



Workforce Planning

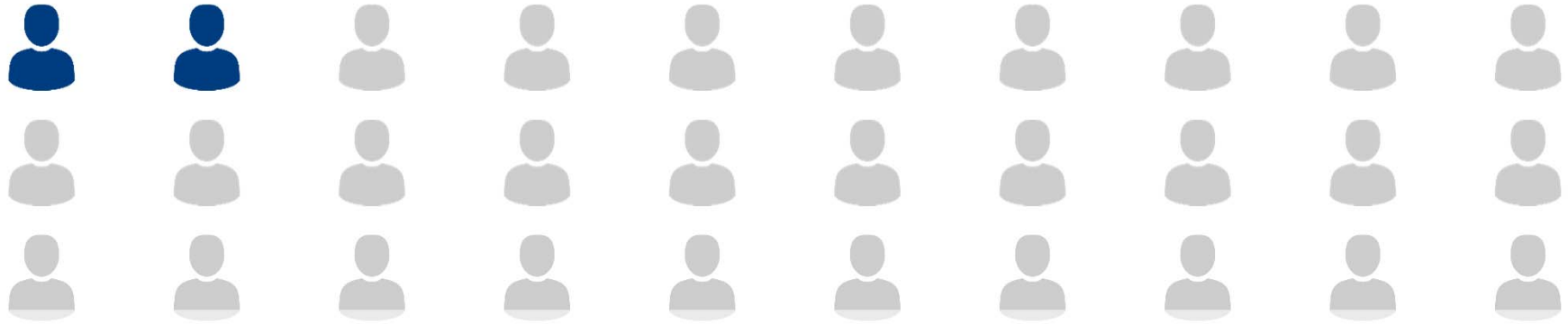
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Environmental Finance Center

The University of North Carolina at Chapel Hill

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Thompson@sog.unc.edu



There are about 1.7 million Americans employed in **water-related jobs**, out of a total workforce of about 153 million people

Source: Renewing the Water Workforce Report and Bureau of Labor Statistics data

<https://www.brookings.edu/research/water-workforce/>



Water Workforce





212

Different water-related occupations, from water operators to positions in the skilled trades like electricians and technicians to financial, administrative, and management positions



And there is no fixing your workforce with duct tape...





Who will replace your best colleagues when they leave?

Who will replace you?



Two Major Workforce Goals

- Keep your best people around as long as you can
- Bring in great new people to the organization



Some questions to start...



Did you grow up wanting to work in the water sector?

Yes, I was a very astute child.


Nope.

I didn't even know this job existed



Who Works in Water

- All of us “work in water”
- How did you get into the water business? What is your story?



Do your friends and family really understand what you do for a living?

Yes

Sort of...


Not even
a little



Can you see yourself working in the water sector for the rest of your career?

Yes

No



**Are you confident that there is someone
currently working for your organization that
could replace you?**

Yes

No



Keep Your Best Employees



What makes you want to stay in your job?

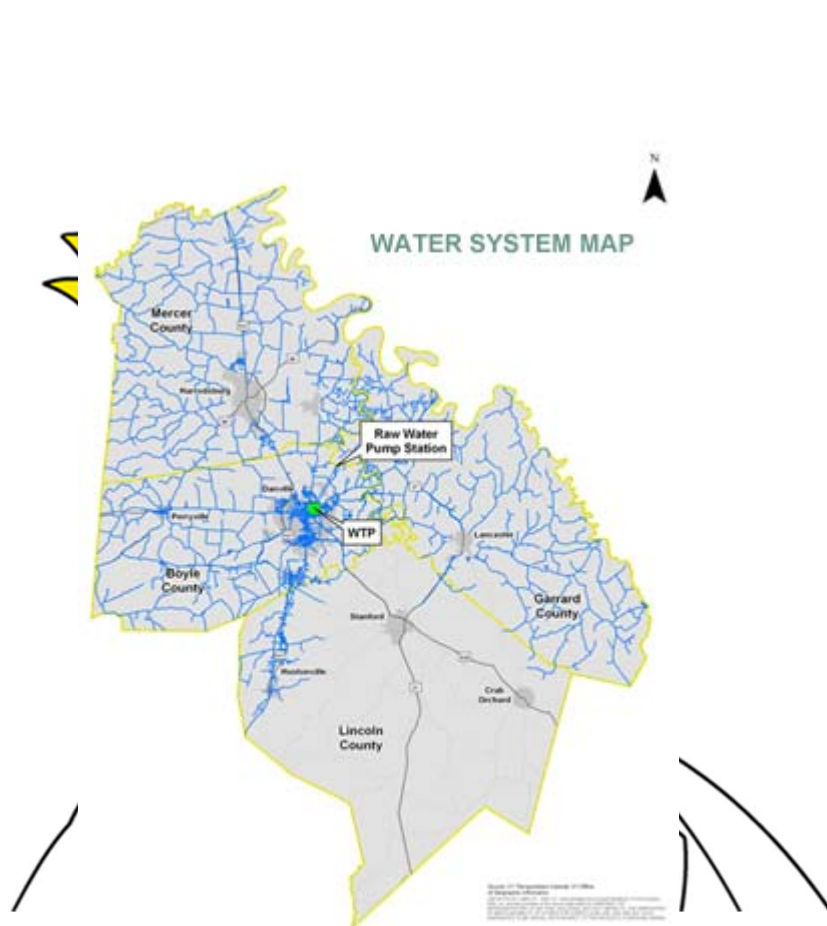


Succession Planning





Knowledge Management





Asset Management Can Help



Larry Covington · Picacho MDWCA



But no matter how good you are
at succession planning...

Your
employees
will leave,
eventually.

Guaranteed.





Are you ready for people to leave?

- Retirement

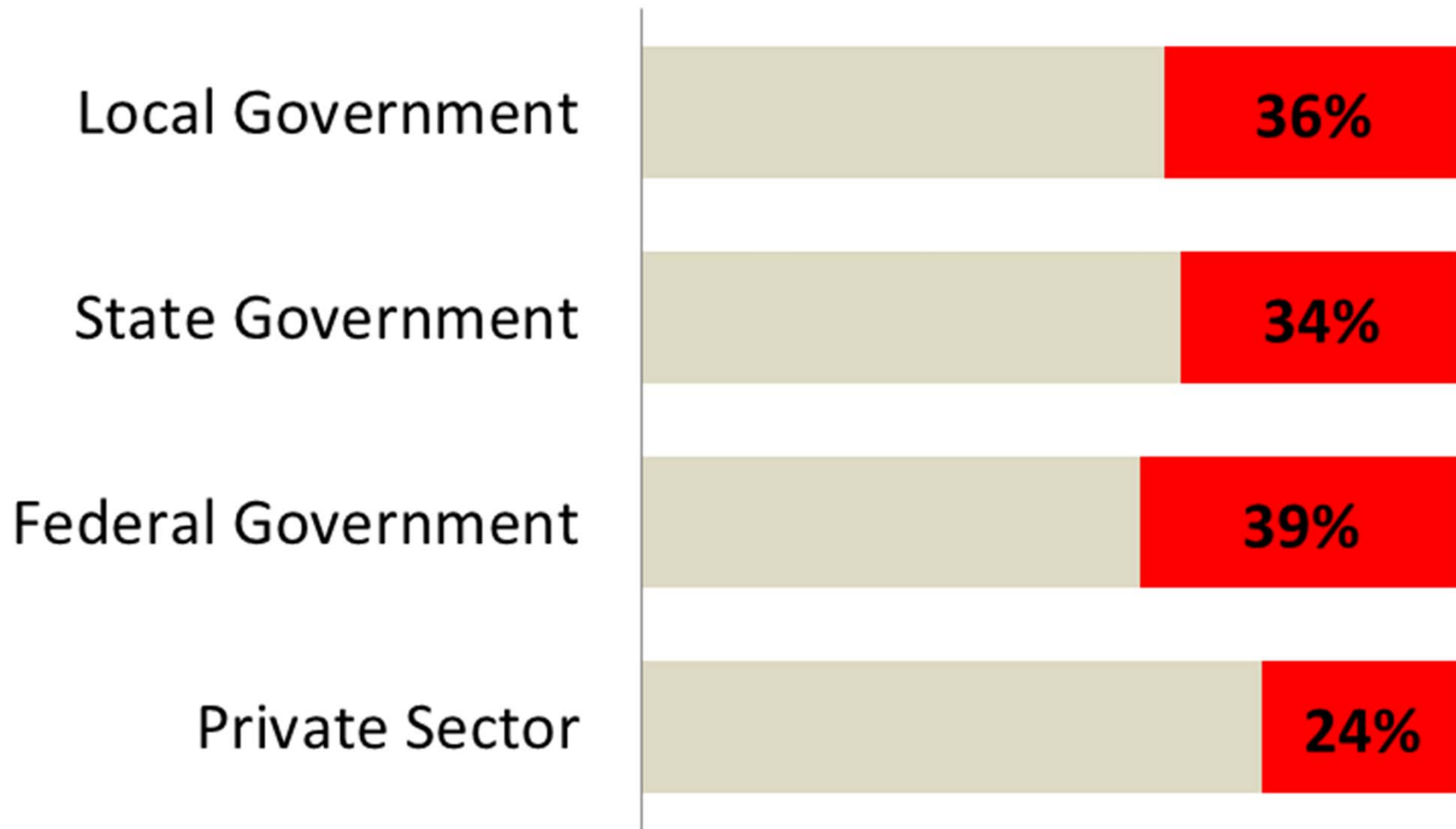
I'm quitting to pursue my dream of not working here.



som^{ee}cards
user card



Many U.S. workers are **aged 50+**





Are you ready for people to leave?

- Retirement
- Leaving for a different job
- FMLA
- Other circumstances...



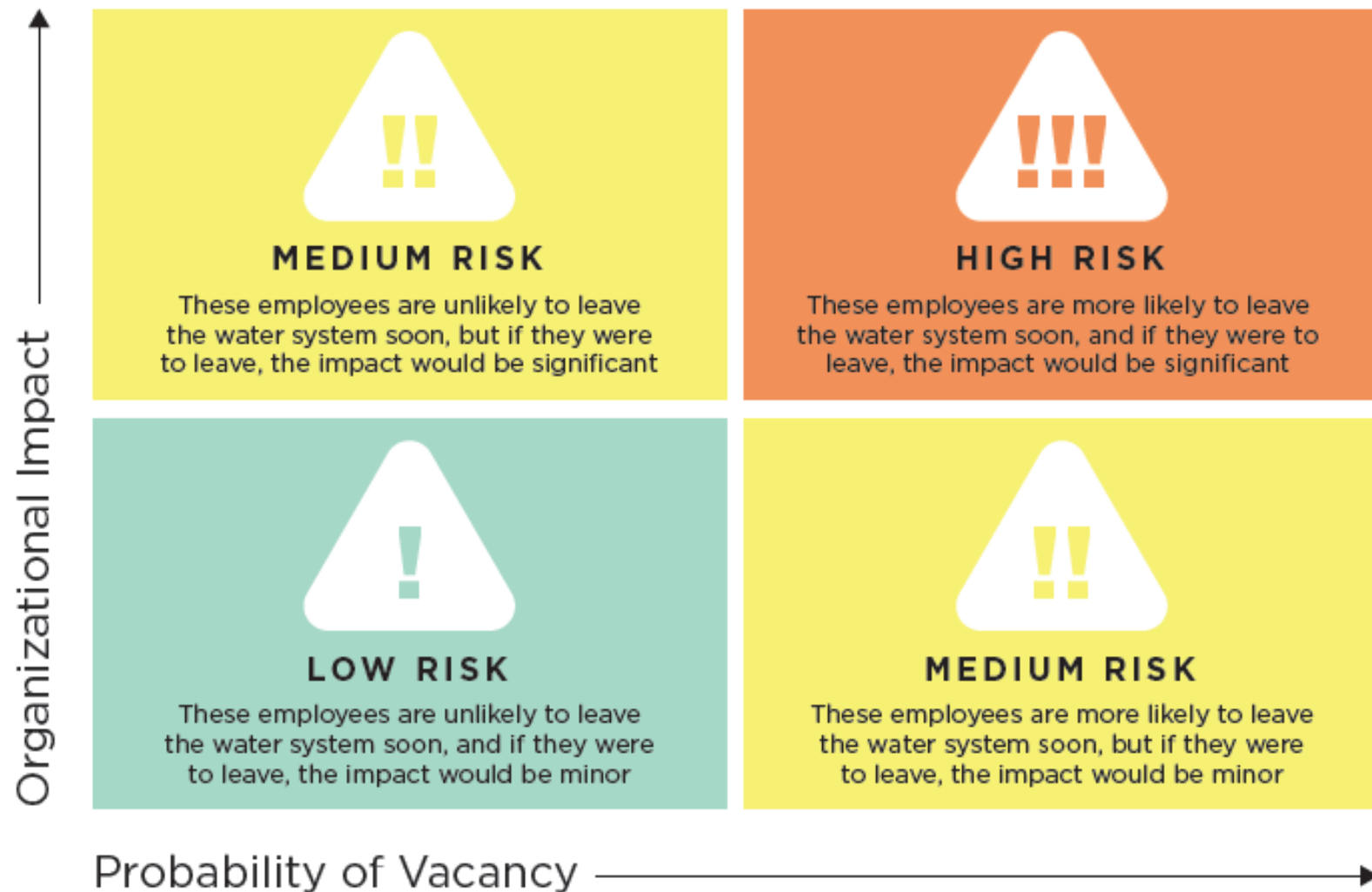


Who Works in Water

- You know who within your organization works in water
- How critical are these people to your operations? How easy will it be to replace them?



Human Capital Criticality





Hire Great New People



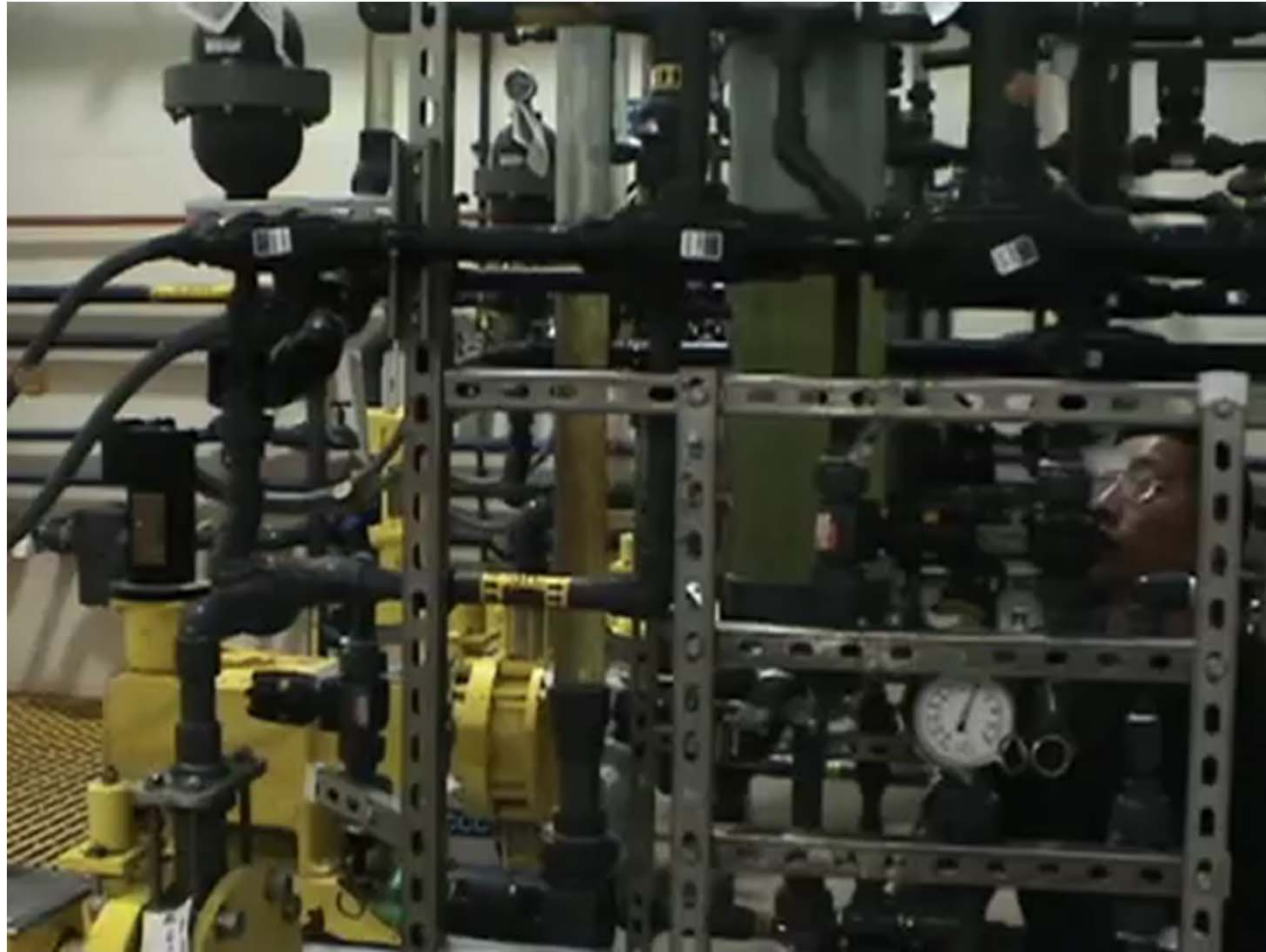
**WE ARE
HIRING**

COME CHANGE THE WORLD WITH US





Job Skills Needed



Andrew Kwan, East Bay Municipal Utility District, CA
<https://www.youtube.com/watch?v=ORZlhncbb6Y>



What knowledge, skills and abilities are needed today?

- Think across the board—not just for operators. Think about everyone who tied to your water system



Knowledge, Skills and Abilities Needed by the Employee of the Future

Technical Background

- Science, engineering, technology, and math (STEM)
- Ability to use computers and software programs as a tool



Knowledge, Skills and Abilities Needed by the Employee of the Future

Personal Characteristics

- Dedication and reliability
- Drive, ambition and initiative



Knowledge, Skills and Abilities Needed by the Employee of the Future

Soft Skills

- Critical thinking, problem solving and decision making
- Planning, organizing, directing and controlling

What is the hardest KSA to find?

Science and math
knowledge

Technology knowledge

Critical thinking/problem
solving skills

Dedication and reliability



How can we evaluate...

- Science and math knowledge
- Technology knowledge
- Critical thinking/problem solving skills
- Dedication and reliability



People are not necessarily aware of jobs in the water sector

It's up to us to explain why this is a good career choice. Here's one view...



Why a Career in Water?

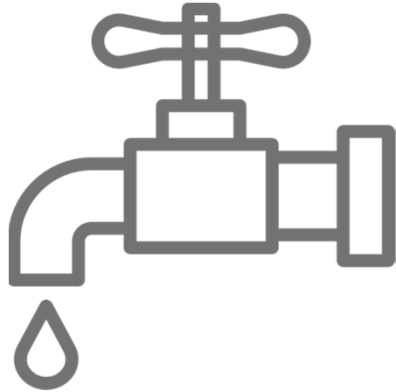


Jennifer Walsh
Senior Principal Engineer
Hazen & Sawyer

Interviewed on the Words on Water podcast:

<https://wordsonwaterwef.com/2018/02/12/words-on-water-jennifer-walsh-on-being-a-millennial-in-the-water-sector/>





Public
Service



Environmental
Stewardship



High-Tech
Nature



Career
Benefits



Public Service



Operators say the most satisfying aspect of their work is contributing to the environment and public health



Public Service

We need
water to
live



















Environmental Stewardship



Andrew Kwan, East Bay Municipal Utility District, CA
<https://www.youtube.com/watch?v=ORZlhncbb6Y>



Put the Mission in Your Job Ad

PURPOSE OF THE POSITION

(The main reason for the position, in what context and what is the overall end result)

The Water Treatment Plant Operator is responsible for of the water plant in order to ensure that residents have safe and clean water in accordance with federal, territorial and municipal legislation, policies and standards.

SCOPE

(The way that the position contributes to and impacts on the organization)

Reporting to the Public Works Foreman, the Water Treatment Plant Operator maintains the water plant. This includes maintaining the water and sewer treatment plant and facilities.

The delivery of safe and clean water is vital to the safety and health of the community. Failure to provide adequate services will jeopardize the health of the community. Failure to meet federal, territorial and municipal legislation and water quality standards will significantly jeopardize the health and well-being of residents and may result in liability for the municipality. Failure to deal with residents and the public in a courteous and respectful manner will lead to complaints concerning municipal services.

RESPONSIBILITIES

(Major responsibilities and target accomplishments expected of the position including the typical problems encountered in carrying out the responsibilities.)

1. Maintain the water treatment plant systems in order to ensure the availability of a clean

Job
Description for
a Water
Treatment
Plant Operator

Northwest
Territories –
Municipal and
Community
Affairs



High Tech Nature



Reverse Osmosis



SCADA



UV Filtration



Solar Power

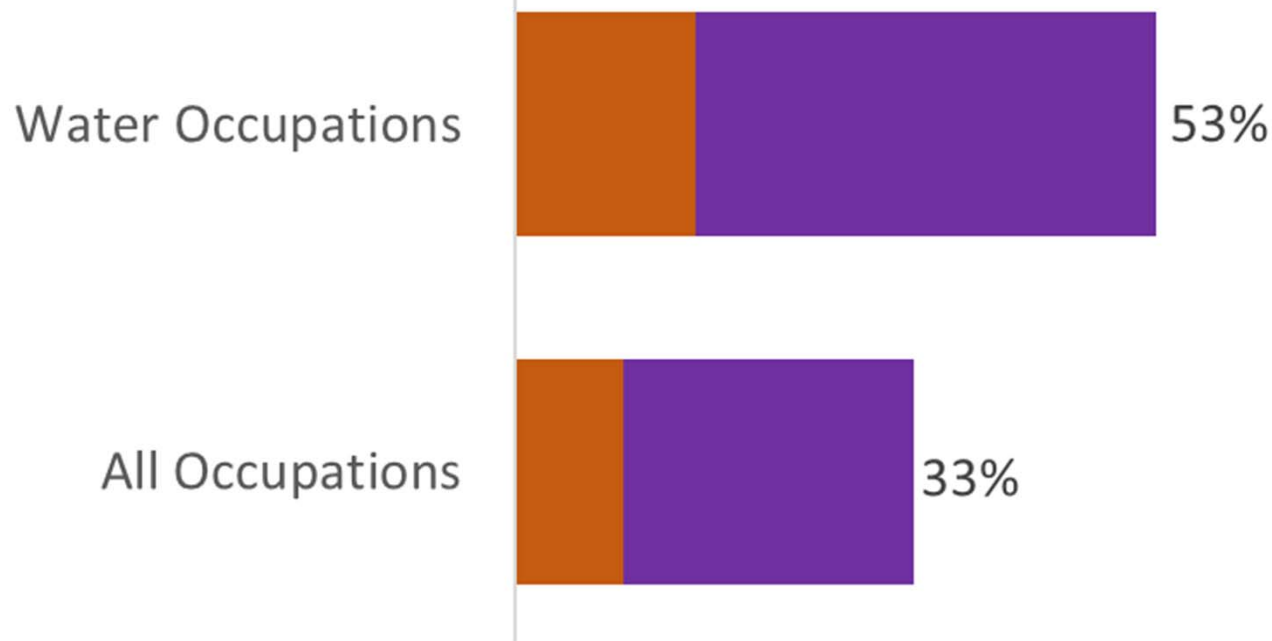


Career Benefits



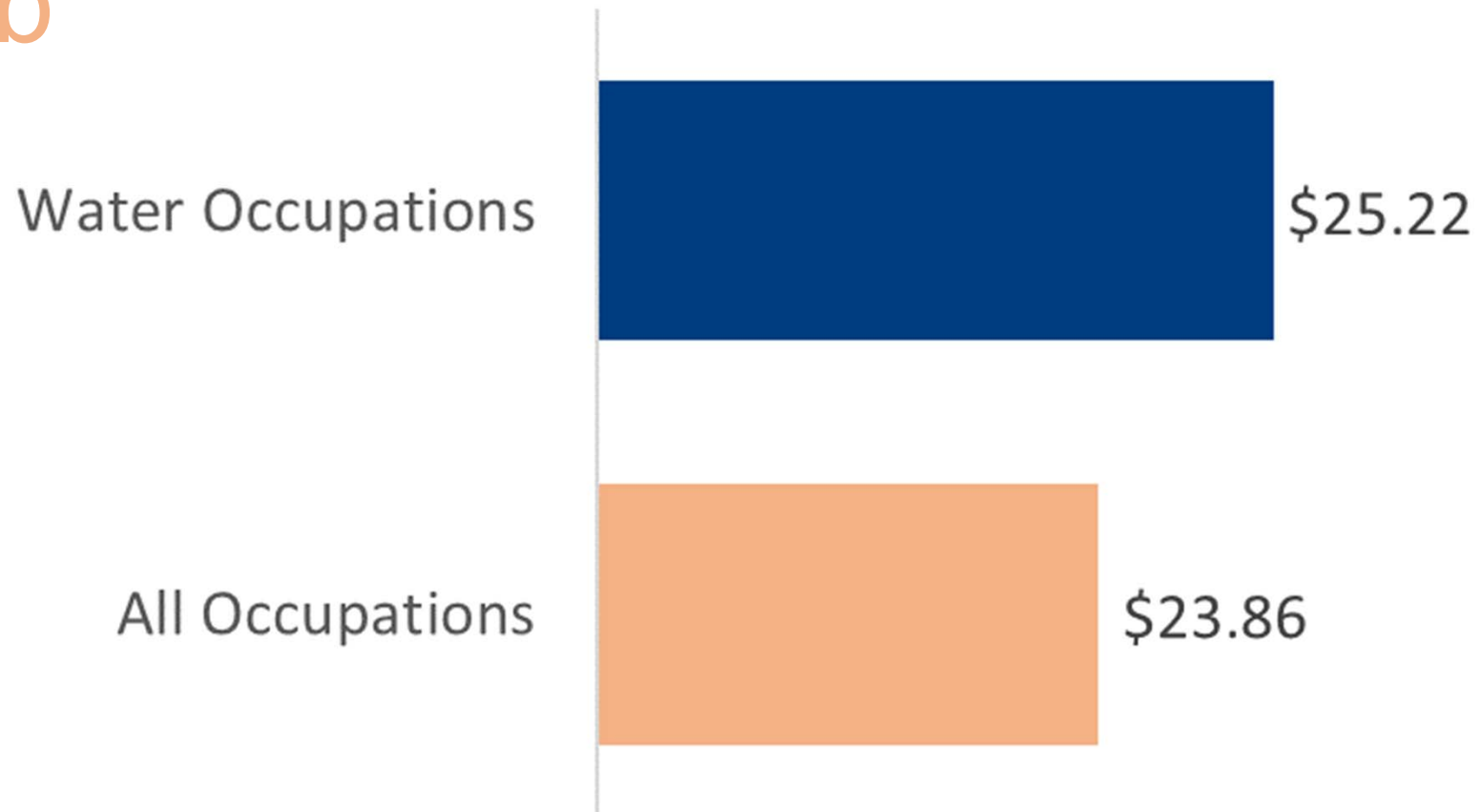


More than 50 percent of water workers have a **high school diploma** or **less**, which is higher than the national average



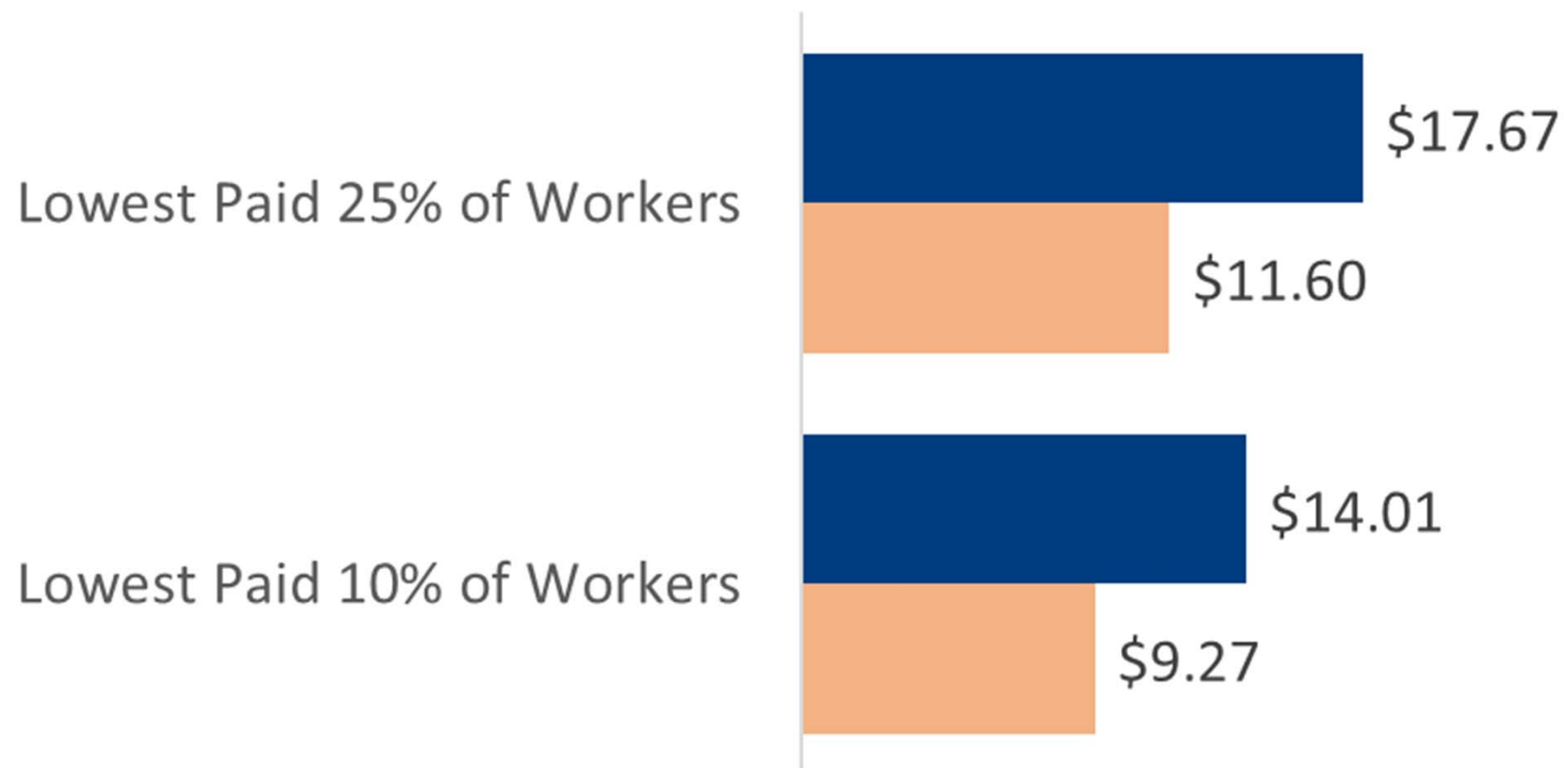


But **water jobs** pay better per hour than the **average American job**





And **water jobs** pay much better per hour than **average jobs** at the low end of the pay scale



Source: Renewing the Water Workforce Report <https://www.brookings.edu/research/water-workforce/>



How to Find Good Employees





Have a Good Job Description





Elements of Good Job Posts

- Accurate job title and summary
- Explains job responsibilities transparently
- Clearly states skills and qualifications, including physical demands
- Explains the organization

Adapted from <https://theundercoverrecruiter.com/write-effective-job-description/>



Elements of Good Job Posts

- Opening and closing date
- Specific about hours and location
- Includes salary and benefits range
- Includes contact information

Adapted from <https://theundercoverrecruiter.com/write-effective-job-description/>





What do you think of Irvindale's job description?

What would you change, if anything?

Please work with your neighbors



Elements of Good Job Posts

- Accurate job title and summary
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- Includes contact information

Adapted from <https://theundercoverrecruiter.com/write-effective-job-description/>



Find People Who Share Your Values



What types of candidates is SUEZ looking for? 

SUEZ welcomes applications from all qualified job candidates, and we embrace diversity. The personal attributes of a successful applicant include:

- A positive attitude
- Motivation and a desire to learn, improve, and succeed
- Ability and willingness to work and communicate as a team
- Dedication to complete customer satisfaction
- Ability to apply business knowledge and build our company

did this answer your question?





Start Young!

Another successful Kids 4 Clean Water summer camp

Wednesday, August 23rd, 2017

 Recommend 51

 Tweet

 G+

 Save

The children of the San Mateo Subdivision in northern Ambergris Caye participated in the annual Kids 4 Clean Water camp from Monday, August 14th to Sunday, August 20th. The annual event features a five day program that serves as a platform to educate residents of the area on the environmental and health issues associated with its water reserves. The camp aims to teach children about water safety, the water cycle, water pollution, and environmental conservation.





Give Tours

From trucks to tours to treats, our annual Open House gets bigger and better every year. And you are the reason why.

Treatment plant tours

<https://www.neorsd.org/community/open-house-always-the-number-1-event-in-the-number-2-business/>

Tours of our award-winning state-certified laboratory will be scheduled throughout the day. Guests interested in attending a tour must register for a tour upon arrival at the Open House. Please proceed to the Tours tent to register for

Bike tours

Three bike tours of the Southerly Wastewater Treatment Plant are available. Three tours for 20 visitors each are available while spaces last. Register for a 10:00 a.m., 12:00 p.m. or 2:00 p.m. tour.



Give Tours



“I end every tour with a discussion of all of the careers available in water”



Internships

OUR SCHOOLS: Hartford Public High School Summer Interns Learn an Industry and Help to Bolster Future Workforce of Hartford Water Company MDC



OUR SCHOOLS: Hartford Public High School Summer Interns Learn an Industry and Help to Bolster Future Workforce of Hartford Water Company MDC

MDC's *Learn and Earn* is a 4 week paid program that took place this year from July 11, 2016 to August 5, 2016. 9 students from



Ray Baral
Metropolitan District
Commission, CT

“The money is a bonus to students. And while a lot of their friends sleep in until noon in the summers, they were here actually learning something and getting prepared for a career after high school. They all appreciated that.”



Ray Baral
Metropolitan District
Commission, CT

“Certainly, we wanted them to be good students, but they didn’t have to be ‘A’ students. The most important thing is that they want to be here and they want to learn.”



Internships

Learning by Doing

Interns at the water and wastewater utility in Denton, Texas, gain valuable skills while helping staff members perform essential tasks.

✍ By Linda J. Edmondson

🕒 March 2014

🏆 Winning Them Over



Intern Benjamin Cruz deploys monitoring equipment at the plant raw water intake in Lewisville Lake. Interns are trained to program, deploy and retrieve monitoring devices and analyze and interpret the data at monitoring stations around the city. This intern went on to become a public health officer in the U.S. Air Force.



Post High School Training



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:: City of Riverside T3 Program – Technical Trades Training

Invalid version of Flash found. Please upgrade

So you're a senior in High School – What's Next?

What's next... is your future! And it is never too soon to start thinking seriously about what type of work you want to do in your life, and how you can obtain it.

Opportunities surround you – just like our T3 Program. T3 is a vocational program waiting to be taken advantage of by just the right student. It provides high school students a chance to continue their education, learn a skill, and make a good living.



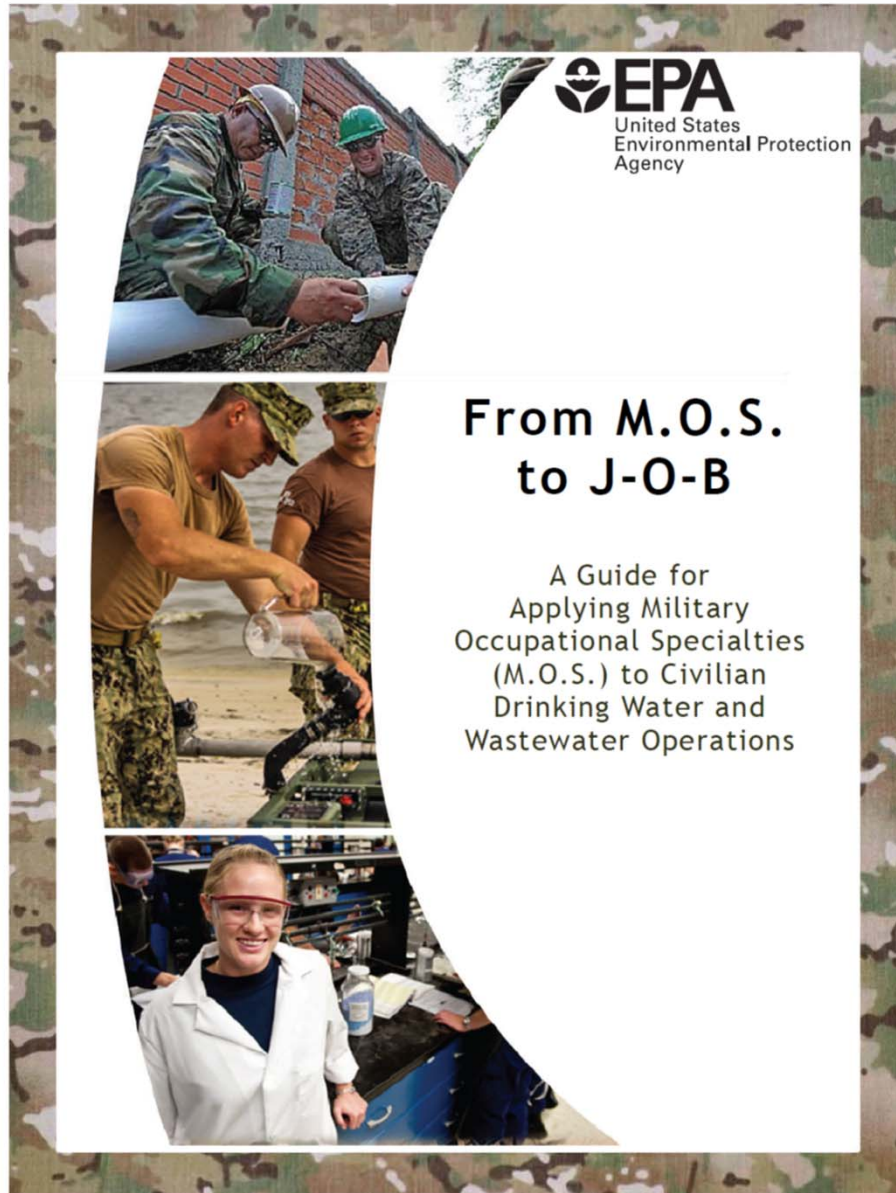
Program Details

Up to two graduating students from Norte Vista School and up to two students from Ramona High School in Riverside may be selected to participate in the two-year T3 training program.



Veterans of Uniformed Services





EPA guide for applying Military Occupational Specialties (M.O.S.) to civilian drinking water and wastewater operations

https://www.epa.gov/sites/production/files/2015-11/documents/from_mos_to_job.pdf

Employee Referral Program

DRIVETIME CENTER PARTNERS

REFERRALS

THEY REALLY PAY OFF



\$150 THAT'S RIGHT, YOU CAN MAKE UP TO \$150 FOR EVERY PERSON YOU REFER

BONUS DETAILS
Applicants must put your FULL NAME on their application when they apply.
Your reward will be paid in full when your referred person is hired and starts work.

Who do you know?

- ▶ You know great people.
- ▶ We're looking for great people.
- ▶ You refer them to us.
- ▶ We hire them.
- ▶ You earn cash or extra PTO for every referral hired and gift opportunities for every referral interviewed!

*** 1 = \$750**
*** 2 = \$1,500**
*** 3 = \$2,250**

Get the idea?
Now there's...

Even More to Think about

Get more details about the program at:

Don't see how referring works?



www.drivetime-erp.com

Drivetime is an equal opportunity employer.



Employee Referral Program



Money



Extra Days Off



Recognition



Event Tickets



Food & Drink



Departmental
Competition



Employee Referral Program



Do you offer an employee referral program?



Yes, employees may refer candidates for eligible positions and receive compensation if the hire is successful.

did this answer your question?





SCENE

[SPRINGFIELD CITY
EMPLOYEE NEWS EXTRA]

December 2017



Downtown Springfield Christmas Parade:

**Saturday Dec. 9, 2-4 p.m.
downtown Springfield.**

The Downtown Springfield Association invites the community to celebrate seasonal storytelling at the 2017 Christmas Parade.

Come be part of the tradition this year as parade participants show off their floats, bands march their way around downtown and holiday cheer is spread for all, with an appearance by Santa.

The route starts on South Avenue and Elm Street and

Human Resources launches Employee Referral Program

This program is designed to reward current employees for successful referrals, while reducing the cost of recruiting and bringing the City the most qualified applicants.

"Human Resources is excited to launch this new program. Employee referrals have a proven track record of success in providing a cost-effective way to secure top talent for hard to fill positions. Given both the competition for talent and the quality of the City's workforce, the new referral program is a great strategy for the City and our employees," said Director of Human Resources Darla Morrison.

Currently, the referral program is limited to specific, hard-to-fill positions. Employees can access the full policy, including a listing of eligible positions, as well as submit your referral application on CityShare under the Human Resources Services tab. The referral will remain on file and will be considered active for two years after the referral application has been submitted. However, the referral will only be active for the job posting for which the referral was originally submitted. The applicant you are referring must apply for the position prior to the application deadline and must submit your name in the 'Referred By' question on their application.



► See **EMPLOYEE REFERRAL PROGRAM** on page 2




<http://www.workforwater.org/>





About Us Jobs Utilities Publications and Resources

[Resources for Water Professionals](#) [High School/Votech](#) [College](#) [Military Second Career](#) [Advanced Science](#)

Welcome to **Work for Water!** It's the place where students and job seekers can explore green careers, and utilities will find a clearinghouse of resources for recruiting in the wonderful world of water. Developed by the **American Water Works Association** and **Water Environment Federation**, the world's leading technical experts on drinking water and water quality, this site is packed with resources to find jobs or prepare for rewarding careers in protecting public health and the environment. Learn about what it takes to work for water and get a great job for a great cause!

High School/Votech

College

Military Second Career



EPA
A SELECTION OF
TRAINING PROGRAMS
FOR WATER AND WASTEWATER OPERATORS

SORT BY SPONSOR OR MAJOR CONTRIBUTOR

DEPARTMENT OF LABOR/
WORKFORCE INVESTMENT AGENCY

UTILITY

STATE OR PROVINCE

UNIVERSITY/COMMUNITY COLLEGE

HIGH SCHOOL

UTILITY ASSOCIATIONS AND
OTHER ORGANIZATIONS

SORT BY PROGRAM ELEMENTS

INTERNSHIP

APPRENTICESHIP

MENTORING

FOR NEW OPERATORS

FOR EXPERIENCED OPERATORS

FOR MAINTENANCE/OTHER WORKERS

OVERVIEW

This is a compilation of fact sheets describing training programs, internships and mentoring programs that help new operators enter the water and wastewater industries, as well as enhance the skills and knowledge of experienced operators.

The fact sheets are intended to promote the sharing of unique ideas and best practices for industry professionals seeking to establish similar training programs. The fact sheets represent the experiences of states, utilities, educational institutions and other organizations that sponsored and developed these programs.


Program sponsors found these programs to have many benefits, including:

- ✓ Creation of highly-qualified and highly-trained technical and professional staff;
- ✓ Development of leadership and supervisory skills in new and current staff;
- ✓ Effective way to build a pool of new recruits;
- ✓ Promotion of succession planning and knowledge transfer;
- ✓ Exposing new audiences to water sector careers.

EPA would like to acknowledge the members of the Workforce / Operator Certification Workgroup for their efforts in developing these fact sheets.

EPA compilation of fact sheets describing training programs, internships and mentoring programs

<https://www.epa.gov/sustainable-water-infrastructure/selection-training-programs-water-and-wastewater-operators>



115TH CONGRESS
2D SESSION

S. 2346

To establish an innovative water infrastructure workforce development program, and for other purposes.

IN THE SENATE OF THE UNITED STATES

JANUARY 25, 2018

Mr. BOOKER (for himself and Mrs. CAPITO) introduced the following bill; which was read twice and referred to the Committee on Environment and Public Works

A BILL

To establish an innovative water infrastructure workforce development program, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. WATER INFRASTRUCTURE AND WORKFORCE INVESTMENT.

(a) FINDINGS.—Congress finds that—

(1) utilities and local governments invest significant resources in planning, designing, constructing, operating, and maintaining water, wastewater, and stormwater systems—

(A) to ensure a safe and reliable water supply for customers; and

(B) to maintain public health, safety, and quality;

(2) during the 10-year period beginning on the date of enactment of this Act, 30 of the largest water and wastewater utilities in the United States will—

(A) invest \$233,000,000,000 in operating and capital spending; and



Building a Stronger America: President Donald J. Trump's American Infrastructure Initiative

— INFRASTRUCTURE & INVEST IN OUR COUNTRY'S MOST IMPORTANT ASSET – ITS PEOPLE: The President is proposing reforms so Americans secure good-paying jobs and meet the needs of our industries.

- The President's plan would reform Federal education and workforce development programs to better prepare Americans to perform the in-demand jobs of today and the future. This includes:
 - Making high-quality, short-term programs that provide students with a certification or credential in an in-demand field eligible for Pell Grants.
 - Reforming the Perkins Career and Technical Education Program to ensure more students have access to high-quality technical education to develop the skills required in today's economy.
 - Better targeting Federal Work-Study funds to help more students obtain

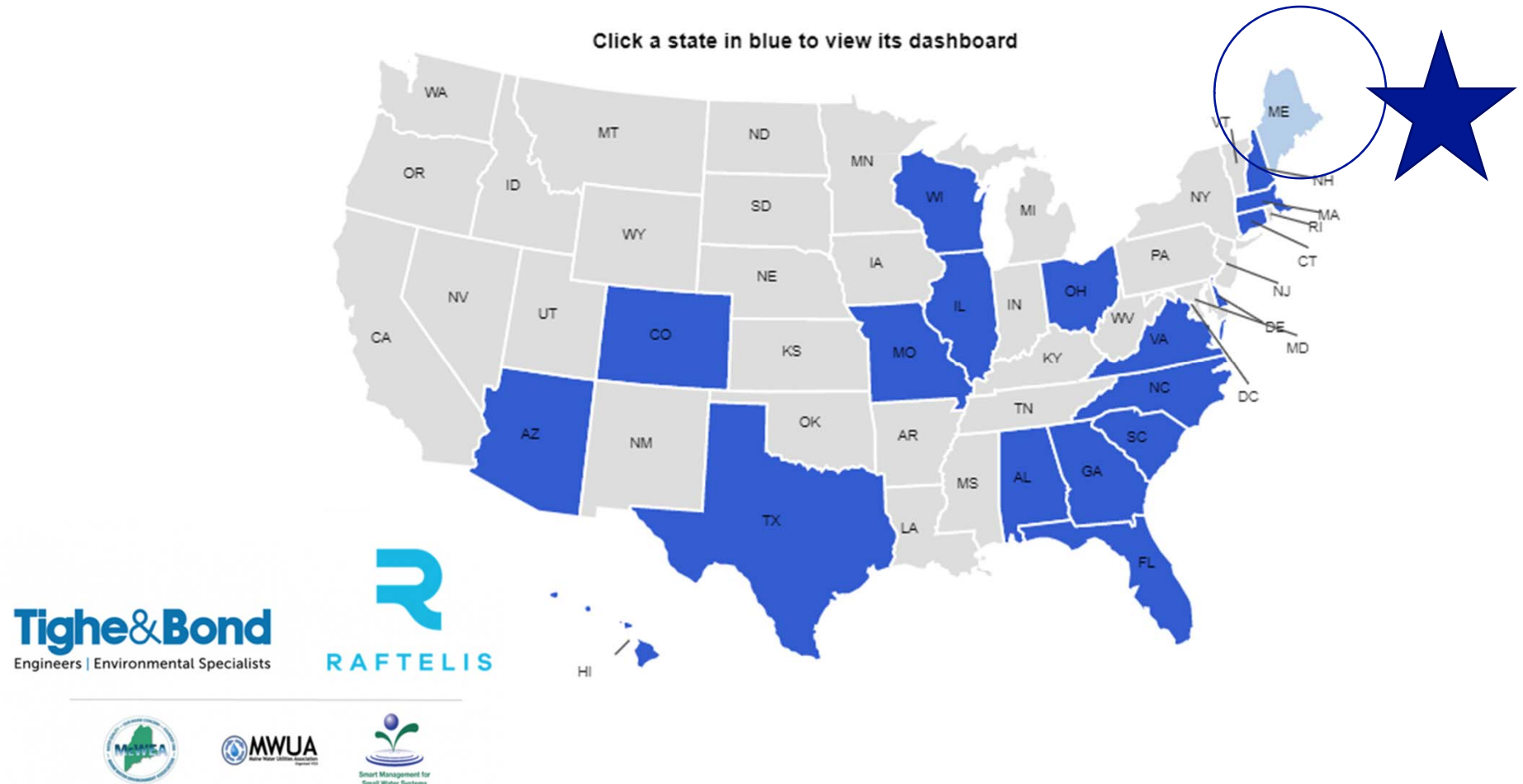


Quick Break!

One last item to cover...but it should be fun!

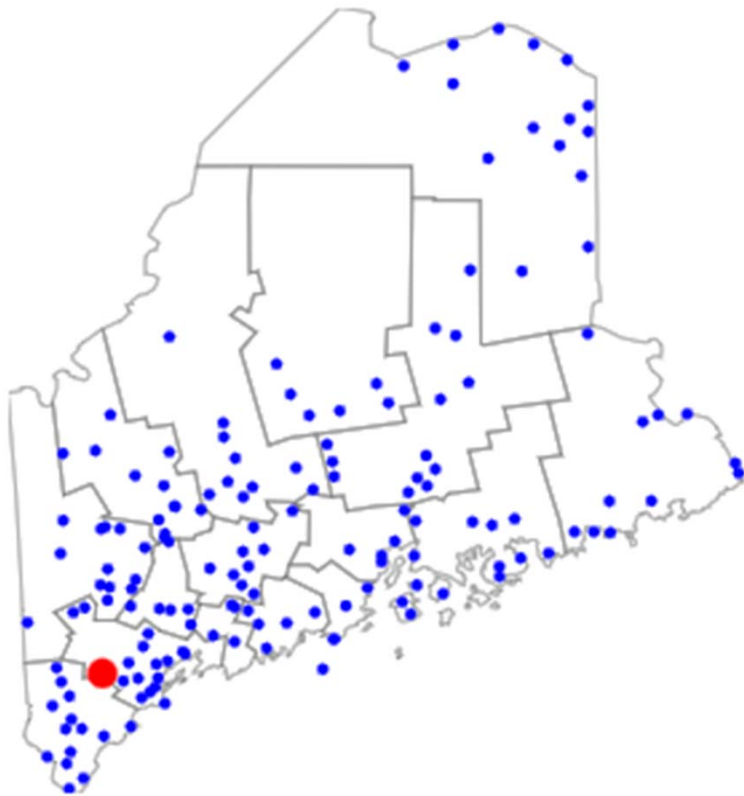


The 2019 Maine Rates Dashboard!





Who is in the survey group?



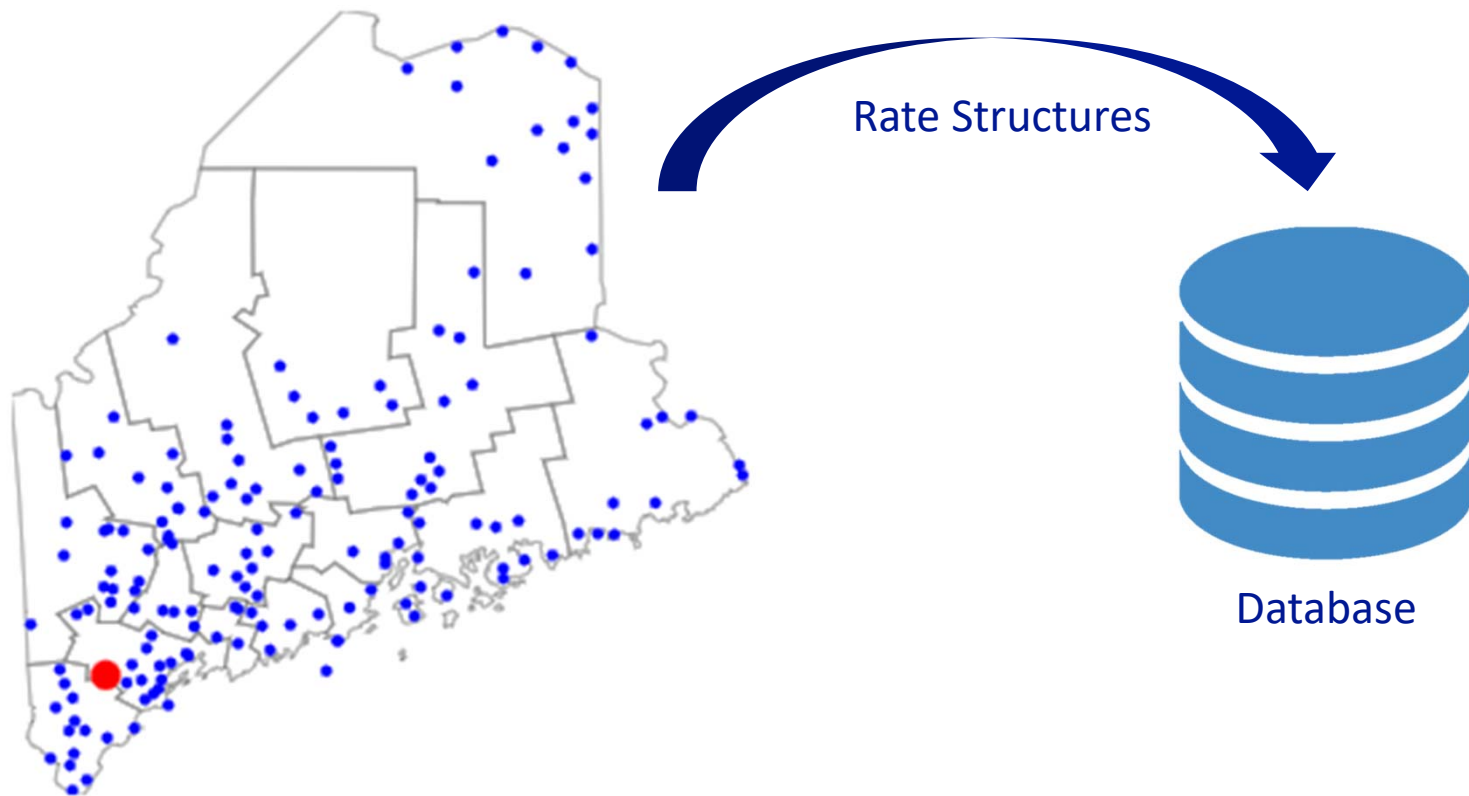
Rate Structures from 220 Rate-Charging Utilities

Service Type	Percent of Group
Sewer Only	36%
Water Only	48%
Water and Sewer	16%
<i>TOTAL</i>	<i>100%</i>

Utility Type	Percent of Group
Authority	0%
County/District	53%
For Profit	5%
Municipality	35%
Not for Profit	0%
Sanitary District	6%
<i>TOTAL</i>	<i>100%</i>



How does it work?





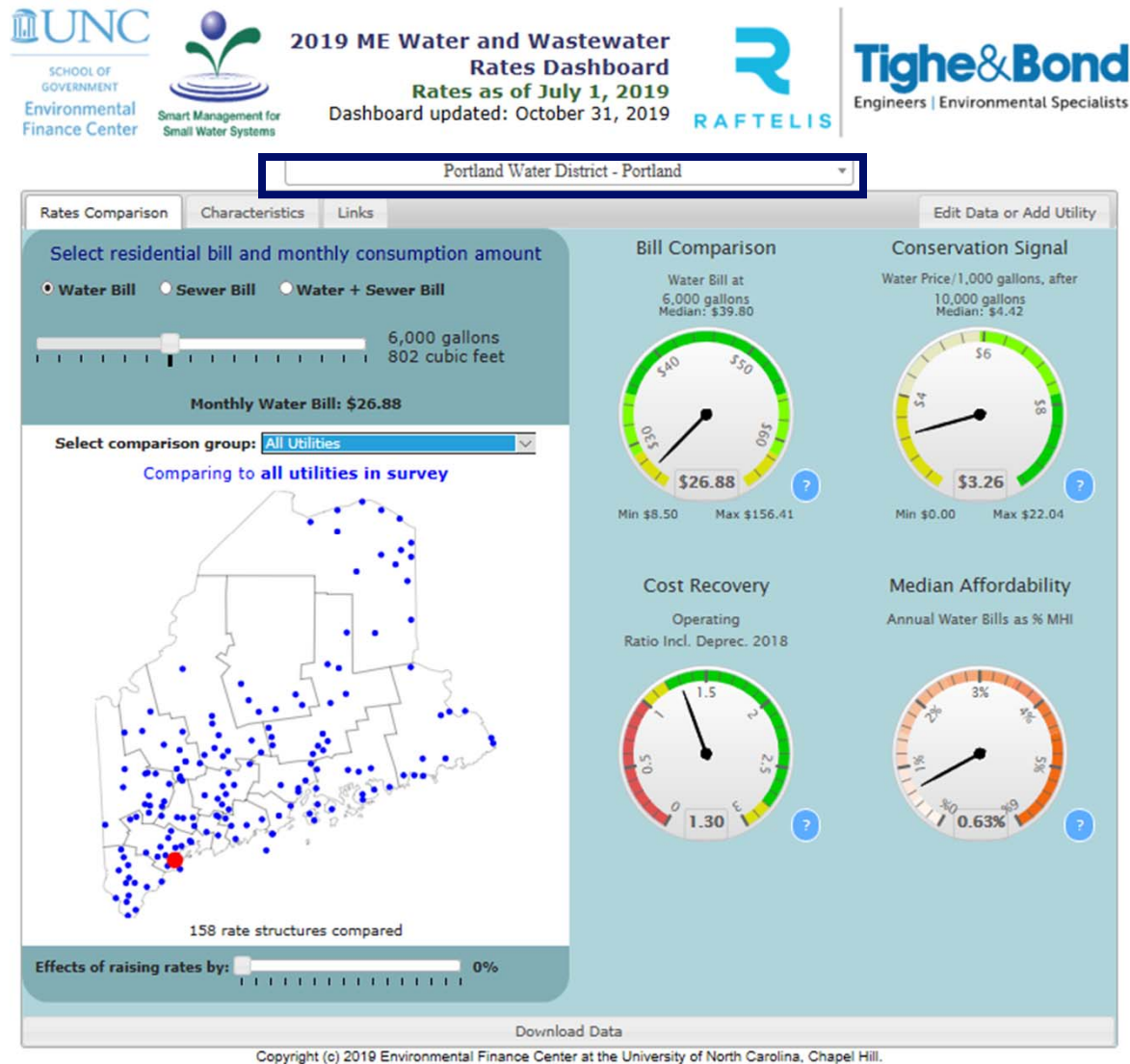
Additional Data Sources



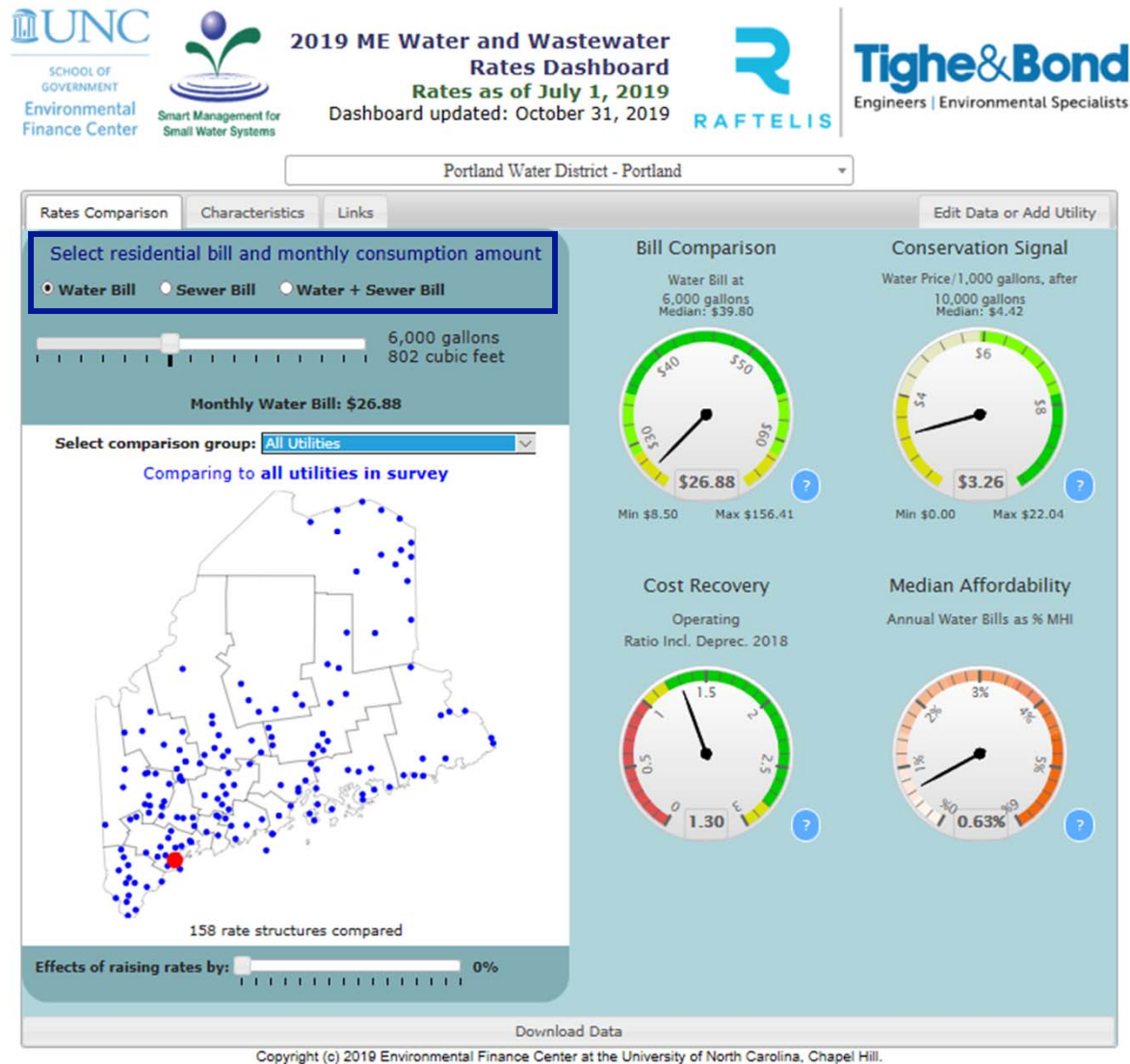
United States™
Census
Bureau



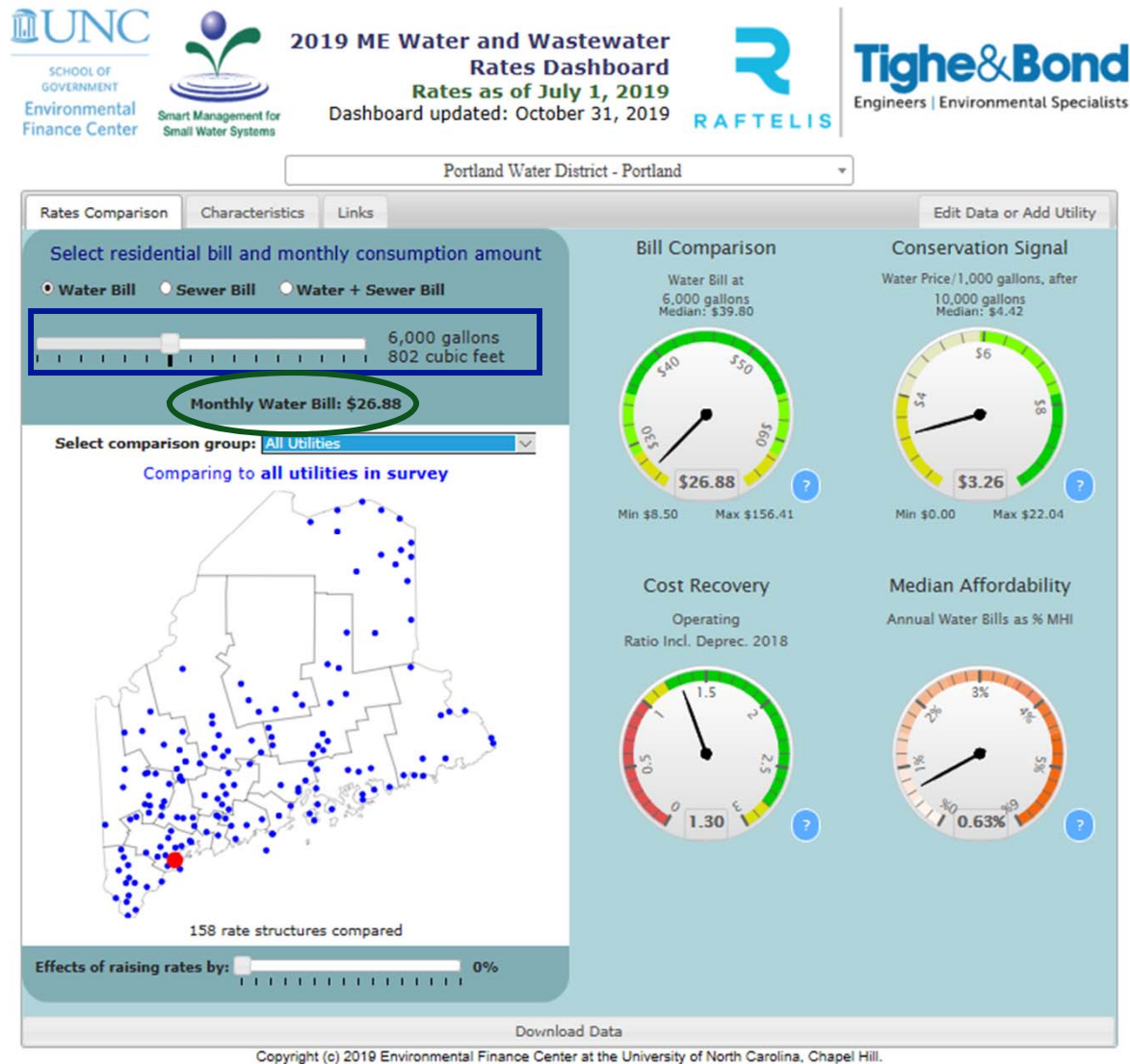
Anatomy of the Dashboard



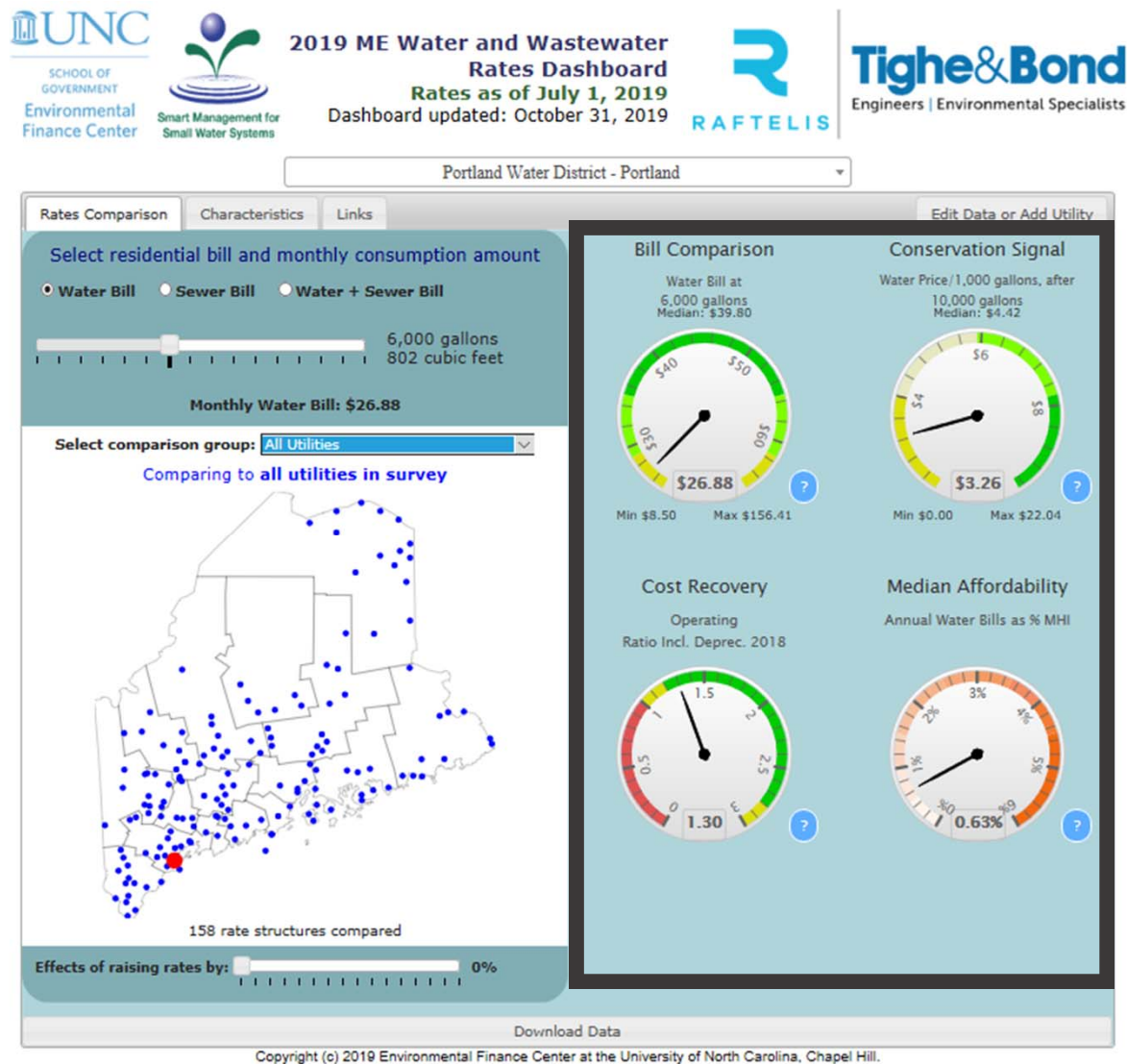
Anatomy of the Dashboard



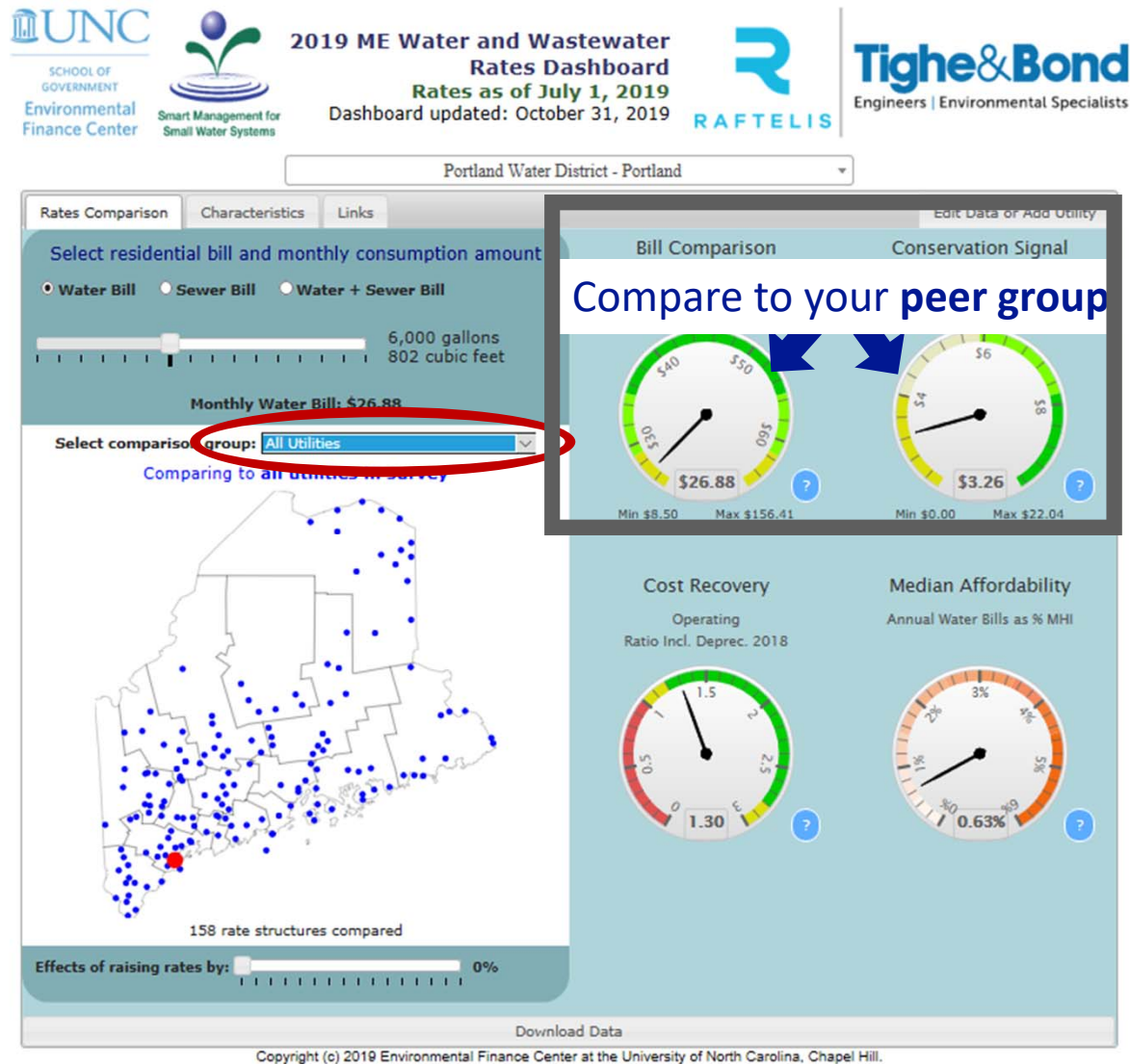
Anatomy of the Dashboard



Anatomy of the Dashboard

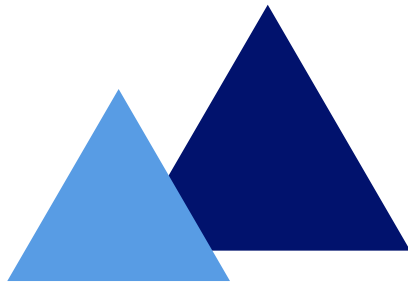


Anatomy of the Dashboard

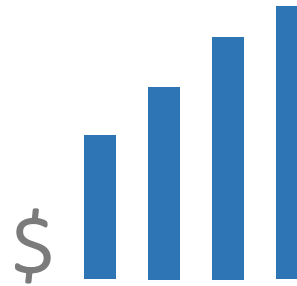




Compare Your Rates to Rates of Systems that have Similar...



Size



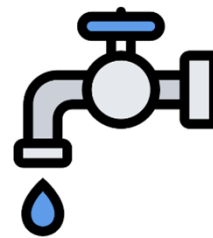
Rate Structure



Location



Demographics

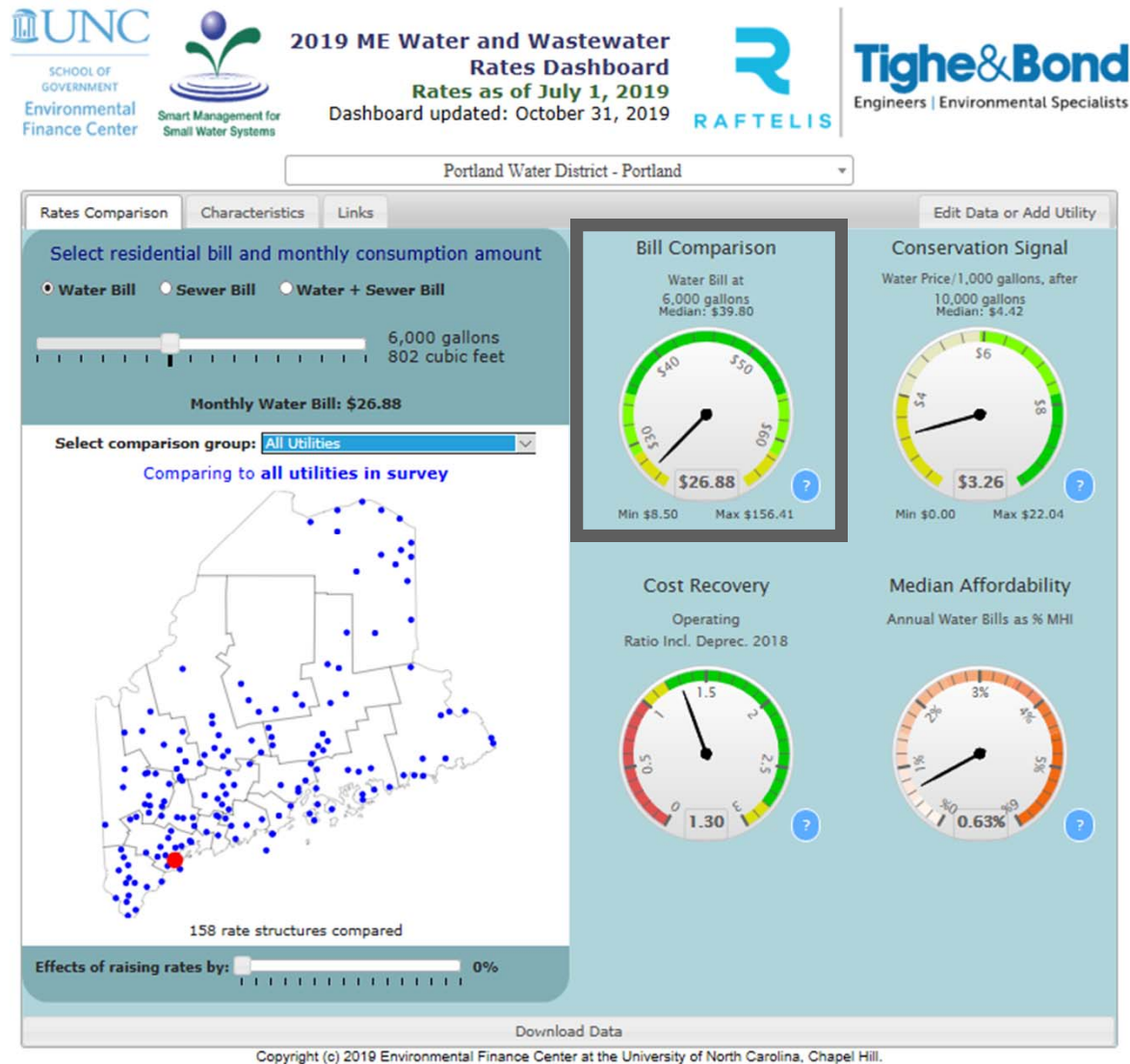


Type



Financials

Anatomy of the Dashboard

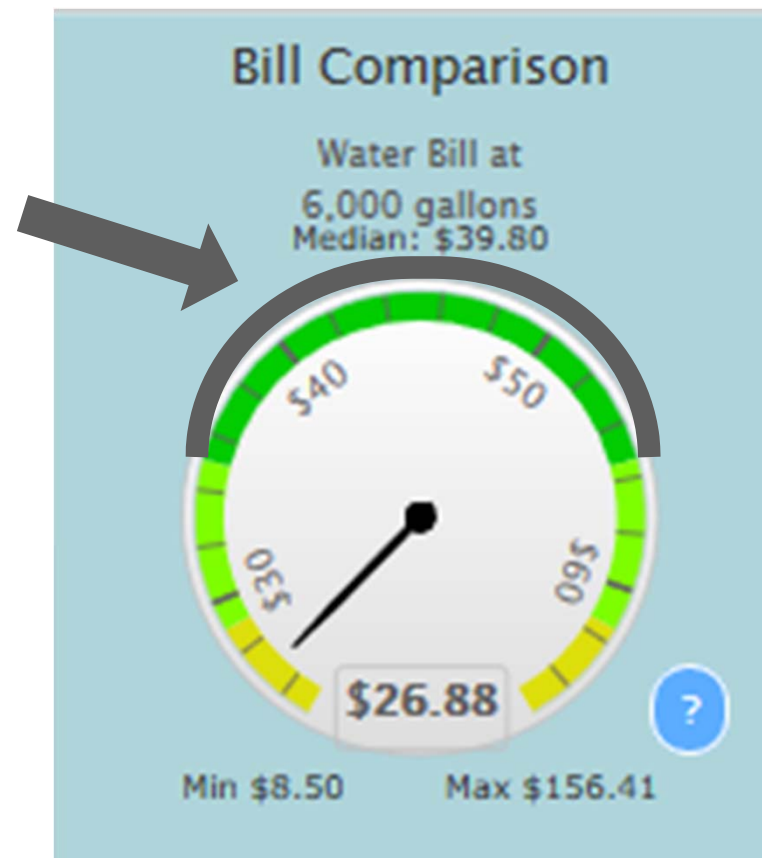




Dial: Bill Comparison

Darkest green band = middle 50% of utilities

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

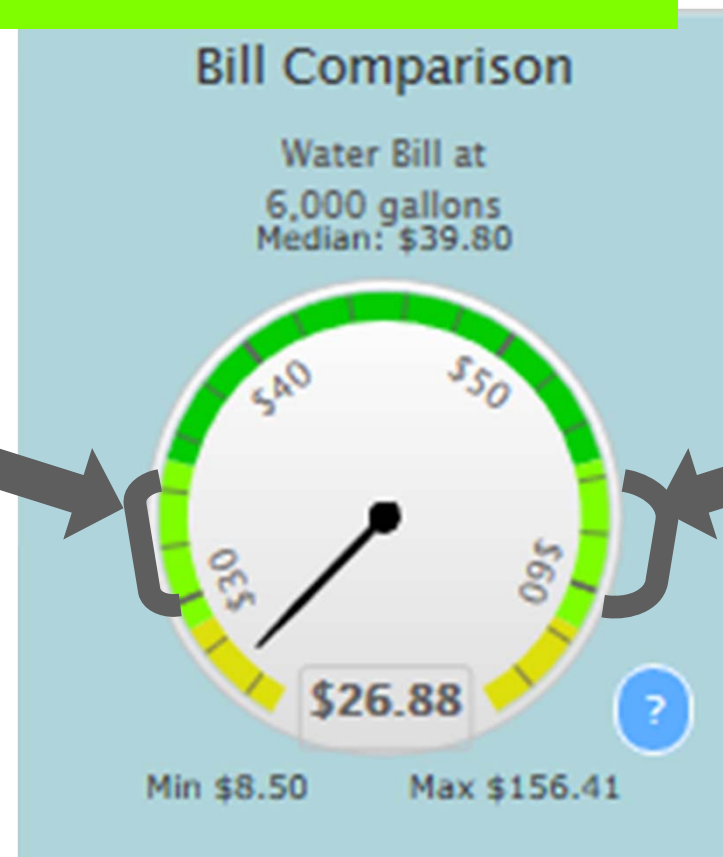




Dial: Bill Comparison

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%

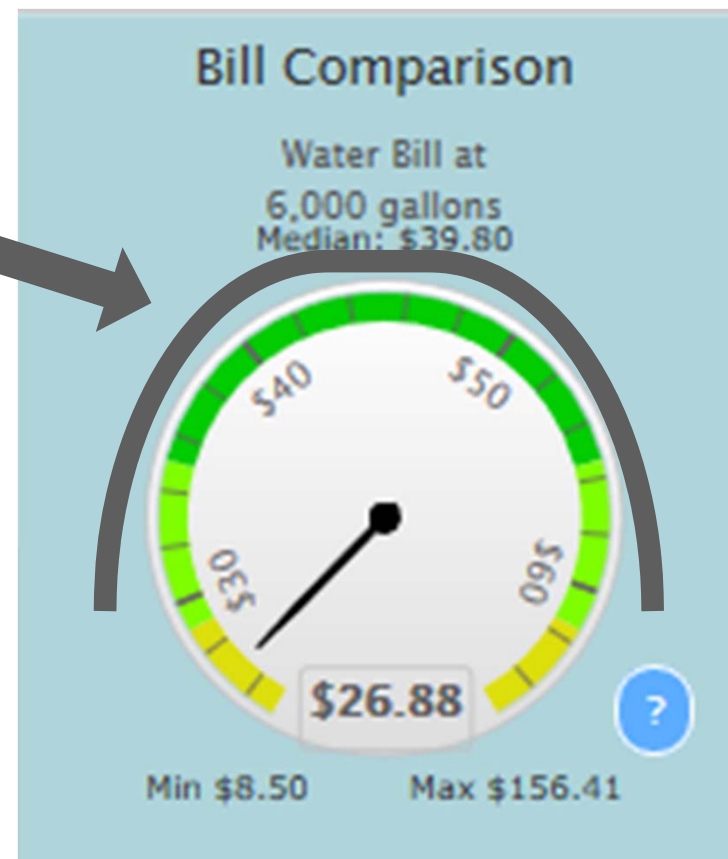




Dial: Bill Comparison

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

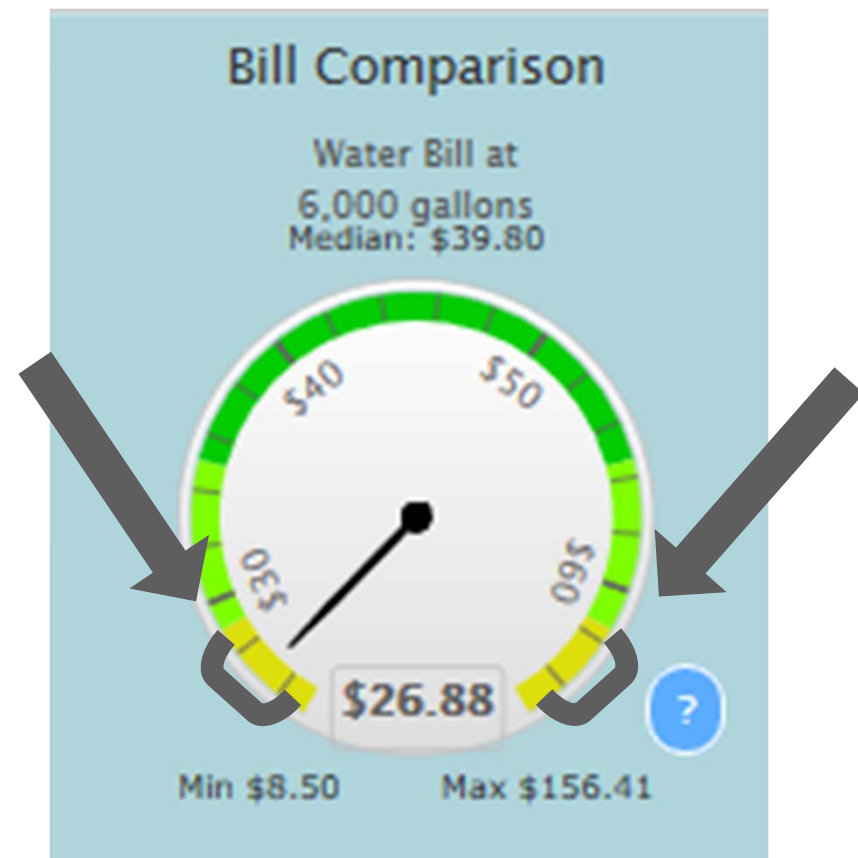




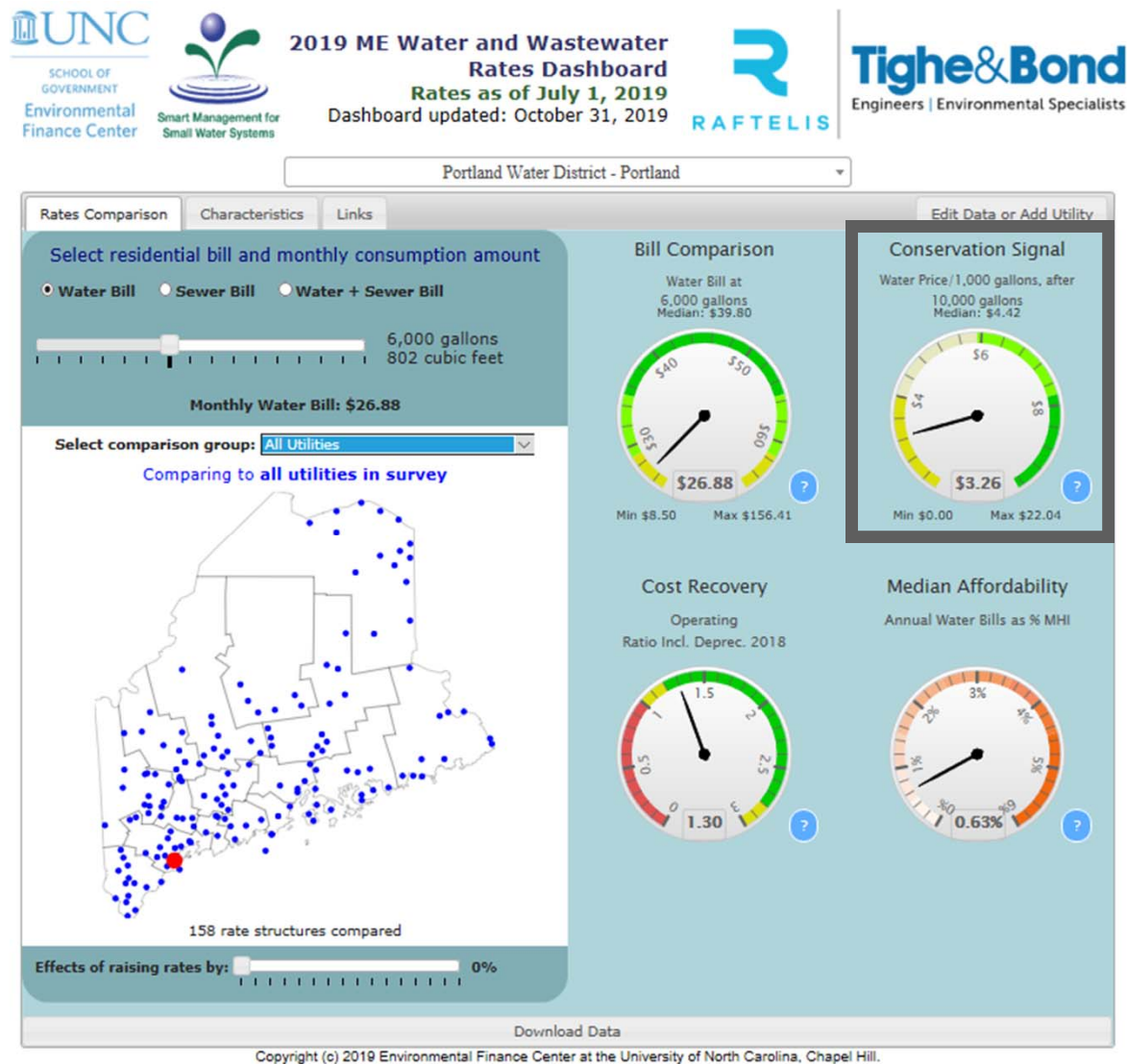
Dial: Bill Comparison

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

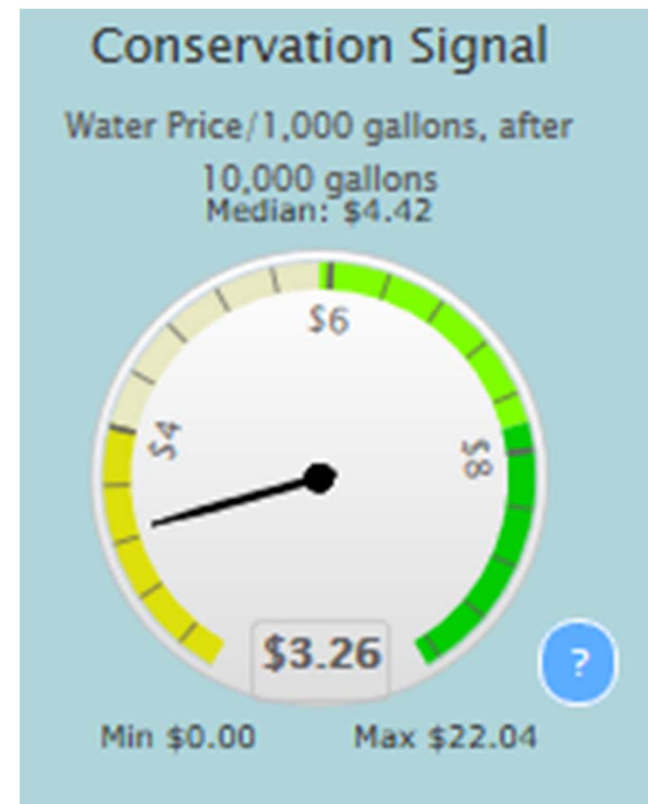




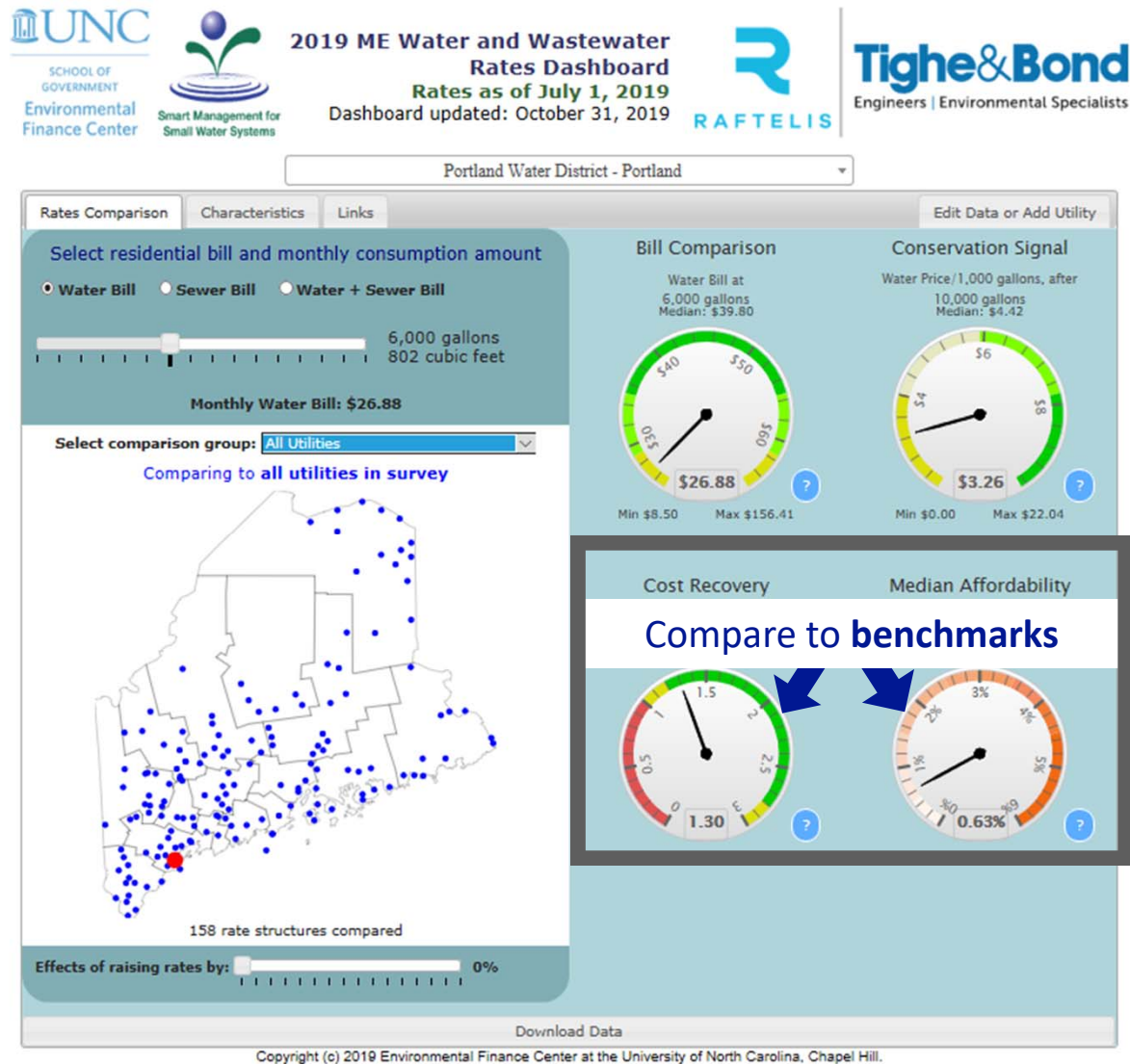
Dial: Conservation Signal

Colored bands = quartiles

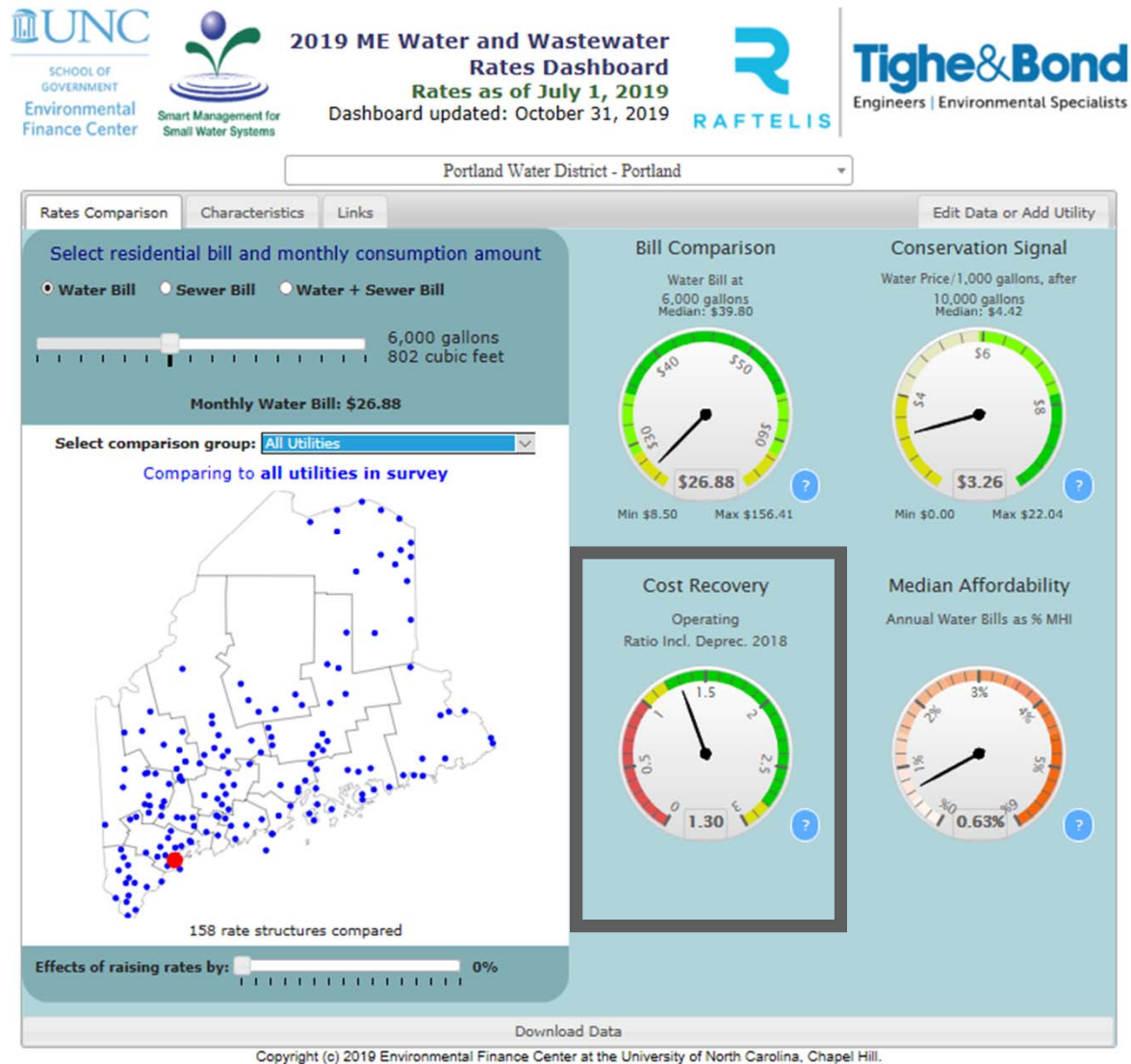
In this example, the marginal price of 1,000 gallons after 10,000 gallons is below the 25th percentile among its peer group, sending a weak conservation signal



Anatomy of the Dashboard



Anatomy of the Dashboard

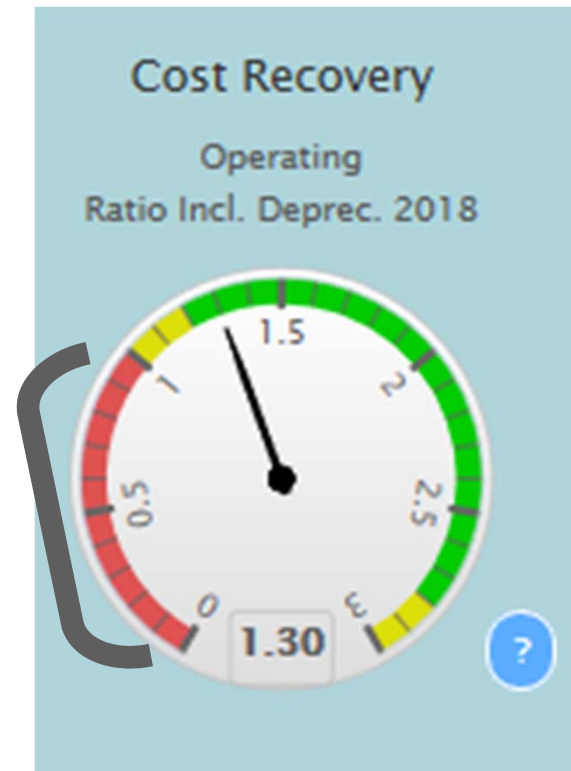




Dial: Cost Recovery

Red = costs exceed revenues; a concern for financial sustainability

Operating revenues
Operating expenses
(including depreciation)

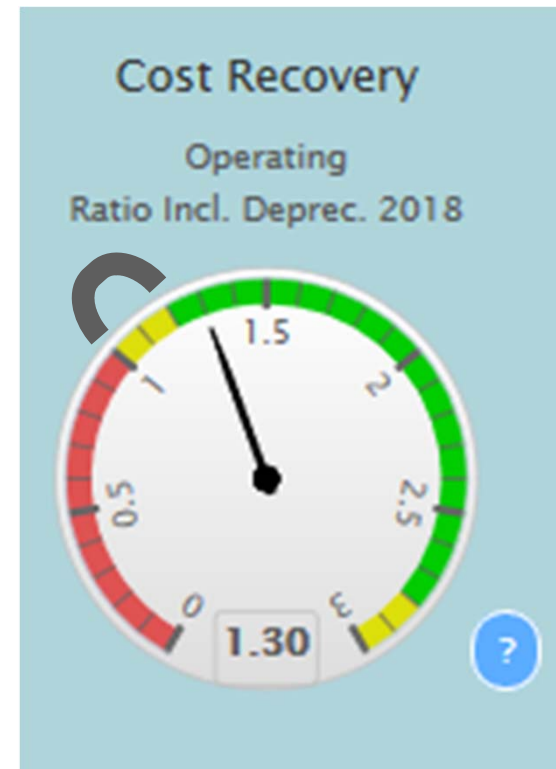




Dial: Cost Recovery

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

Operating revenues
Operating expenses
(including depreciation)

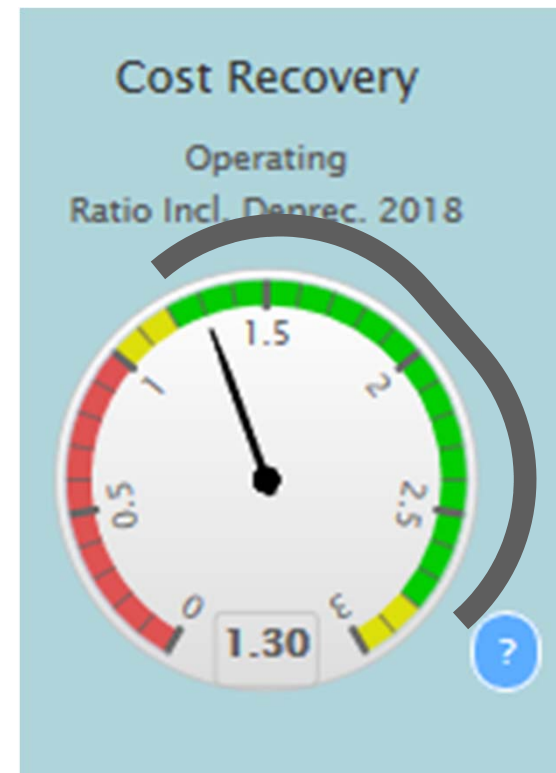




Dial: Cost Recovery

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

Operating revenues
Operating expenses
(including depreciation)

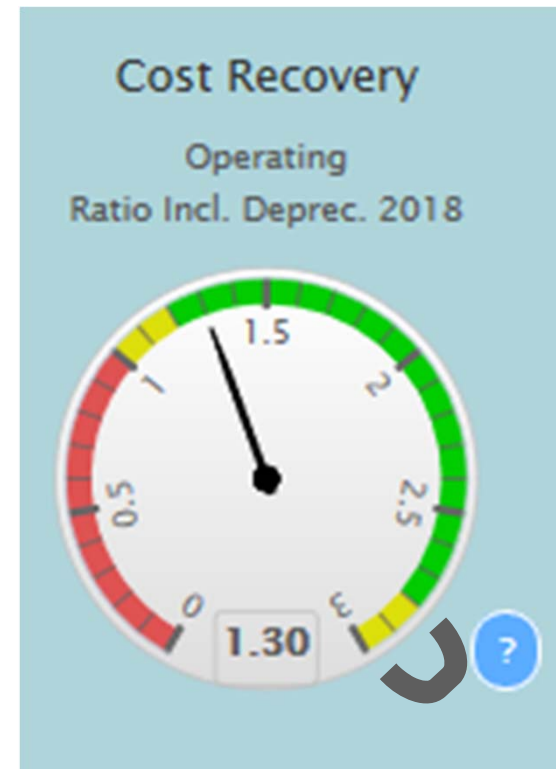




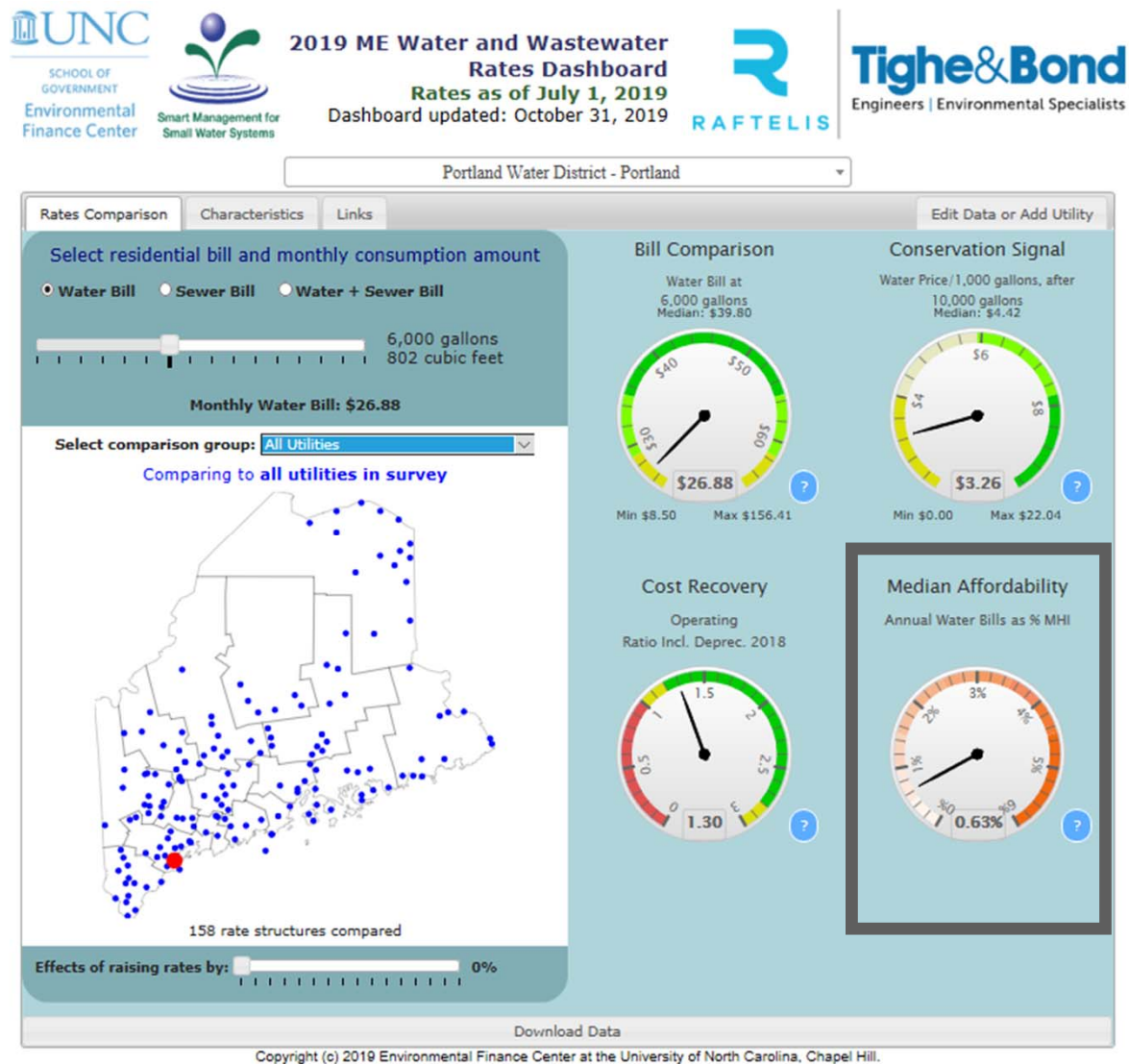
Dial: Cost Recovery

Yellow = revenues may be “too” good

Operating revenues
Operating expenses
(including depreciation)



Anatomy of the Dashboard

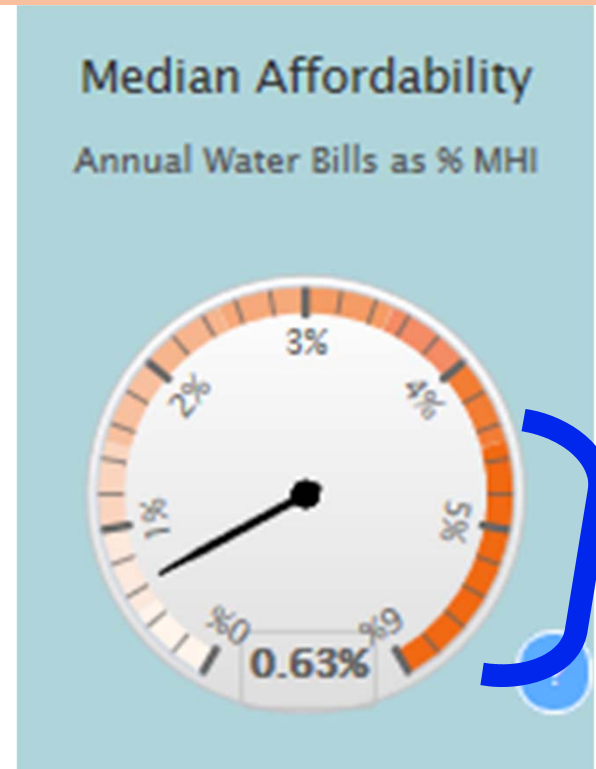




Dial: Median Affordability

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



Portland Water District - Portland

Rates Comparison

Characteristics

Links

Edit Data or Add Utility

Select residential bill and monthly consumption amount

Bill Comparison

Conservation Signal

Water Bill

Affordability

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 Portland city would spend annually, as a percent of their income, on Water & Sewer using 6,000 gallons per month. Half of the households in the community would be spending a greater portion of their income for these bills.

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](#)

Raw Data

Annual Bills	\$1,323.60
Annual MHI	\$51,430

Ok

Download Data

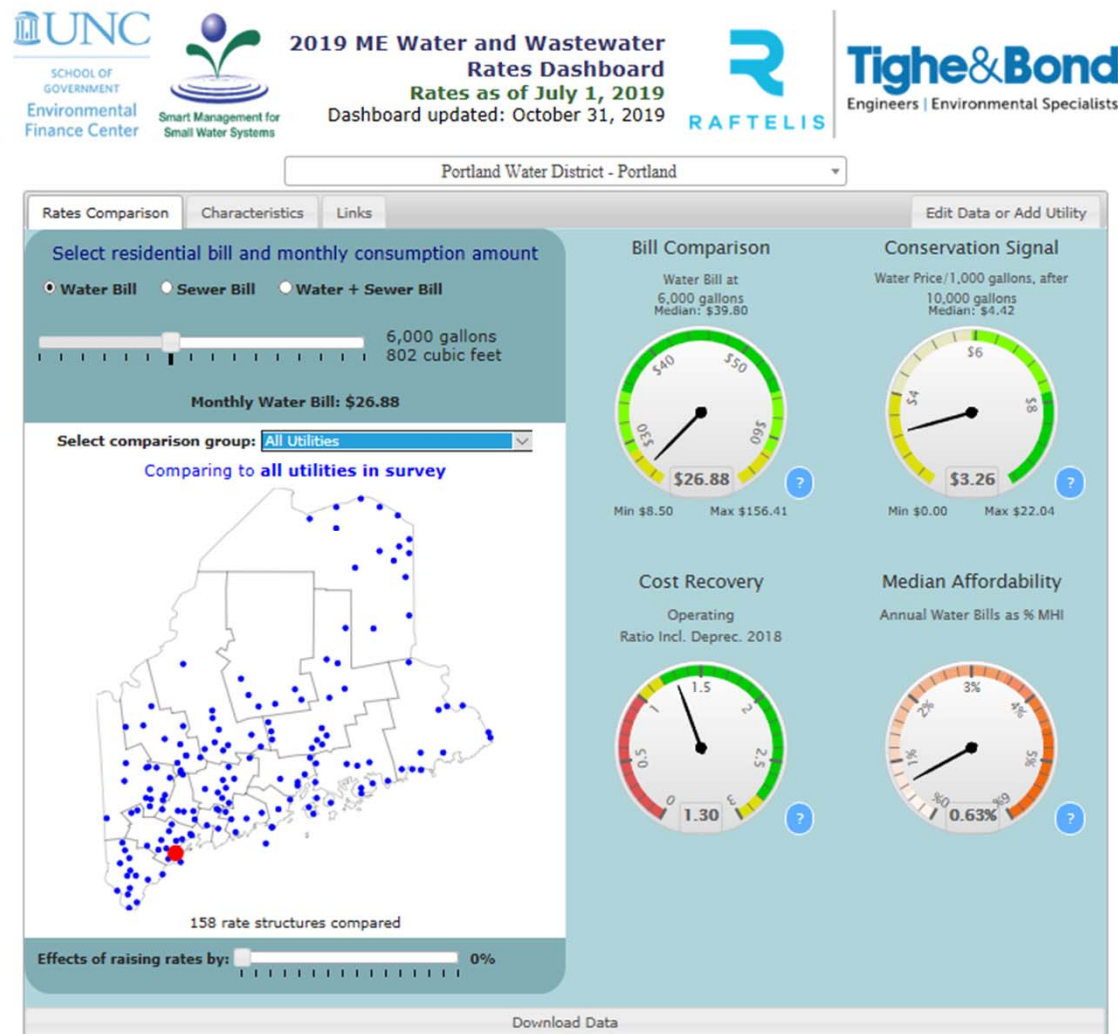


Other Tabs and Additional Interactive Features!!

Other features include:

- Characteristics tab
- Links tab
- Edit data or add utility
- Comparison Groups
- Effects of raising rates
- Download data

[Link for Presentation](#)





Before we go...



Two Favors and a Reminder

- Please fill out an eval form for us before you leave
- Please leave the polling device on the table
- Contact us anytime for direct technical assistance on any finance and management topic of our project



Thank you!

In case you need to contact me:

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