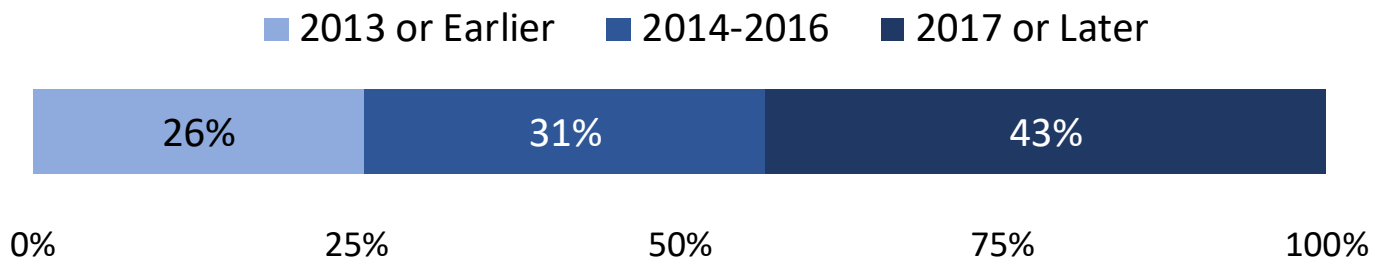


- *About* **1 IN 4** *utilities have not updated their rates since* **2013** *or earlier.*

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 calendar year when sampled rate structures were first put into effect is shown below for 113 rate structures*.



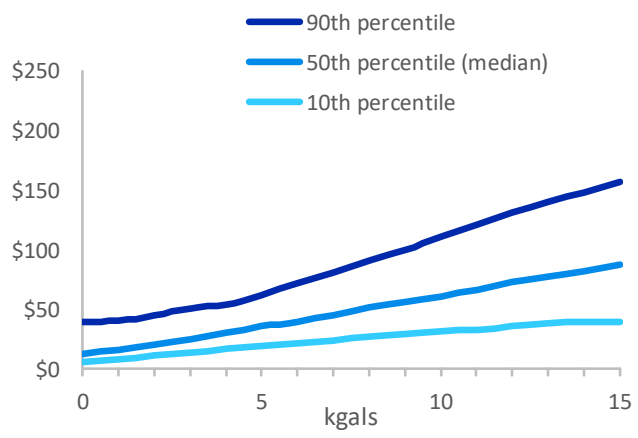
*The year that rates became effective is known for 113 out of the 146 rate structures in the survey.

WHAT ARE UTILITIES CHARGING?

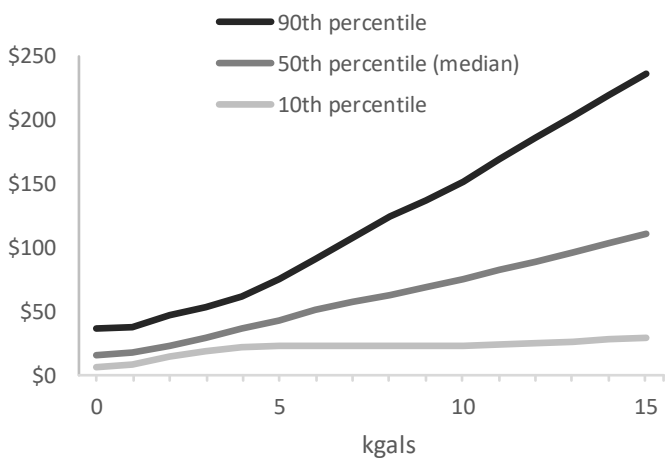
New Hampshire's Average Bills

	Residential (6,000 GALS)		Commercial (50,000 GALS)	
WATER	$46.04 MONTH	$552.48 YEAR	$309.72 MONTH	$3,716.64 YEAR
WASTEWATER	$56.54 MONTH	$678.48 YEAR	$398.16 MONTH	$4,777.92 YEAR

Spread of Middle 80% of Water Bills



Spread of Middle 80% of Wastewater Bills



RANGE OF BILLS

As volume increases, the average wastewater bill tends to rise at a *greater rate* than the average water bill. Wastewater bills are from *5% to 28% higher* than water 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, including the lowest and highest costs at different consumption levels. 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 kgals.

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 15** have unique commercial rates and **2** have unique industrial rates. Of the **85 wastewater** rate structures, **18** have unique commercial rates and **5** have unique industrial rates.

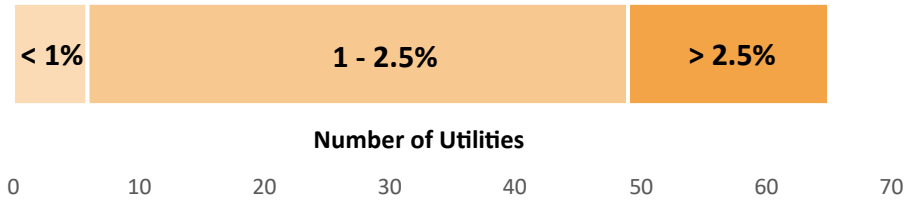
Portsmouth Harbor, Portsmouth, New Hampshire

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.

	AVERAGE % MHI for 6,000 Gals/Month:	RANGE OF % MHI for 6,000 Gals/Month:
WATER	0.89%	0.20% - 2.54%
WASTEWATER	1.13%	0.23% - 3.24%

Based on results from the 2018 rates survey and 2012-2017 American Community Survey 5-year Estimates, the average percent MHI for annual combined water and wastewater bills ranges from 0.65% to 5.43%, 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 combined services.



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?

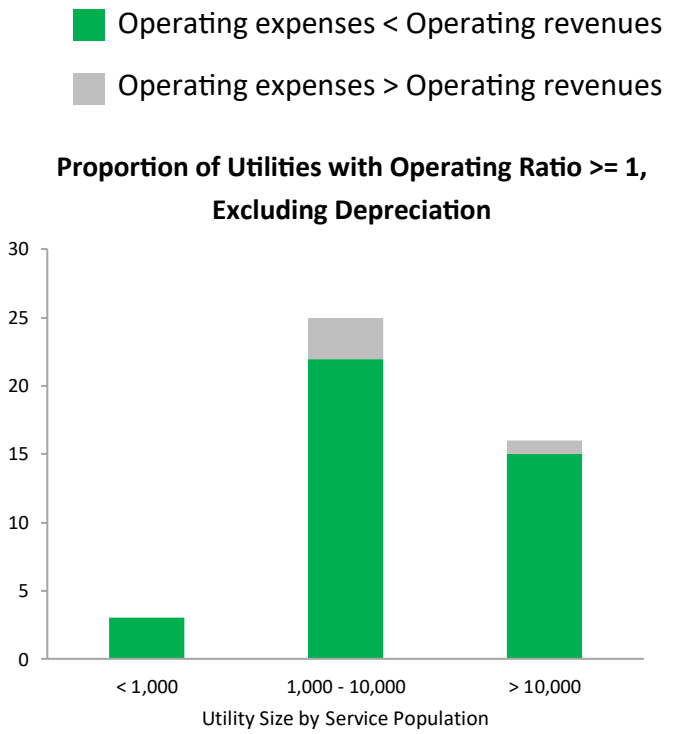
Utilities sometimes fall into the trap of pricing services based on what their customers have always paid, rather than focusing on the bottom line of their balance sheets. This year **44 municipally-owned utilities** out of the total 140 utilities (31%) provided their most recent annual financial reports to the survey. While statewide conclusions cannot be drawn from this limited dataset, there are some notable trends. First, some essential definitions:

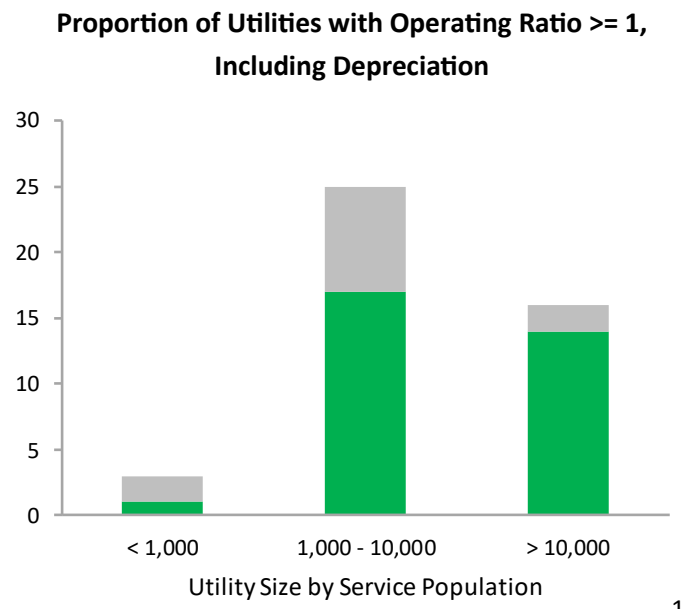
WHAT IS OPERATING RATIO?

Operating ratio, 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.





DO PRICES REFLECT THE TRUE COST OF SERVICE?

Without accounting for depreciation, **40 out of 44** utilities with financial data (91%) generated enough revenue to recover operating costs (operating ratio of 1.0 or greater). Of the utilities that were not able to recover expenses, three out of four serve fewer than 10,000 people.

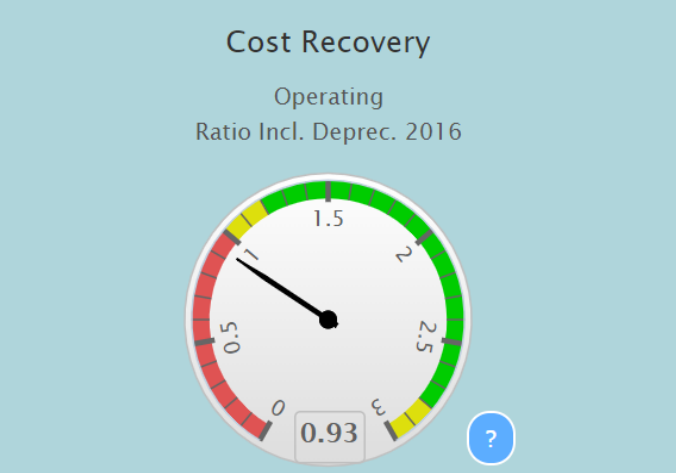
With depreciation included, **32 of the 44** (73%) utilities generated enough revenue to cover operating expenses—a 20% drop from the previous number. 10 out of 12 of the utilities with an operating ratio of less than 1.0 serve fewer than 10,000 people.

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.

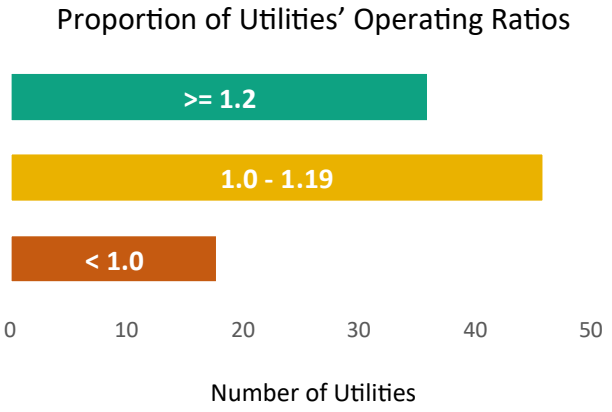
WHAT IS CONSIDERED HEALTHY?

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 to be in, there is no universal standard for what constitutes

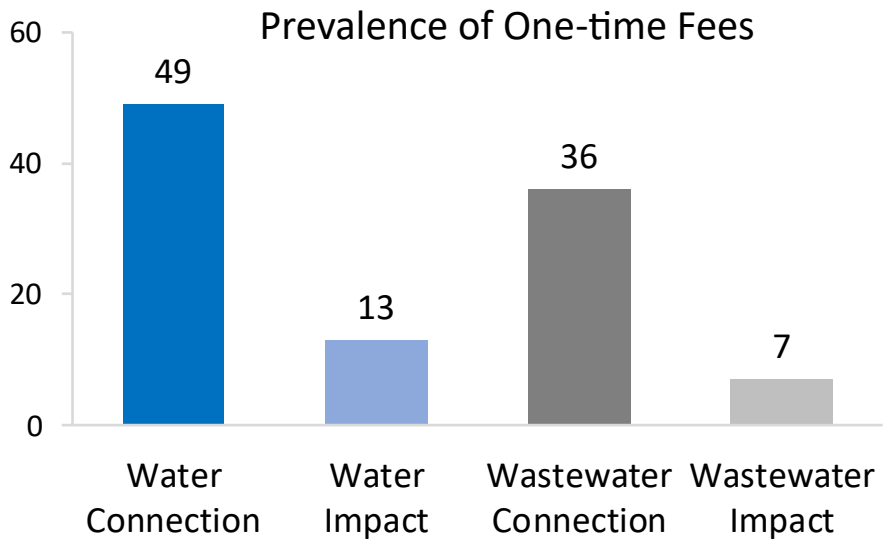


a healthy operating ratio beyond 1.0. Generally, as the Cost Recovery dial shows in the green band above, an operating ratio including depreciation of **at least 1.2** allows utilities to account for day-to-day operations and maintenance expenses, as well as for future capital costs. In New Hampshire, **36%** of utilities that provided financial information have an operating ratio of 1.2 or greater. The majority of operating ratios fell within the 1.0 - 1.19 range.



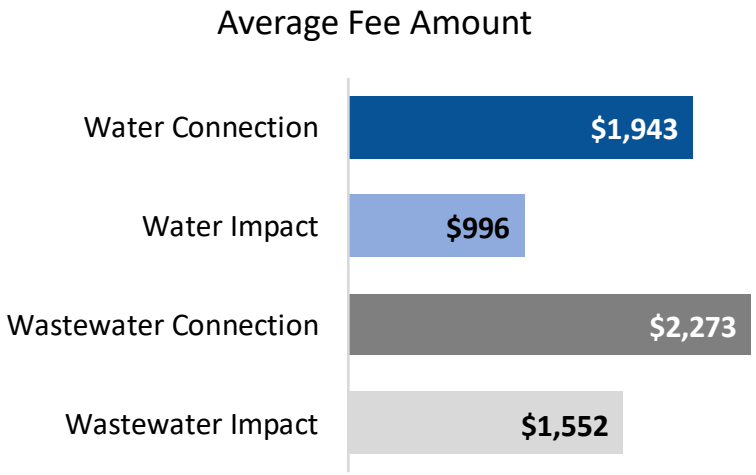
WHAT ONE-TIME FEES DO UTILITIES CHARGE?

Connection and impact fees are one-time charges associated with either connecting to an existing system or offsetting increased demands on the system. Besides charging rates for service, one-time fees are an important revenue option for utilities, particularly for operating as a self-sufficient enterprise fund.



Nearly half (44%) of utilities in this survey charge one-time fees, but there is a clear trend for connection fees over impact fees. As shown at left, connection fees are used by utilities almost 4x more than impact fees for water service, and 5x more for wastewater. Of the utilities serving both water and wastewater, 64% charge connection fees for both services. 100% of utilities providing only one service charge a connection fee for that service.

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.



As shown at right, the average impact fee is between 50 - 70% 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

With data covering the majority of all rate-charging utilities in the state, the 2018 Water and Wastewater Rates Survey can offer aggregate-level insights for current rate-setting trends and practices in New Hampshire.

Given that **39%** of rate structures do not have both a base charge *and* a volumetric rate, there is potential for New Hampshire utilities to increase revenue stability by **using both constant and variable elements** in their rate structures, as circumstances allow.

56% 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.

25% of utilities have **not updated** their rates within the last five years. All utilities should regularly review their rate structures to ensure they continue to serve their priorities and maintain pace with inflation.

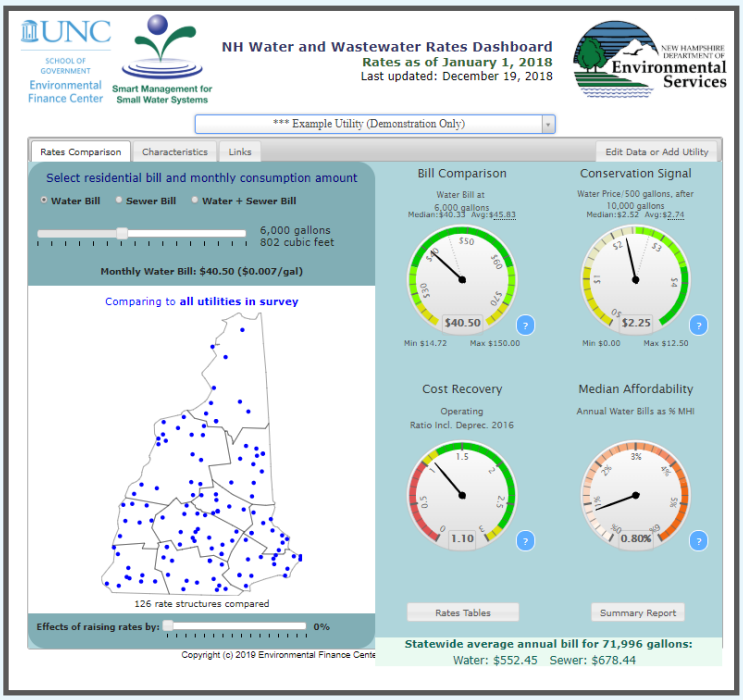
The lack of **commercial and industrial rates** in New Hampshire suggests that those customer classes are not a priority, or customers are adequately served through a universal customer class. For communities that want to encourage those types of business activities, it may be worth considering if rate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

27% 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.

Further Resources

All of the following free resources are available at: http://bit.ly/nh-2018

- ⇒ **2018 Water and Wastewater Rates Dashboard**
- ⇒ Recorded **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** for water and wastewater
- ⇒ Standardized copies of **rate sheets** for all utilities in the survey



Questions? Feedback?

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Image: Floating by Nicholas Erwin, courtesy of Creative Commons. Bath, New Hampshire.

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