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H₂Affordability: How Water Bill Assistance Programs Miss the Mark





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Executive Summary

Water and wastewater rates rose considerably across the United States in the last two decades. Between 2001 and 2013, water and wastewater rates outpaced the Consumer Price Index (CPI) by two and a half times¹ and in the subsequent years, despite a flat CPI, rose by nearly 50 percent in major cities.² Concurrent with these increased rates have been alarming increases in delinquent bill payments, water shutoffs for residents, and utility debt.³ These challenges have exacerbated during the COVID-19 crisis. The federal response to this crisis has been limited, but more recently, Congress allocated more than \$1 billion in COVID relief bills to help low-income customers with their water and wastewater utility bills. This assistance has not yet reached the customers, but it is designed to be provided through local utilities. In light of this plan, it is instructive to review the existing customer assistance programs and understand their mode of operation and limitations.

In this report, we analyzed customer assistance programs offered at 20 of the largest water utilities in the U.S. We focus on five important factors that ensure the assistance is equitable and efficient: ease of access, the application process, eligibility and effectiveness, typical assistance offered, and mode of administration. We find wide variation in the structure and scope of assistance programs, with the following key findings:

- A fifth of the utilities do not currently offer a customer assistance program; half of the remaining utilities restrict assistance to homeowners
- Most assistance programs do not coordinate with other utility programs or federal assistance programs, resulting in excessive paperwork.
- Utility assistance programs tend to provide roughly similar levels of assistance regardless of the water rates, hurting customers in high-cost cities.
- A little more than half of the assistance programs are fully administered by the utilities themselves. The rest are fully or partially outsourced to third-party agencies, which can improve efficiency, but also distances the utility from the customer.

In addition to these findings, we present three case studies--American Water St. Louis, Cleveland Public Water System, and the Seattle Public Utilities--to demonstrate how the structure of customer assistance programs varies not only across utilities but also within the same utility. We conclude with several policy recommendations to improve current customer assistance programs - and ultimately improve equity and affordability.

¹ "Water and Wastewater Annual Price Escalation Rates for Selected Cities across the United States." Water and Wastewater Annual Price Escalation Rates for Selected Cities across the United States (Technical Report) | OSTI.GOV, 27 Oct. 2017, www.osti.gov/biblio/1413878-water-wastewater-annual-price-escalation-rates-selected-cities-across-united-state

² Walton, Brett, and Kaye LaFond. "Water Pricing." Circle of Blue, Brett Walton <https://www.circleofblue.org/Wp-Content/Uploads/2018/06/Circle-of-Blue-Water-Speaks-600x139.Png>, 25 Nov. 2019, www.circleofblue.org/waterpricing

³ Klinefelter, Q. 2014. A Right Or A Privilege? Detroit Residents Split Over Water Shut-Offs. National Public Radio. August 1. Accessed at: <https://www.npr.org/2014/08/01/337145827/a-right-or-a-privilege-detroit-residents-split-over-water-shut-offs>

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Policy Recommendations

- **States must provide authorization** that allows water utilities to use rate revenues for customer assistance and provides a guaranteed source to run the program.
- Water utility **assistance programs must be linked** with other utility assistance programs or federal programs to streamline access and improve participation rates.
- Water utilities must be allowed **to access and share data** on their customers with other utilities such as gas and electric.
- The **application process must be streamlined** by limiting the number of documents requested upfront, allowing electronic signing and submission, and providing as much information about the program.
- **Income eligibility thresholds must be consistent** with the region's cost of living.
- **Homeownership requirements must be eliminated** and non-account holders must be provided vouchers or cash assistance to offset the burden of high water utility bills.
- Utilities must **prioritize keeping the cost of water low** for basic consumption and make discretionary uses expensive.
Utilities must prioritize customers' public health and welfare concerns by **eliminating shutoffs** as a tool for rate payment and limiting or eliminating delinquent payment fees.

Our review concluded that that CAPs are notoriously under-subscribed and enrollment data are hard to obtain. They cater to a small section of the population, typically homeowners and certain other groups like seniors and disabled individuals, the income thresholds are often too low, and the assistance is provided on a “first-come-first-served” basis. A large portion of renters who live in multi-unit dwellings without individual meters pay their water bill as a flat fee to their landlord, and are therefore ineligible for CAPs. Even at their best, CAPs are a band-aid solution to the larger problem of increasing water rates and higher demands on utilities.

The largest utilities are exceptional by definition, and the vast majority of water and sewer systems lack the implementation capacity needed to run CAPs. Based on our findings at large utilities, we have good reason to believe that small and medium-sized systems will struggle to achieve enrollment rates that justify such programs. A comprehensive solution to the national affordability crisis that goes beyond poorly-structured assistance programs is sorely needed.

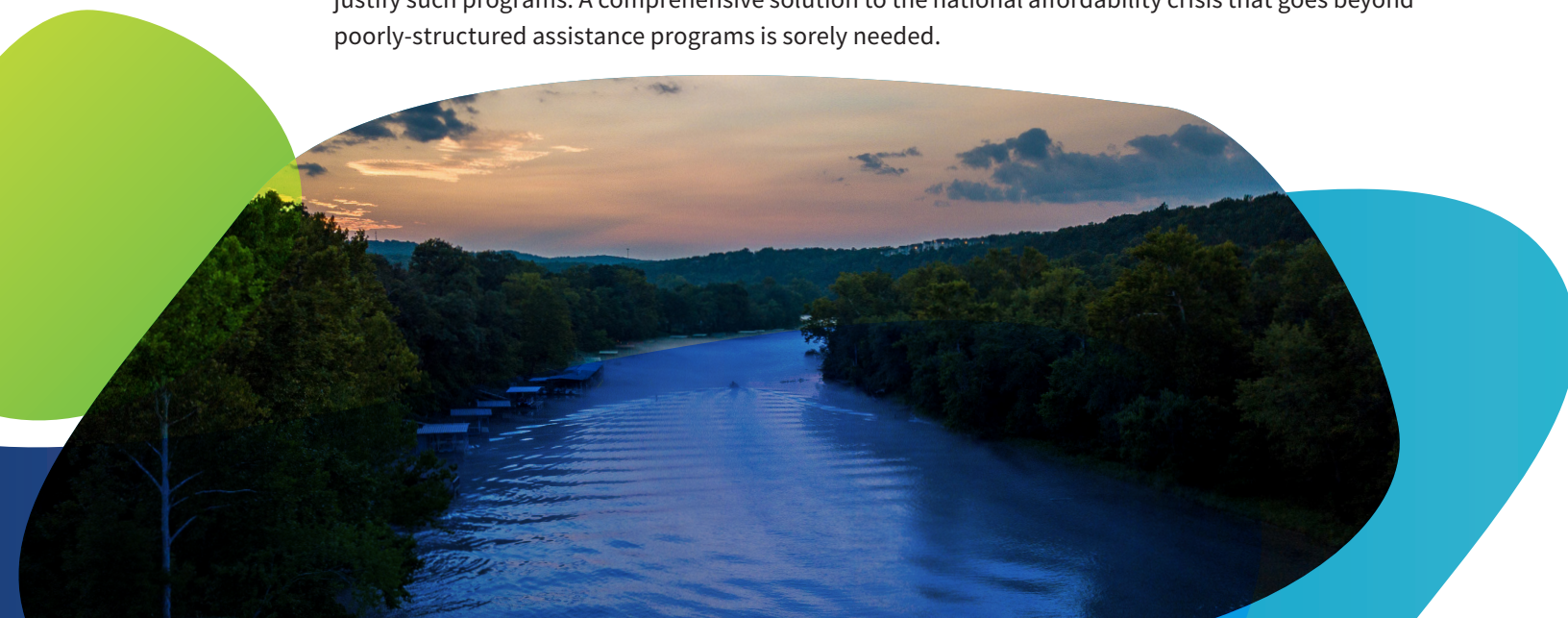


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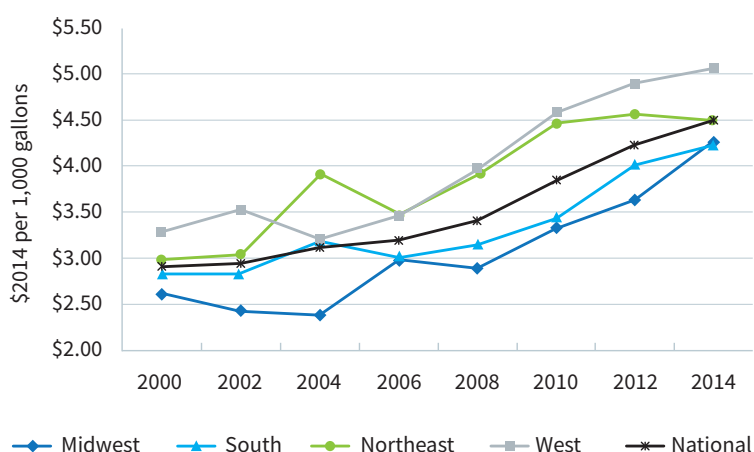


Introduction

Across the United States, drinking water and wastewater costs have more than doubled since 2000, far exceeding price increases of electricity, rent, and gasoline.⁴ Increasing water rates are necessary to pay for higher capital and operational costs due to aging infrastructure, climate change adaptation, and increased treatment requirements. These high costs require utilities to take on additional debt and pass along costs to consumers. Higher water rates are a crippling burden for low-income households. Households with the lowest 20 percent of income pay an average of 10 percent of their monthly income on water bills, which leaves less to cover rent, food, medical bills, and other expenses.⁵ Water utility rates are rising faster than inflation, creating an affordability crisis.⁶ Figure 1 documents the rise in water rates across the four Census regions during a 15-year period.

Figure 1.

*Residential water price trends per region. Source: U.S. Department of Energy Office of Scientific and Technical Information in their report titled *Water and Wastewater Rate Hikes Outpace CPI*.*



A recent review of the literature classified affordability interventions into four broad categories: rate structure designs, water efficiency programs, recurring bill assistance, and crisis relief.⁷ Water efficiency programs and crisis relief are targeted interventions of high value in select locations or for a small subset of customers, respectively. Apart from innovations in rate-setting to redistribute the cost of water service among low- and high-water users, utilities have turned to customer assistance programs (CAPs). The EPA defines CAPs as “bill discounts, special rate structures, and other means as an approach to help financially constrained customers maintain access to drinking water and wastewater services.”⁸

⁴ Sridhar Vedachalam, Timothy Male, and Lynn Broaddus. 2020. “H2Equity: Rebuilding a Fair System of Water Services for America.” Environmental Policy Innovation Center, Washington D.C.

⁵ Ibid.

⁶ Ibid.

⁷ Pierce, G., El-Khattabi, A. R., Gmoser-Daskalakis, K., & Chow, N. (2021). Solutions to the problem of drinking water service affordability: A review of the evidence. *Wiley Interdisciplinary Reviews: Water*, e1522

⁸ “Drinking Water and Wastewater Utility Customer Assistance Programs.” Environmental Protection Agency, Apr. 2016, www.epa.gov/sites/production/files/2016-04/documents/dw-ww_utilities_cap_combined_508.pdf.

⁹ Ibid

Most utilities do not offer CAPs. An EPA analysis of 620 large utilities (serving greater than 100,000 people) found only 31 percent offered any type of customer assistance program.⁹ Similarly, the American Water Works Association (AWWA) survey of the water industry reported that 37 percent of utilities represented in the survey offered CAPs, which were more likely in large and very large utilities, as compared to medium and small utilities.¹⁰

The economic and public health crises brought on by COVID-19 have forced many utilities, including small and mid-sized ones, to confront the issues of unpaid bills and customer assistance. In the last set of COVID-19 relief bills approved by Congress in December 2020 and March 2021, Congress has allocated a little more than \$1 billion toward debt relief and low-income assistance, and while certainly welcome, this assistance is woefully short of the need.¹¹

Financial relief for water customers provided by utilities is based primarily on three criteria: income, age, or disability status. But less is known about how CAPs are set up and administered. What are the eligibility requirements and the documentation necessary for enrollment? What type of support can customers receive? This report analyzes CAPs at 20 of the largest U.S. water utilities. We also developed three case studies--American Water St. Louis, Cleveland Public Water System, and the Seattle Public Utilities--to elaborate on the different ways CAPs are structured, not just across but even within the same utility. We reviewed publicly available information on customer assistance programs and interviewed officials at three utilities, one trade association, and a nonprofit group that helps customers pay their water bills.

We assessed these utility CAPs on a number of important factors such as ease of access and application, eligibility requirements, effectiveness in reaching customers, typical assistance offered, and program administration. We found wide variation in the eligibility requirements, necessary documentation, and the extent of assistance across utilities. Many CAPs are limited in scope due to state regulations preventing redistribution of rate revenues, limitations on who can receive assistance, and lack of funds dedicated to rate assistance.

CAPs are notoriously under-subscribed or cater to a small section of the population, typically homeowners and seniors. Most CAPs are not coordinated with other utility or federal assistance programs, requiring applicants to fill out separate forms and provide extensive documentation. Only a small number of CAPs are fully administered by the utilities themselves. Most are partially or fully outsourced to third-party agencies, which can improve efficiency, but also distance the utility from the customer. Lastly, we provide several policy recommendations that include state legislation allowing the use of rate revenue to fund CAPs, linking water CAPs to other utility and government assistance programs, streamlining the application process, setting uniform income thresholds, vouchers for renters ineligible for utility CAPs, and limiting the use of shutoffs and delinquent payment fees.

¹⁰ "2019 State of the Water Industry Report." American Water Works Association, 2019, www.awwa.org/Portals/0/AWWA/ETS/Resources/2019_STATE%20OF%20THE%20WATER%20INDUSTRY_post.pdf.

¹¹ Walton, Brett Walton. "Congress on Track to Approve Millions More in Federal Funding for Water Debt Relief." Circle of Blue, 26 Feb. 2021, www.circleofblue.org/2021/world/congress-on-track-to-approve-millions-more-in-federal-funding-for-water-debt-relief/

Meter Readings

Consumption in 1,000 gallons

Current Read Date 01/10/20

Previous Read Date 10/09/19

Account Information

Account Name

Account Number

Service Address

Billing Date

Billing Type

Service Type

Service Period

Due Date

Fairfax Water

Background

The last few years have seen an increasing focus on ensuring water access to low-income customers by activists, public health advocates, and even the utilities. The increasing number of water shutoffs in cities like Detroit and Philadelphia shaped this conversation, but nationwide increases in water rates have required many utilities to reckon with late and delinquent payments by customers, especially those living in poverty or with low income. Failure to take affordability into account or using water shutoffs as the sole mechanism of rate recovery from delinquent customers is an inhumane practice that is especially out of step during a public health emergency like COVID-19.¹²

Several recent analyses review state and local policies addressing issues of affordability, shutoffs, and CAPs. An analysis of twelve Massachusetts communities found that information about water pricing and discounts was not readily available, there was wide variation in local utility policies, and front-line administrators made many decisions about eligibility.¹³ Similarly, a review of local utility policies in Maryland's municipal jurisdictions found wide variation in utility shutoff policies.¹⁴ Most utilities in Maryland do not have customer assistance programs in place and the few that do offer CAPs that are limited in scope. A review of customer assistance programs at five utilities in the Bay Area region of California found that state law advantages investor-owned water utilities in funding and raising customer participation in CAPs.¹⁵ Public water utilities in California are prohibited from using rate revenues to cross-subsidize customers or share data with other gas and electric utilities as well as federal agencies.

Taken together, these analyses point to a few central findings:

- utilities primarily rely on water shutoffs and late fees as a blunt instrument to get customers to pay their water bills;
- rate designs do not capture the full use and the economic circumstances of the users; and
- CAPs are uncommon in small utilities, and if existing, they are designed more out of expediency than as a genuine economic relief mechanism for needy customers.

¹² Delinquent bills can result in liens placed against the property and the utility receives the unpaid bill amount when the county re-sells the property.

¹³ Davis, M. 2019. A Drop in the Bucket: Water Affordability Policies in Twelve Massachusetts Communities. Northeastern Law. Accessed at: <https://www.northeastern.edu/law/pdfs/academics/phrge/water-report-2019.pdf>

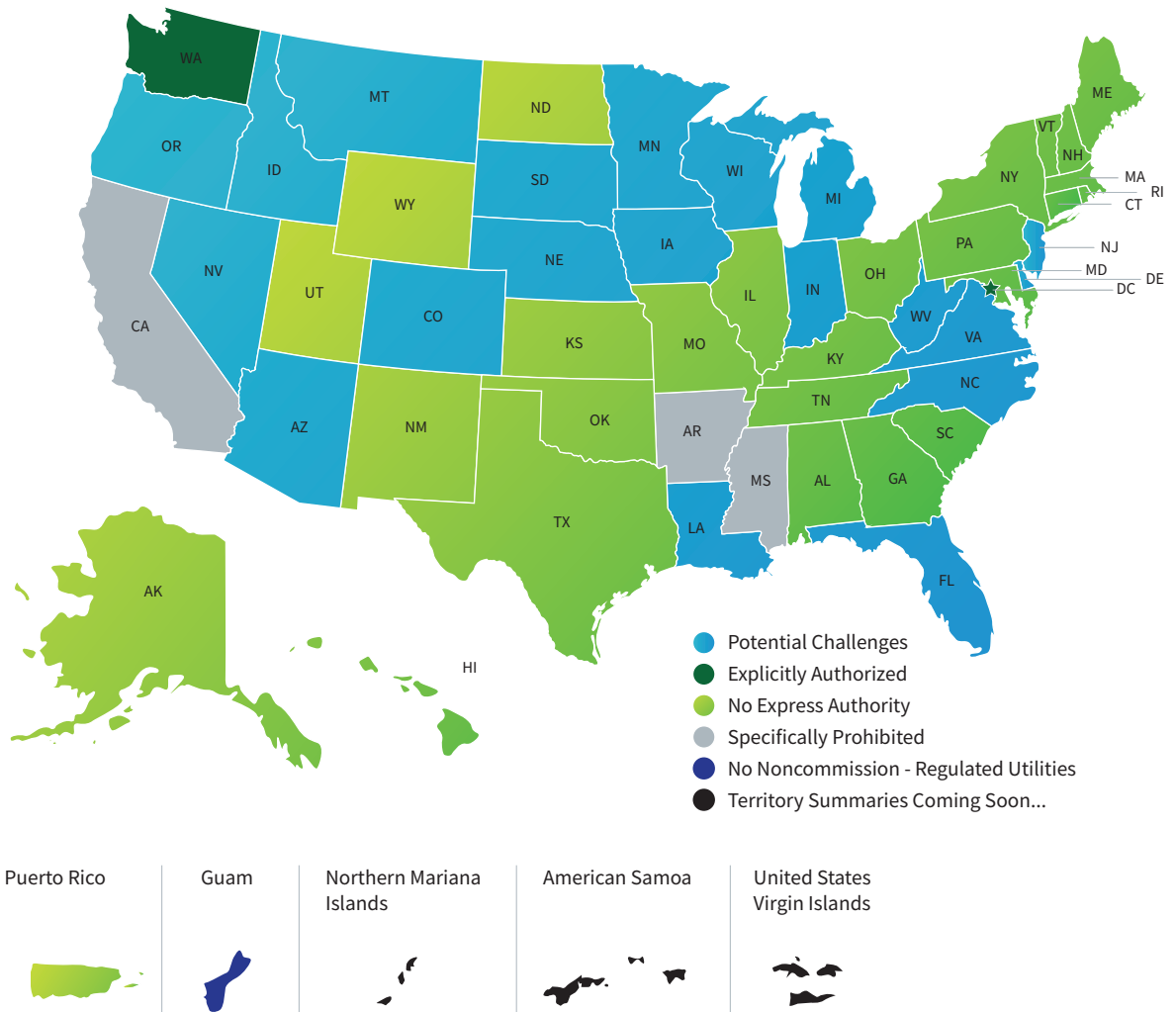
¹⁴ Campbell-Ferrari, A. 2019. The accessibility trap: Maryland's invisible water crisis. The Center for Water Security and Cooperation. Accessed at: https://docs.wixstatic.com/ugd/5b69db_ec476217202a4eb29585cacada9363b2.pdf

¹⁵ Feinstein, Laura. "Keeping the Water On: Addressing Rising Water-Bill Debt during the COVID-19 Economic Crisis." SPUR, Jan. 2021, Keeping the Water On Addressing rising water-bill debt during the COVID-19 economic crisis.

State Regulations on Using Rate-Revenues to Support CAPs

Although utilities essentially have independence in designing CAPs, state policies shape their scope significantly. In many states, utilities are explicitly prohibited from using ratepayer revenues to fund customer assistance programs or not given expressed authority to do so, leading to ambiguity on the legality of the practice.¹⁶ Water utilities' ability to generate rate revenues to fund CAPs vary across and within states, depending on state regulations and ownership, as shown in Figure 2a and 2b.¹⁷ Figure 2a shows the legal options for non-commission-regulated utilities--which includes publicly-owned utilities--to use rate revenues to fund CAPs. In contrast, Figure 2b shows legal options for utilities that are subject to regulation from the public service commission or other similar state agency--which includes investor-owned or other private utilities owned by housing associations--to use rate revenues to fund CAPs.¹⁸ These figures are from a 2017 analysis, so some changes may have occurred in the interim period.

Figure 2a. Non-commission-regulated utilities: Ability to implement CAPs funded by ratepayer revenues, by state. Reprinted with permission from the Environmental Finance Center at UNC.



¹⁶ Berahzer, Stacey, et al. "Navigating Legal Pathways to Rate-Funded Customer Assistance Programs: A Guide for Water and Wastewater Utilities." Environmental Finance Center, 2017, efc.sog.unc.edu/resource/navigating-legal-pathways-rate-funded-customer-assistance-programs-guide-water-and.

¹⁷ Berahzer, Stacey, et al. "Navigating Legal Pathways to Rate-Funded Customer Assistance Programs: A Guide for Water and Wastewater Utilities." Environmental Finance Center, 2017, efc.sog.unc.edu/resource/navigating-legal-pathways-rate-funded-customer-assistance-programs-guide-water-and.

¹⁸ States differ in designating which utilities are regulated by public service commissions.

Policy differences based on ownership within states can give rise to situations where privately-owned utilities are allowed to use rate revenues to fund CAPs, but publicly-owned utilities in the same state are expressly barred from doing so, as is the case in California. Washington is the only state that explicitly authorizes non-commission-regulated utilities to fund CAPs with ratepayer revenues, whereas five states permit this for commission-regulated utilities. Taken together, only a handful of states explicitly authorize the use of rate revenues to fund CAPs regardless of their regulatory status. The restriction or lack of clarity on using rate revenues to fund CAPs in other states, in turn, shapes the scope, eligibility guidelines, and the administration of CAPs. Some utilities, barred from using rate revenues, rely on third-party or volunteer donations to fund their CAPs and may contract out administration of the program to a local nonprofit. The lack of reliable funding sharply reduces the scope and potency of these programs.

Only a handful of states explicitly authorize the use of rate revenues to fund CAPs regardless of their regulatory status. The restriction or lack of clarity on using rate revenues to fund CAPs in other states shapes the scope, eligibility guidelines, and the administration of CAPs.





Federal and State Legislative Efforts to Fund CAPs

The federal and state governments have made a few attempts to address the gap in funding for CAPs. However, these attempts have not yet yielded meaningful results. California has made the most significant legislative efforts to support CAPs. Recently proposed California Senate Bill 222, introduced by Senator Bill Dodd, seeks to establish the Water Affordability Assistance Fund in the State Treasury.¹⁹ This bill comes on the heels of Assembly Bill 401, which required the California State Water Board to develop a plan to fund and implement a low-income water rate assistance program by 2018.²⁰ The State Water Board recommended setting up a statewide low-income rate assistance program that is funded by a tax on bottled water and sugary beverages. Senate Bill 222 adapts those ideas in a legislative framework to finance a statewide assistance program.

Federally, the Low-Income Water Customer Assistance Programs Act of 2019, sponsored by Sen. Ben Cardin (D-MD) and Sen. Roger Wicker (R-MS), attempted to establish pilot programs to award grants to utilities to help low-income households pay their drinking water, wastewater, or stormwater bills.²¹ Then-Rep. Marcia Fudge (D-OH) introduced a House counterpart. The bills did not receive a vote in either chamber of Congress and thus expired at the end of the last session. While we do not know if these bills will be reintroduced in the current session of Congress or their potential to advance, it is clear that the concern about water affordability is growing by the day and there is increasing pressure on Congress and state legislatures to provide financial support to utilities and its customers.

In December 2020, Congress appropriated \$638 million in the COVID-19 relief package to forgive water bill debt.²² This funding will be provided to states and then utilities via the U.S. Department of Health and Human Services, but the allocation formula has not yet been determined. Additionally, in the latest COVID-19 relief bill dubbed the “American Rescue Plan,” Congress allocated an additional \$500 million to provide financial relief to low-income customers and much like the December 2020 funding, we do not have much information about its implementation.²³

¹⁹ “Bill Text.” Bill Text - SB-222 Water Affordability Assistance Program., [leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202120220SB222](https://leginfo.ca.gov/faces/billNavClient.xhtml?bill_id=202120220SB222).

²⁰ “Bill Text.” Bill Text - AB-401 Low-Income Water Rate Assistance Program., [leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201520160AB401](https://leginfo.ca.gov/faces/billTextClient.xhtml?bill_id=201520160AB401).

²¹ Cardin, Benjamin L. “S.2687 - 116th Congress (2019-2020): Low-Income Water Customer Assistance Programs Act of 2019.” Congress.gov, 23 Oct. 2019, www.congress.gov/bill/116th-congress/senate-bill/2687.

²² Walton, Brett. “Congress Adds \$638 Million in Water-Bill Debt Relief to Coronavirus Package.” Circle of Blue, 23 Dec. 2020, www.circleofblue.org/2020/world/congress-adds-638-million-in-water-bill-debt-relief-to-coronavirus-package/.

²³ Walton, Brett. “Congress on Track to Approve Millions More in Federal Funding for Water Debt Relief.” Circle of Blue, 26 Feb. 2021, www.circleofblue.org/2021/world/congress-on-track-to-approve-millions-more-in-federal-funding-for-water-debt-relief/.

Data and Methods

This study relied on publicly available information on water utilities and their CAPs. We restricted the analysis to larger utilities due to the relative prevalence of CAPs by utility size and the lack of available information on smaller utilities. We selected 20 large drinking water utilities, two utilities from each of the 10 EPA regions (Figure 3). We choose utilities from different states within each region to account for the influence of state policy on CAPs.

We reviewed publicly available information on customer assistance programs and supplemented those with socio-economic data for principal jurisdictions²⁴ served by the water utility from the American Community Survey as well as interviews with officials at three utilities, one trade association, and a nonprofit group that helps customers pay their water bills. The summary statistics of the ownership and demographic characteristics of the utilities in our sample are shown in Table 1.

Figure 3.
Location of water utilities analyzed in this report



²⁴ We did not attempt to match the census data with the utility's service area

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Table 1. Customer assistance programs by water utility.

We selected 20 large drinking water utilities, two from each of the 10 EPA regions.

EPA Region	Water Utility	Principal City Served	Utility Service Area Population (2019)	Median Household Income (in 2019 dollars), 2015-2019	Poverty Rate 2019	Customer Assistance Program Offered
1	Boston Water and Sewer Commission (MWRA)	Boston	617,594	\$71,115	18.9%	●
1	<i>Regional Water Authority</i>	New Haven	418,900	\$42,222	26.5%	●
2	New York City System (DEP)	New York	8,271,000	\$63,998	13.0%	●
2	<i>Suez Water New Jersey Hackensack</i>	Hackensack	792,713	\$70,090	13.4%	●
3	Philadelphia Water Department	Philadelphia	1,950,098	\$45,927	24.3%	●
3	Baltimore City - Bureau Water SU	Baltimore	1,755,000	\$50,379	21.2%	●
4	Charlotte Water	Charlotte	1,093,901	\$62,817	12.8%	
4	Miami-Dade County Water and Sewer	Miami - Dade	2,300,000	\$51,347	20.6%	
5	Cleveland Public Water System	Cleveland	1,308,955	\$30,907	32.7%	●
5	Chicago Water	Chicago	2,700,000	\$58,247	18.4%	●
6	City of Houston Water	Houston	2,231,588	\$52,338	20.1%	●
6	Albuquerque Water System	Albuquerque	659,736	\$52,911	16.9%	●
7	Metropolitan Water District	Omaha	554,091	\$60,091	13.4%	●
7	<i>American Water, St. Louis and St. Charles Counties</i>	St. Louis	1,100,000	\$43,896	21.8%	●
8	Denver Water Dept.	Denver	1,362,071	\$68,044	12.9%	
8	Salt Lake City Water System*	Salt Lake City	343,850	\$60,676	9.6%	
9	L.A. Dept. Water and Power	Los Angeles	4,085,000	\$68,044	20%	●
9	City of Phoenix Water	Phoenix	1,579,000	\$57,459	18%	●
10	Seattle Public Utilities	Seattle	955,506	\$92,263	11%	●
10	Portland Water Bureau	Portland	614,059	\$71,005	13.7%	●

Notes: Utility names in italics are privately-owned. U.S. median household income was \$68,703 in 2019.²⁵ The U.S. median poverty rate was 10.5% in 2019.²⁶ Utility service areas with MHI below and poverty rates above the national median are highlighted.

*Salt Lake City does not offer a CAP, but instead refers customers to the Salvation Army for financial assistance, which does not meet the threshold for a CAP.

²⁵ Bureau, US Census. "Income and Poverty in the United States: 2019." The United States Census Bureau, 15 Sept. 2020, www.census.gov/library/publications/2020/demo/p60-270.html#:~:text=Median%20household%20income%20was%20%2468%2C703,and%20Table%20A%2D1.

²⁶ Bureau, US Census. "Income and Poverty in the United States: 2019." The United States Census Bureau, 15 Sept. 2020, www.census.gov/library/publications/2020/demo/p60-270.html#:~:text=Median%20household%20income%20was%20%2468%2C703,and%20Table%20A%2D1.

Findings

In total, the 20 utilities included in our analysis serve 30.7 million residents or 11 percent of the U.S. population served by community water systems. The median household income ranges from \$30,907 in Cleveland, Ohio to \$92,263 in Seattle, Washington. Most of the utilities serve cities where the median household income is below the U.S. median. The poverty prevalence ranges from 9.6 percent in Salt Lake City, Utah to 32.7 percent in Cleveland, Ohio and 19 utilities serve cities with poverty levels above the U.S. average.

Four of the 20 utilities do not currently offer a CAP. According to our analysis, Miami-Dade WASA, which serves 2.3 million residents, is the largest water utility in the country that does not provide any need-based assistance. The lack of an assistance program is especially problematic due to the low income and high poverty prevalence in Miami: The region's median income is three-quarters of the national median and the poverty rate is twice as high as the national figure.

A. Ease of Access and Application Process

The first step to receive assistance for bill payment is to apply for the program. The process of applying for CAPs varies among utilities by three main components:

1. The number and type of documents required and when they must be submitted
2. The ability to submit and sign application materials electronically
3. The use of enrollment information from other federal or state assistance programs to provide water bill assistance

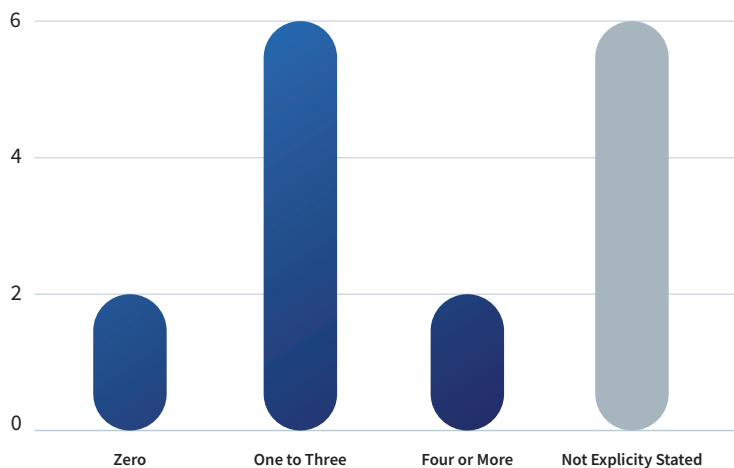
Number and type of documents

Easy-to-access CAPs are an anomaly among water utilities. Most application processes require multiple documents, do not accept or offer e-signatures, and typically have separate enrollment that is not connected to any existing state or federal assistance program.

The number of documents required by water utilities to apply for these programs is shown in Figure 4. Most utilities require at least two documents that show proof of residency and income of the primary account holder. Although this could be straightforward for some customers, others may need to submit multiple documents such as pay stubs from different jobs, other sources of income such as child support and recent hardship such as loss of a family member or severe illness. Some utilities require documents for every adult living in the household. For example, the Philadelphia Water Department requires the name, date of birth, and social security number of every household member, two proof of residency documents, one proof of income document, and an additional form in case of extraordinary hardship.²⁷ The requirement to submit such extensive documentation presents barriers for any customer, but especially challenging for households with mixed-immigration status who may lack documentation for one or more adults or be fearful of revealing themselves to the local utility.

²⁷ "Water Bill Customer Assistance: Service." City of Philadelphia, www.phila.gov/services/water-gas-utilities/pay-or-dispute-a-water-bill/water-bill-customer-assistance/.

Figure 4.
Amount of documents required at application submission

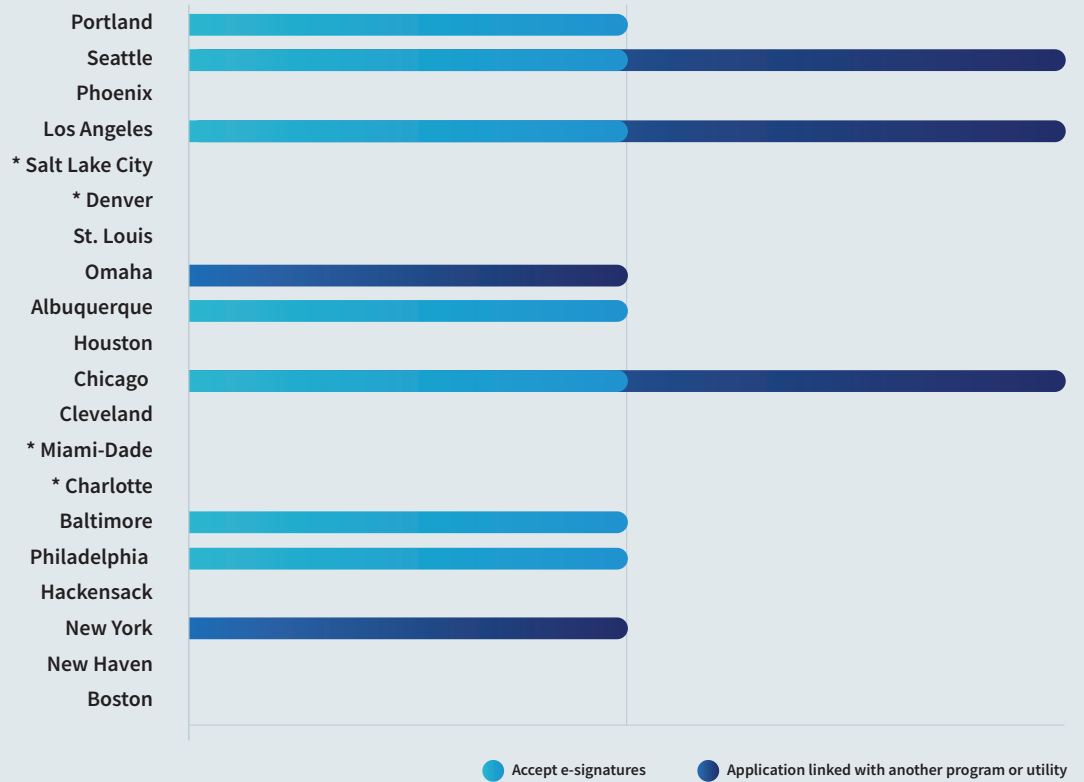


Electronic submission

In addition to the volume, utilities almost always require the documents be faxed/scanned or submitted in person. Our analysis found six utilities accepted electronic signatures, as shown in Figure 5. Electronic submission increases ease of access by eliminating the need to scan, fax, or deliver documents. These requirements can be more burdensome for low-income households, who are less likely to have easy access to scanners or fax machines or personal transport.



Figure 5.
Acceptance of e-signatures and linkages with other assistance programs. Utilities marked with an asterisk do not provide a CAP.



In Chicago, current LIHEAP participants can apply for bill assistance through the Utility Billing Relief program with only their utility account number. Customers can also apply for both LIHEAP and the Utility Billing Relief at the same time. This process can be done online in a matter of minutes.

Linkages with other assistance programs

Only four utilities linked the water CAP application with another utility or social assistance program application, as shown in Figure 6. Typically, linking customer assistance programs with other local or federal assistance programs such as LIHEAP would reduce paperwork, enrollment delays, and boost participation rates. Our analysis found such linkages between water utility CAPs and a federal assistance program or electrical utility occurred in four out of the twenty water utilities. The customers in these utilities certainly benefit by either enrolling or qualifying for water bill assistance compared to other utilities.

For example, in Chicago, current LIHEAP participants can apply for water CAP (known locally as ‘utility billing relief’ program) with only their utility account number. Customers can also apply for both LIHEAP and the utility billing relief at the same time. This process can be done online in a matter of minutes. Linkage across different programs offers substantial benefits by simplifying the application process and giving water CAPs access to a set of customers that need the support and are already enrolled in the more widely-used LIHEAP. In California, investor-owned utilities had higher customer assistance program participation rates than comparable public water utilities.²⁸ This difference is largely attributed to data-sharing among investor-owned water and electric utilities. By allowing private water utilities to link their water

²⁸ Feinstein , Laura. “Keeping the Water On: Addressing Rising Water-Bill Debt during the COVID-19 Economic Crisis.” SPUR, Jan. 2021, Keeping the Water On Addressing rising water-bill debt during the COVID-19 economic crisis.








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CAP application with energy utilities, they experience participation rates that mirror the electric utility program.

Although linkages across different assistance programs are desirable, the actual mechanics of setting that up could be a cumbersome process and limitations in data sharing between utilities--due to both policy and technology limitations--can hinder this process. A simpler way to enhance customer enrollment is to have easy-to-navigate websites and simplified applications.

Featured content

Figure 6.
A screenshot
of the Portland
Water Bureau
homepage.

<p>SERVICE</p> <p>Pay your sewer, stormwater, and water bill</p>	 <p>INFORMATION</p> <p>FAQs: Financial assistance for your sewer, stormwater, and water bill</p>	<p>SERVICE</p> <p>Report drinking water quality or pressure concerns</p>
 <p>INFORMATION</p> <p>Contact Us</p>	 <p>INFORMATION</p> <p>About us</p>	 <p>INFORMATION</p> <p>About Portland's Water System</p>
 <p>INFORMATION</p> <p>Water quality</p>	 <p>INFORMATION</p> <p>Cryptosporidium and drinking water</p>	 <p>CITY OF PORTLAND WEBSITE</p> <p>Water Cooler - Water Bureau employee portal</p>

The Portland Water Bureau is quite the exception, given this background. It has an easy-to-navigate website with information on scheduled and past water rate increases, income limits for water bill discounts, and the typical amount an individual can expect.²⁹ The website is formatted with large icons on the homepage (Figure 6), and the “FAQs: financial assistance for your sewer, stormwater, and water bills” tab takes users directly to a page with detailed information on various forms of assistance.

Furthermore, the application can be filled out online within minutes and submitted using an electronic signature. The only documentation required is proof of income through a pay stub, unemployment benefits, or similar document. The Portland Water Bureau does not exclusively provide assistance based on age or disability status, but those individuals could qualify for assistance based on income limits set by the utility.

The ease of access and application process affects enrollment. Although enrollment data are hard to obtain from utilities, typical enrollment rates (number enrolled as a fraction of those eligible) in water CAPs are around 10-15 percent.³⁰ Philadelphia’s tiered assistance program boasts a participation rate of 25 percent, which might be among the higher end of participation rates. Pittsburgh reported an enrollment rate of around 15 percent two years ago.³¹ These numbers are roughly comparable to the federal energy assistance program, LIHEAP, but far shorter than other federal programs like Supplemental Nutrition Assistance Program (SNAP), Temporary Assistance for Needy Families (TANF), and Social Security Disability Insurance.

Although enrollment data are hard to obtain from utilities, typical enrollment rates (number enrolled as a fraction of those eligible) in water CAPs are around 10-15 percent.

B. Eligibility and Effectiveness

Stringent eligibility requirements prevent customers who need assistance from accessing CAPs. Although a majority of the water utilities analyzed in this report provide a CAP, eligibility requirements vary significantly, preventing customers needing assistance from availing financial help. In most utilities, assistance is tied to homeownership, income, age and disability status, and special circumstances, such as abnormal water bills due to leaks. Additional fees related to water shutoffs and delinquent payments may shape the assistance program's scope and effectiveness.

²⁹ “Apply for Financial Assistance.” Portland.gov, www.portland.gov/water/water-financial-assistance/apply-financial-assistance.

³⁰ Feinstein, Laura. 2021. SPUR. Personal communication, January 28.

³¹ Giammarise, K. 2019. Few are using PWSA's programs for low-income customers. Pittsburgh Post-Gazette. May 28. Accessed at: <https://www.post-gazette.com/news/social-services/2019/05/28/PWSA-programs-low-income-customers-few-using-pittsburgh-water-sewer-authority/stories/201905210097>

Homeownership

One of the most significant limitations for effective and expansive customer assistance programs is the exclusion of renters. Half of the utilities that offer CAPs (eight out of 16) restricted eligibility to homeowners (Figure 7). The exclusion of renters significantly undermines the reach and effectiveness of CAPs for two main reasons. First, a large portion of U.S. residents live in rentals. For the past thirty years, homeownership rates in the United States have hovered around 60 percent, but the proportion is typically much lower in metropolitan areas.³² In recent decades, homeownership rates have declined in cities. Second, homeowners typically have much higher levels of income than renters.³³ Household incomes for renters are about half as that of owners.³⁴ HUD's Worst Case Housing Needs 2017 Report to Congress found that 64 percent of renters had low incomes (80 percent or less of area medians) and 26 percent had extremely low incomes (30 percent or less of area medians).³⁵

A large portion of U.S. residents are renters, especially in metropolitan areas. Household incomes for renters are about half as that of homeowners, so their exclusion from CAPs make the programs much less effective and inequitable.

³² "United States Home Ownership Rate 1965-2020 Data: 2021-2023 Forecast: Historical." United States Home Ownership Rate | 1965-2020 Data | 2021-2023 Forecast | Historical, tradingeconomics.com/united-states/home-ownership-rate.

³³ "HOUSING: Preliminary Analysis of Homeownership Trends for Nine Cities." U.S Government Accountability Office, 25 June 2020, www.gao.gov/assets/gao-20-544r.pdf.

³⁴ Renter Households. JOINT CENTER FOR HOUSING STUDIES OF HARVARD UNIVERSITY, 2017, www.jchs.harvard.edu/sites/default/files/02_harvard_jchs_americas_rental_housing_2017.pdf.

³⁵ Renter Households. JOINT CENTER FOR HOUSING STUDIES OF HARVARD UNIVERSITY, 2017, www.jchs.harvard.edu/sites/default/files/02_harvard_jchs_americas_rental_housing_2017.pdf.

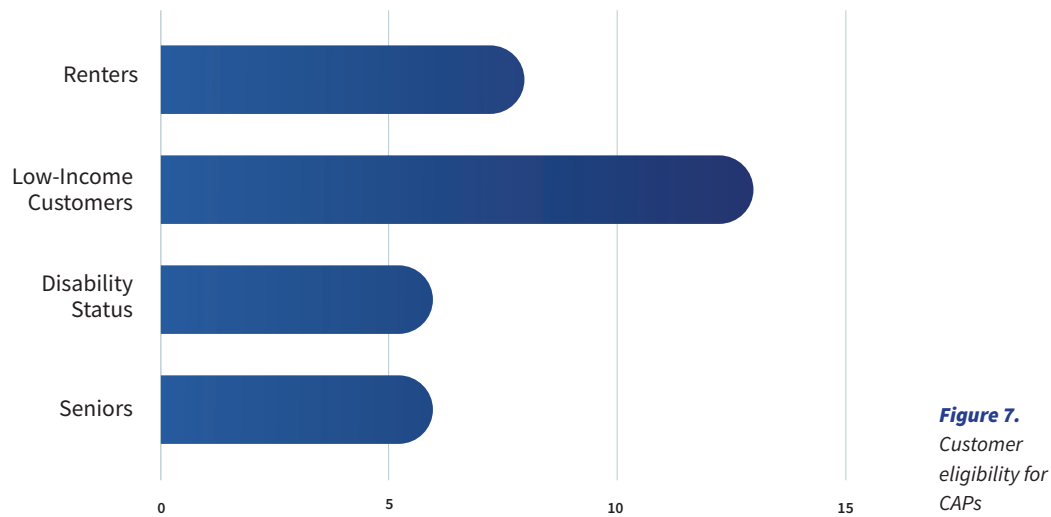


Figure 7.
Customer
eligibility for
CAPs

Conversations with utility officials suggested that a lack of clear information on renters could be a likely reason for their exclusion. For example, the Cleveland Public Water System has a homeownership requirement in its CAP because many renters - in apartment units and multi-family housing - are not responsible for water bills.³⁶ In such cases, utility bills are often factored into rent and can account for increases in rental prices.³⁷ In Houston, a bill discount is awarded as long as the water bill is in the name of the customer seeking assistance, regardless of homeownership. Although limited, this measure does include renters who are account holders, but will exclude renters who are not responsible for the water bill.



Extending eligibility to renters who are not responsible for the water bill would significantly expand the benefits offered by utility CAPs. Seattle Public Utilities (presented later in the report as a Case Study) is a good example of this. The Portland Water Bureau provides a voucher if applicants are at risk of eviction and meet an income requirement. The California State Water Board has proposed a “renter’s water credit” that provides a state tax relief to such customers.³⁸ Non-account holders may also benefit from other forms of assistance such as energy assistance, food assistance, and other better-enrolled programs, or through direct cash assistance.

³⁶ Elizabeth Barlik. 2021. Cleveland Public Water System. Personal communication.

³⁷ Renter Households. JOINT CENTER FOR HOUSING STUDIES OF HARVARD UNIVERSITY, 2017, www.jchs.harvard.edu/sites/default/files/02_harvard_jchs_americas_rental_housing_2017.pdf.

³⁸ California State Water Resources Control Board. 2020. Recommendations for Implementation of a Statewide Low-Income Water Rate Assistance Program. Accessed at: https://www.waterboards.ca.gov/water_issues/programs/conservation_portal/assistance/docs/ab401_report.pdf

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Income Thresholds

Nearly all CAPs set an income threshold for eligibility (Figure 7). These thresholds vary from 100 to 250 percent of the federal poverty level (FPL). The current FPL is \$21,960 for a family of three. Table 2 documents income eligibility thresholds to qualify for a CAP and compares them to median household incomes of the principal jurisdiction served by the utility. Based on the available data, it appears that the typical utility sets their CAP income threshold at 1.6 times the regional minimum wage and at 70 percent of the MHI. The most generous CAP income threshold is set by Philadelphia (3.6 times the minimum wage), whereas American Water St. Louis sets it at only 1.4 times the minimum wage. All CAPs, except Baltimore’s BH2O Plus, set their income thresholds above the regional minimum wage. Since mandated minimum wages do not accurately capture the cost of living, some CAPs may seem more generous and therefore, comparing the income thresholds to MHI can be more instructive. Here, we see a lot more variation. Houston’s income threshold is only 41 percent of MHI, whereas Cleveland sets it at 141 percent of the MHI for its CHN Housing program.

Table 2.
Income thresholds set under utility CAPs

Water Utility	Median Household Income (in 2019 dollars), 2015-2019	Regional Minimum Wage over 40 hours times 52 weeks	CAP Income Threshold (for a household of three)	CAP Threshold Converted to 2020 FPL
Boston Water and Sewer Commission (MWRA)	\$71,115	\$28,080	No Income Based CAP	No Income Based CAP
Regional Water Authority	\$42,222	\$24,960	\$54,300	~250%
New York City System (DEP)	\$63,998	\$31,200	\$50,591 (HWAP)	~250%
Suez Water New Jersey Hackensack	\$70,090	\$24,960	Case-by-case basis	-
Philadelphia Water Department	\$45,927	\$15,080	\$54,900	~250%
Baltimore City - Bureau Water SU	\$50,379	\$24,440	\$37,328 (BH2O) \$10,860 (BH2O Plus)	50% - 175%*
Charlotte Water	\$62,817	\$15,080	N/A	N/A
Miami-Dade County Water and Sewer	\$51,347	\$17,992	N/A	N/A
Cleveland Public Water System	\$30,907	\$18,304	\$43,440 (CHN Housing) \$34,500 (Homestead)	~200%
Chicago Water	\$58,247	\$29,120	\$43,440	~200%
City of Houston Water	\$52,338	\$15,080	\$21,720	100%
Albuquerque Water Authority	\$52,911	\$21,840	\$32,580	150%
Metropolitan Water District	\$60,091	\$18,720	\$43,440	200%
American Water, St. Louis and St. Charles Counties	\$43,896	\$21,424	\$29,647**	135% - 138%**
Denver Water Dept.	\$68,044	\$30,721	N/A	N/A
Salt Lake City Water System	\$60,676	\$15,080	N/A	N/A
L.A. Dept. Water and Power	\$68,044	\$29,120	\$43,440	200% - 250%
City of Phoenix Water	\$57,459	\$25,272	Not publicly available	Not publicly available
Seattle Public Utilities	\$92,263	\$28,475	\$60,444	250% - 300%
Portland Water Bureau	\$71,005	\$29,120	\$49,740	200% - 250%

*Baltimore has two CAPs. The base program sets eligibility at 175% of the FPL. The “plus” program sets the eligibility at 50% of the FPL and is the same as the base program with an added yearly grant.

**Only for Brunswick, Platte County and St. Joseph Districts. Community action agencies administer the other districts through the program H2O Help to Others, and the agency determines eligibility.

Houston sets the income threshold exactly at the FPL, which is the lowest income eligibility threshold among the utilities observed. This very low threshold restricts assistance to a small subset of all customers who need it. Furthermore, the requirements to obtain assistance are vague and leave customers uncertain about whether they will receive a bill discount. The City of Houston website states that "limited assistance is also available to disabled or low-income customers. Preference shall be given to those who have met the Federal (Health and Human Services) Poverty Guidelines for three (3) months or longer."³⁹ Lack of clear information about CAPs on the website would prompt customers to call the utility by phone to receive more information and determine their eligibility. This runs the risk of front-line representatives - without adequate training in implicit bias detection - guiding the customers with their biases and prejudices.⁴⁰ Non-fluent English speakers or customers unfamiliar with bureaucratic navigation might be discouraged or turned away when dealing with customer service representatives.

Sometimes the income threshold depends on the size of the household to account for multi-generation families or those with multiple children. For example, the Los Angeles Department of Water and Power sets maximum annual income thresholds to qualify for their CAP for households of various sizes (Figure 8). However, most utilities only include the acceptable federal poverty level amount, which may be confusing for customers not familiar with the term or its meaning.

Household Income Requirements

Figure 8.
Income thresholds set by the Los Angeles Department of Power and Water. Source: LADWP.

Member in Household	Maximum Annual Gross Income*
1	\$34,480
2	\$34,480
3	\$43,440
4	\$52,400
5	\$61,360
6	\$70,320
7	\$79,280
8	\$88,240
Each additional member	Each additional member

Disability and Senior Status

Age and disability requirements are two additional criteria that utilities often use to determine eligibility for CAPs. Of the utilities surveyed, six offer bill discounts for households with members who have a disability and six utilities offer eligibility based on senior status (Figure 7). However, utility policies vary on determining eligibility for disability or senior status. For example, the Boston Water and Sewer Commission determines eligibility for seniors by requiring customers to be homeowners and over 65 years old, with government documentation such as a birth certificate to verify age. For disabled persons, they must provide a doctor's note or an Award Letter from Social Security or the Veterans' Administration. For both of these programs, there are no secondary income requirements. In contrast, the Home Fund in the Municipal Utilities District in Omaha requires that the household contain one or more individuals who are 60 years or older with the only source of income being Social Security.

³⁹ "Customer Account Services Houston Public Works an Official Site of the City of Houston." W.A.T.E.R. Fund, www.houstonwaterbills.houstontx.gov/ProdDP/Default/Default.

⁴⁰ Marie Torres. 2021. The Human Utility, personal communication, February 5.



Nearly nine out of ten individuals age 65 and older receive Social Security benefits. However, these benefits only represent about 33% of the income of the elderly.⁴¹ Given their medical and housing needs, seniors may need to rely on other sources of income beside Social Security.⁴² Such restrictions may limit participation to only those customers that clear these narrow requirements. Furthermore, customers applying for a bill discount through senior or disability criteria need to produce additional documentation that go well beyond that required of a typical customer. Ease of access is especially important for these customers as seniors are less likely to have access to technology and people with disabilities may encounter difficulties submitting documentation.

Although most utilities provide bill payment assistance based on the above-discussed four criteria--homeownership, income, age, and disability status--some customers may not neatly fit into these boxes. Utilities like Philadelphia acknowledge this and offer bill discounts for customers who are experiencing a range of hardships from job loss to domestic abuse.

C. Typical Assistance Offered

The typical assistance offered by CAPs vary as do the water rates (Table 3). Except for Los Angeles and Suez Water, all utilities offering a CAP mention on their website the typical assistance offered to a customer. Based on a 5/8" meter size and monthly water volume of 6 CCF (~ 4,500 gallons), we estimate the typical monthly water bill to be about \$26. In cases where the utility charges seasonally-variable rates, off-peak rates were used. It ranges from a low of \$13.97 in Miami to a high of \$50.85 in Seattle. It is important to note that this amount does not include charges for wastewater services, which are about 1.4 times the water rates (with lots of regional variation). Furthermore, some utilities charge additional fees that are not part of the baseline or volumetric rate. Our assumption of the typical monthly water consumption may not hold true for low-income households. Larger families may need more water. Additionally, low-income families are very well likely to live in older housing that does not use water-efficient fixtures, resulting in higher than typical water bills and subsequently a much larger wastewater bill.

⁴¹ Social Security Fact Sheet . Social Security Administration , www.ssa.gov/news/press/factsheets/basicfact-alt.pdf.

⁴² "Sources of Income for Older Adults." Sources of Income for Older Adults | Pension Rights Center, 6 Jan. 2011, www.pensionrights.org/publications/statistic/sources-income-older-adults.

Table 3. Assistance offered by utility CAPs

Water Utility	Typical Monthly Water Bill	Bill Discount offered under CAP for a typical customer		Services covered under bill discount
		As a % of the water bill	In \$	
Boston Water and Sewer Commission (MWRA)	\$35.86	30%	\$10.76	Water and wastewater
Regional Water Authority	\$46.82	12.4%	\$5.82[^]	Water and wastewater
New York City System (DEP)	\$23.94	16%	\$3.83	Water and wastewater
Suez Water New Jersey Hackensack	\$25.46	Case-by-case basis	Case-by-case basis	Water and wastewater
Philadelphia Water Department*	\$32.43	0%	Rates set at 2 to 4 percent of income	Water and wastewater
Baltimore City - Bureau Water SU	\$35.64	45%	\$40	Water and wastewater
Charlotte Water	\$16.63	N/A	N/A	
Miami-Dade County Water and Sewer	\$13.97	N/A	N/A	
Cleveland Public Water System**	\$45.91	69%	\$31.59	Water
Chicago Water	\$16.24	50%	\$8.12	Water and wastewater
City of Houston Water***	\$32.47	21%	\$6.67	Water and wastewater
Albuquerque Water Authority	\$21.25	34%	\$21.93	Water, wastewater, and solid waste
Metropolitan Utilities District	\$22.56	46%	\$10.44[^]	Water and gas
American Water, St. Louis and St. Charles Counties	\$31.52 (only for St. Louis)	80%	\$25.22	Water and wastewater
Denver Water Dept.	\$25.57	N/A	N/A	
Salt Lake City Water System	\$17.5	N/A	N/A	
L.A. Dept. Water and Power	\$42.05	Not stated	Not stated	Water, wastewater, and electric
City of Phoenix Water	\$24.46	34%	\$8.33[^]	Water and wastewater
Seattle Public Utilities	\$50.85	50%	\$25.43	Water, wastewater, stormwater, solid waste, and yard
Portland Water Bureau	\$44.89	45%	\$20	Water, wastewater, and stormwater

Bill discount information presented in bolded text was obtained from the utility website and the amount or percentage of assistance was calculated using that and the typical water rate.

* Philadelphia Water Department sets the water rates under CAP to be 2-4 percent of the income. Based on the 20th percentile income of \$14,000, this comes to be \$35, which is closer to the typical water rate.

**Cleveland offers a discounted rate for customers enrolled in the Homestead program. The typical rate under the program would be \$14.32.

***Houston's program is for seniors and available to others on a case-by-case basis.

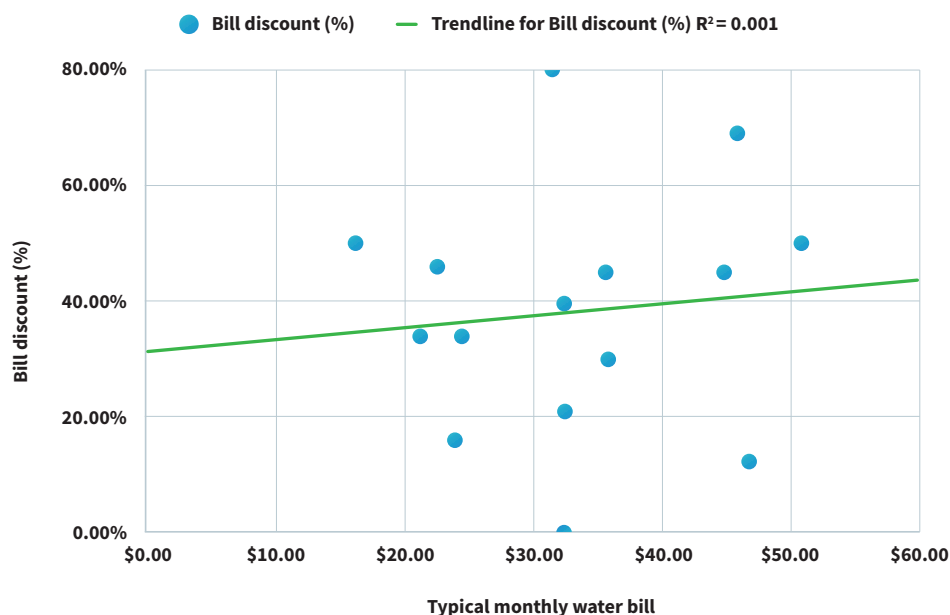
[^] These utilities offer a cap on the allowed benefits, typically for a year or some other period and the monthly discounts for water services alone were derived from that.

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Based on a review of the utility CAPs, we estimated the amount and percentage of bill discount for a typical consumer.

The typical discount is \$10.76, which would amount to an 33 percent discount. However, the median discount is 40 percent. A plot of bill discount (measured as a percentage of the typical water bill) against the typical water bill shows a lack of any meaningful relationship ($R^2=0.01$) between the two (Figure 9). Utilities with higher rates like Seattle and Portland offer similar discounts (in terms of percentage) to low-rate utilities like Albuquerque and Chicago. Despite CAPs being designed locally at each utility, it is striking to see most CAPs provide roughly similar assistance regardless of the cost of water and other services in high-cost cities.

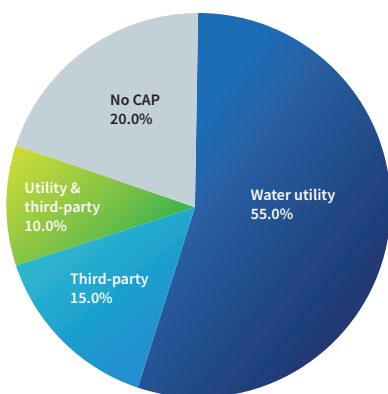
Figure 9.
Bill discount as a function of typical water rates.



D.Administration

Similar to the eligibility thresholds and application process, the administration and funding for CAPs vary widely. Most CAPs are administered by the utilities themselves, while some are outsourced to specific nonprofit organizations (Figure 10). In states that preclude the use of rate-revenue funding for CAPs, utilities often rely on non-rate revenue (like property rents and leases) or voluntary donations.⁴³ The lack of reliable funding diminishes the scope and extent of the programs offered by the utilities.

Figure 10.
Administration of CAPs. Source: Author's analysis.



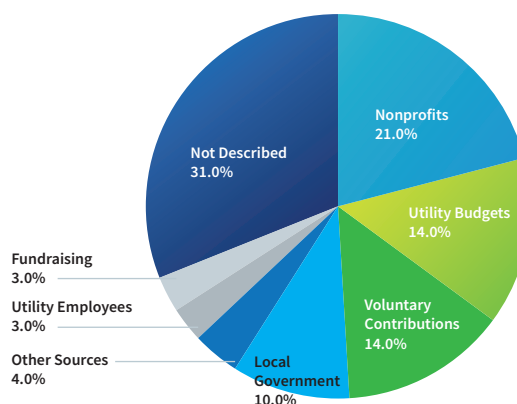
State legislation prohibiting the use of rate revenues to fund CAPs profoundly influences their structure and scope. It results in an over-reliance on external organizations like the Community Action Agency and on voluntary donations. Relying on these nonprofits creates a dependency on an ill-equipped source, separates the customer from the utility, and diminishes the utility's accountability in providing its customers with affordable water services. The result is limited programs that lack the funding and oversight to accomplish meaningful relief.

⁴³ Drinking Water and Wastewater Customer Assistance Programs. Environmental Protection Agency, Apr. 2016, www.epa.gov/sites/production/files/2016-04/documents/dw-ww_utilities_cap_combined_508.pdf.

Of the twenty utilities, Seattle Public Utilities was the only utility to have explicit authorization from state legislation to use rate revenues to fund CAPs.⁴⁴ Many states outright exclude public water utilities from using rate revenues to fund these programs. Some others like California allow private water utilities to use rate revenues to fund their CAPs, even as they preclude public utilities from doing so.⁴⁵ Although this limitation affects utilities of all sizes, many of the largest public utilities have the ability to generate revenue from donations and by renting out capital and thus can still administer the CAP directly due to their sheer size.

A common practice in smaller and mid-sized utilities is to refer customers seeking bill assistance to local nonprofits who provide one-time assistance.⁴⁶ Although certainly helpful to some customers, this assistance is meagre and often provides partial relief for an ongoing crisis. In our analysis, Salt Lake City was the only water utility to offer such assistance, referring their customers to the Salvation Army. This is not a typical setup among larger utilities and because such assistance doesn't meet certain criteria like recurring bill assistance, we did not include this program in our analysis.

Figure 11.
Funding sources for CAPs. Numbers do not add up to 100 percent because utilities could select more than one option or leave fields blank. Source: WRF 2010, page 18



Non-payment of utility bills by customers and the resulting debt utilities are accruing can have a serious impact on their ability to support CAPs. Managing the deficit without raising rates is a tricky act to navigate, as increasing rates will further affect low-income customers. At the beginning of the COVID-19 pandemic, the American Water Works Association and the Association of Metropolitan Water Agencies estimated the financial impact of the pandemic on water and wastewater utilities to exceed \$27 billion.⁴⁷ The report expected water utilities to delay capital and infrastructure improvements to maintain a cash flow. Deferred water rate increases combined with excessive losses increase the likelihood of a significant increase in water rates after the pandemic. Many of the largest water utilities issued a moratorium on water shutoffs during COVID-19 (some of which have now expired), but the AWWA/AMWA survey reported that only 13 percent of the utilities have debt forgiveness policies. The recent support from Congress should help, but given the scale of the need, utilities will end up recouping lost revenue from customers, impacting the ones that most need the help. Eight of the 20 utilities analyzed in this report serve cities where more than 20 percent of the residents are below the poverty line (Table 1) Any rate increases, or collection of unpaid water bills and delinquent fees, will exacerbate the affordability challenges faced by low-income customers.

⁴⁴ Berahzer, Stacey, et al. "Navigating Legal Pathways to Rate-Funded Customer Assistance Programs: A Guide for Water and Wastewater Utilities." Environmental Finance Center, 2017, efc.sog.unc.edu/resource/navigating-legal-pathways-rate-funded-customer-assistance-programs-guide-water-and.

⁴⁵ Feinstein, Laura. "Keeping the Water On: Addressing Rising Water-Bill Debt during the COVID-19 Economic Crisis." SPUR, Jan. 2021, Keeping the Water On Addressing rising water-bill debt during the COVID-19 economic crisis

⁴⁶ Vedachalam, S., & Kirchoff, M. (2020). Analysis of Water Utility Websites Reveals Missed Opportunities. Journal: American Water Works Association, 112(3).

⁴⁷ "The Financial Impact of the COVID-19 Crisis on U.S. Drinking Water Utilities." American Water Works Association, 14 Apr. 2020, www.awwa.org/Portals/0/AWWA/Communications/AWWA-AMWA-COVID-Report_2020-04.pdf.

E. CAPs vs Water Rates

Since most CAPs offer assistance as a percentage of the water bill, increases in water rates can offset the benefits offered by CAPs for low-income customers. Eligibility loopholes and low enrollment rates compound this problem for those not participating in CAPs. Take the case of Baltimore. The city has a two-tiered CAP that offers assistance to a wide range of customers, including renters, a favorable income threshold, and a quick application process.⁴⁸ Despite the comprehensive program, water rates for drinking water and sewer have increased by about 10 percent annually in the last decade and are projected to continue into the next year, which amount to a 150 percent increase from the base rate in 2010. Low-income customers will find water services unaffordable, despite a well-designed CAP.

Contrast this situation with the City of Phoenix that offers a very limited CAP, but has remarkably low water rates. Among the twenty largest cities reviewed in a study, Phoenix was found to be the most affordable based on the share of disposable income used for water bills.⁴⁹ Phoenix also offers a CAP; however this program served only roughly 3,000 households (~ 8,000 residents) in 2018-2019 in a city of 1.5 million residents.⁵⁰ While this is undoubtedly underwhelming, Phoenix can offer relatively affordable water services through its low-rate structure.

Although limiting rate increases might seem like the obvious route to affordability, this is not a feasible option for many utilities that need increased revenue to match the rising cost of infrastructure maintenance and treatment for new contaminants. Alternatives such as variable water rates based on income are quite challenging to design and administer. The one program that has attempted it, Philadelphia, is not old enough to provide evidence that it is indeed better at enrollment and provides substantial benefits over traditional CAPs. The economic crisis brought on by COVID-19 made it plain clear that relying on income information from the previous year is no barometer for current conditions faced by a household.

Keeping these concerns in mind, robust and thorough CAPs will continue to serve as vehicles for affordable water services for millions of low-income customers throughout the country. Attempts must be made to address shortcomings in state laws that prevent the use of rate revenues. Utilities can also streamline the application process and increase enrollment. But CAPs must be seen as a band-aid solution to increasing water rates and the affordability challenge. As Manuel Teodoro wrote on his [blog](#) recently, "... utility managers and policymakers from Capitol Hill to City Hall should be sober in their expectations about what CAPs can accomplish in pursuit of affordable water. Utilities can do everything right and still reach fewer than half of the customers who need help."

To better understand differences in utility practices, both within and across, we reviewed CAPs at three utilities in detail. Each case study highlights aspects of the CAP that can get lost in the summary statistics: the challenges of offering discounts to customers spread across counties in the same state (Missouri American Water), a well-designed program that excludes renters (Cleveland Public Water System) and an accessible program in a high-cost city that benefits from a supportive state law (Seattle Public Utilities).

⁴⁸ "BH20." Mayor's Office of Children and Family Success, www.bmorechildren.com/bh20.

⁴⁹ Teodoro, M.P. (2018), Measuring Household Affordability for Water and Sewer Utilities. *Journal - American Water Works Association*, 110: 13-24. <https://doi.org/10.5942/jawwa.2018.110.0002>

⁵⁰ "Water Equity Initiative." City of Phoenix Water Services Department, 23 June 2020, www.phoenix.gov/waterservicessite/MediaAssets/WSD%20Home%20Page/EquityPaper_2020-06-23_Final.pdf.

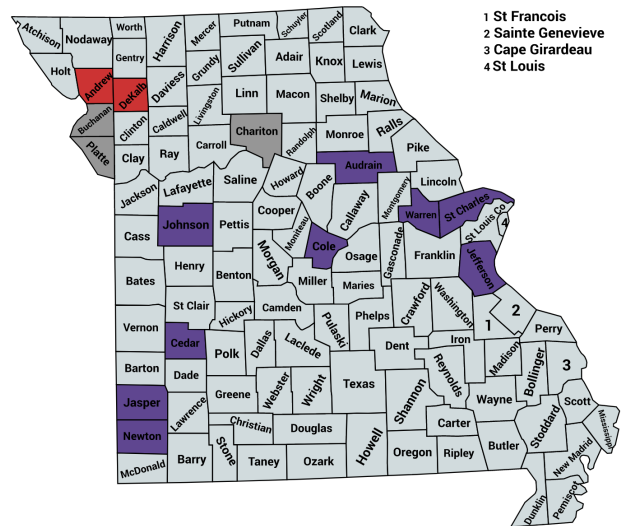
Case Study: Missouri American Water

Three of the 20 utilities analyzed in this report are private utilities, of which two are investor-owned. American Water in Missouri and Suez Water in New Jersey represent two of the country's largest private water utilities. Depending on state legislation, a private utility has numerous advantages in administering customer assistance programs. Missouri American Water serves 1.1 million residents in the state, spread across numerous counties (Figure 12).

Figure 12.
County of map of Missouri showing variation in administration of Missouri American Water's billing assistance program.

Administration of CAPs in Missouri

- American Water through Pilot Program
- Community Action Agency
- Both



In Missouri, American Water offers two CAPs that are administered quite differently. In Brunswick, Platte County, and St. Joseph District, a low-income assistance program is offered to customers with a 5/8” meter who qualify through LIHEAP. The total bill discount is eighty percent off the fixed rate charge of the water bill. However, for all other counties and districts in the water service area, the only CAP offered is H2O Help to Others, which is entirely administered by local community action agencies.

Across the country, H2O Help to Others is the most frequently offered CAP by American Water. While the name of the program is consistent across all American Water subsidiaries through the U.S., the assistance varies from across and within states. Of the 16 states American Water operates in, nine offer H2O Help to Others; six of them only offer this one program, while the rest offer both H2O Help to Others and another CAP. Additionally, three utilities have a CAP other than H2O Help to Others, and four offer no type of assistance at all (Figure 13).

The most frequent third-party provider, Community Action Agency of St. Louis, lacks an online application and any information on expected assistance, and requires households to be below 125 percent of the federal poverty level.⁵¹ The Community Action Agency based in Jefferson Franklin lacks any mention of the H2O program on its website.⁵² The criteria and administration of these programs are left entirely up to the community action agency. The only guideline for achieving assistance set by American Water is that a household meets the “‘basic needs’ criteria as set by Community Action Agency caseworkers.”⁵³ The unclear thresholds potentially contribute to the participation rates hovering in the “10 to 20 percent range.”⁵⁴

In New Jersey, Suez Water administers its CAP similar to American Water through a third-party organization. However, in this case, that third-party organization, Suez Cares, is a nonprofit created by Suez Water.⁵⁵ On Suez Water’s website, there is no link to Suez Cares and no information other than a phone number located under the “Collections FAQ” tab. There is no downloadable or electronic application, and no eligibility requirements stated.

In both cases, the utilities’ reliance on third-party organizations like the community action agency creates a disconnect between the utility and the customer. The utility makes donations to the program but are largely uninvolved and seemingly uninterested in the welfare of their customers. Despite the differences between public and private water utilities in administering the CAP, both deal with fairly similar issues. Representatives from American Water and their trade group, the National Association of Water Companies, highlighted affordability concerns for renters, especially non-account holders, as a key priority.⁵⁶

American Water’s California and Pennsylvania subsidiaries experience higher rates of participation in CAPs, likely attributed to the stronger role played by the Public Utilities Commission. In both states, the PUC has jurisdiction over rate setting for private water utilities, and state legislation allows private utilities to use rate revenues to fund CAPs.⁵⁷ In the words of Rik Hull of the National Association of Water Companies, “funding drives the program.” Reliable, ample, and diverse funding streams can support a vigorous CAP in conjunction with a well-administered program.

Third-party organizations that solely provide utility bill assistance like the Dollar Energy Fund may be more equipped to handle customer concerns than general purpose organizations like the Salvation Army.

⁵¹ “H2O HELP PROGRAM.” Community Action Agency of St. Louis County, Inc., 28 Mar. 2019, www.caastlc.org/programs-page/h2o-help-program/.

⁵² JEFFERSON FRANKLIN COMMUNITY ACTION CORPORATION, www.jfcac.org/.

⁵³ “Payment Assistance Program.” American Water - Missouri, American Water, www.amwater.com/moaw/Customer-Service-Billing/Payment-Assistance-Program/.

⁵⁴ Rik Hull and Chuck Rea, 2021. National Association of Water Companies and American Water. Personal communication. March 5.

⁵⁵ “SUEZ Cares.” NJ SHARES, njsharesgreen.org/suez-cares/.

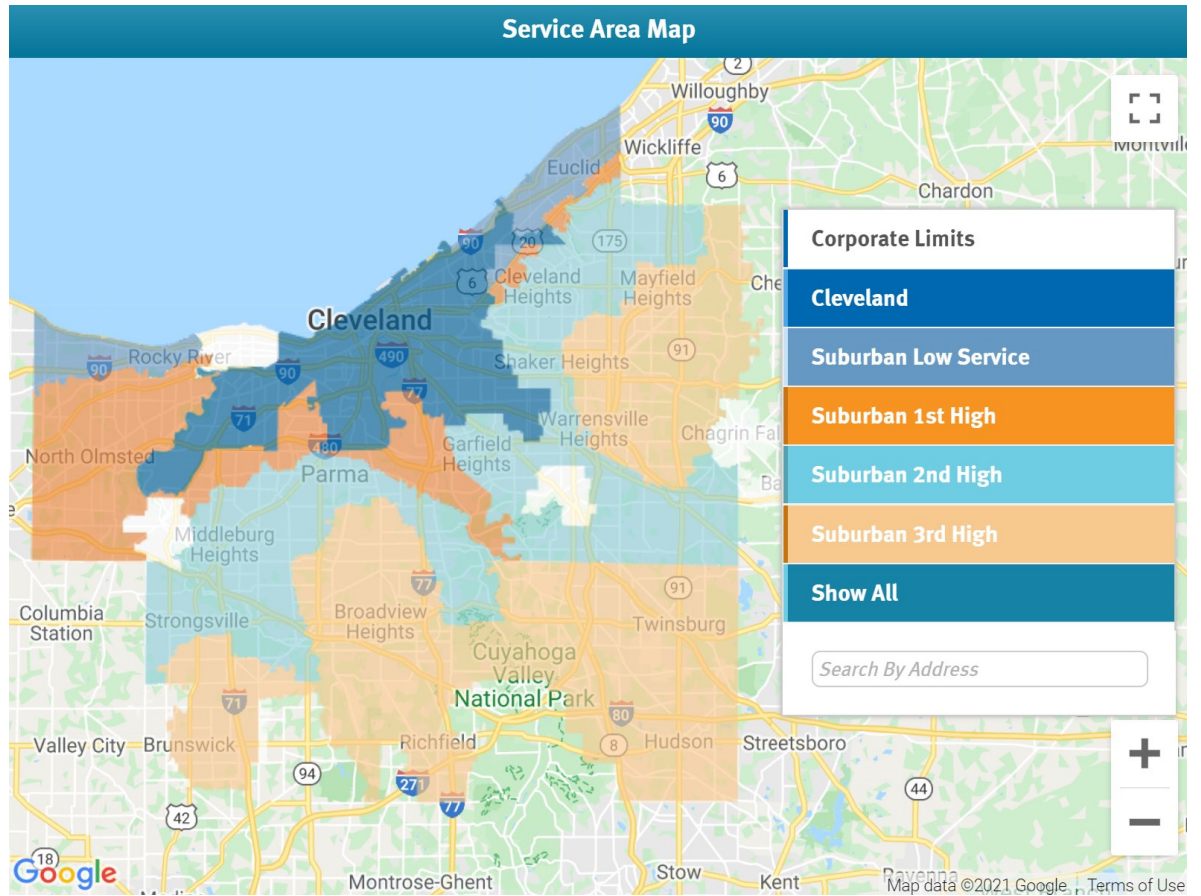
⁵⁶ Rik Hull and Chuck Rea, 2021. National Association of Water Companies and American Water. Personal communication. March 5.

⁵⁷ Berahzer, Stacey, et al. “Navigating Legal Pathways to Rate-Funded Customer Assistance Programs: A Guide for Water and Wastewater Utilities.” Environmental Finance Center, 2017, efc.sog.unc.edu/resource/navigating-legal-pathways-rate-funded-customer-assistance-programs-guide-water-and-

Case Study: Cleveland Public Water Systems

Cleveland Public Water System serves 1.3 million residents, primarily in Cleveland and surrounding jurisdictions (Figure 14). The utility offers two CAPs: the Homestead Discount Program is administered by the utility itself and offers a lower fixed charge and consumption rate based on income, homeownership, and age or disability status. The Water Affordability Program offers a flat 40 percent discount on all standard water charges and is administered through CHN Housing Partners, a nonprofit community organization that provides housing solutions. Among the utilities surveyed in this report, Cleveland Water was the only public utility to offer both approaches.

Figure 14.
Service area map of the Cleveland Public Water System. All shaded areas represent various zones in the service area.



The Homestead Discount Program sets the max income threshold at \$34,500 (which is above the median household income for the city of Cleveland)⁵⁸ and offers a 40 percent discount on water consumption charges.⁵⁹ The Water Affordability Program sets the max income threshold at 200 percent of the federal poverty level and offers a 40 percent discount on all standard water charges.⁶⁰ Both of these programs set a low income threshold limit and offer a significant discount on water charges.

The CAPs offered by Cleveland Water are reasonably comprehensive and one possible reason could be the availability of adequate funding. Ohio does not explicitly authorize the use of rate revenues for establishing and supporting assistance programs, but does not prohibit it either. Cleveland uses rates to fund the CAP by incorporating the costs of the programs as part of operational costs. This allows the utility to set low thresholds for household income and expands the amount of the bill discount. However, Cleveland ties both of these programs to homeownership and thus excludes renters.

A representative from the Cleveland Public Water System emphasized that it is hard for the utility to gather information on customers who are renters.⁶¹ This may be due to the fact that water bills list the property owner and not the tenant due to the transient nature of their stay. However, this is an easy problem to address as other cities/utilities allow renters to access CAPs as long as the bill is in their name. In cities like Cleveland where approximately 60 percent of the households are renters, excluding them would render the CAPs ineffective.



⁵⁸ Table 1

⁵⁹ "Discount Programs." Cleveland Water Department, 25 Feb. 2020, www.clevelandwater.com/customer-service/water-rates/discount-programs.

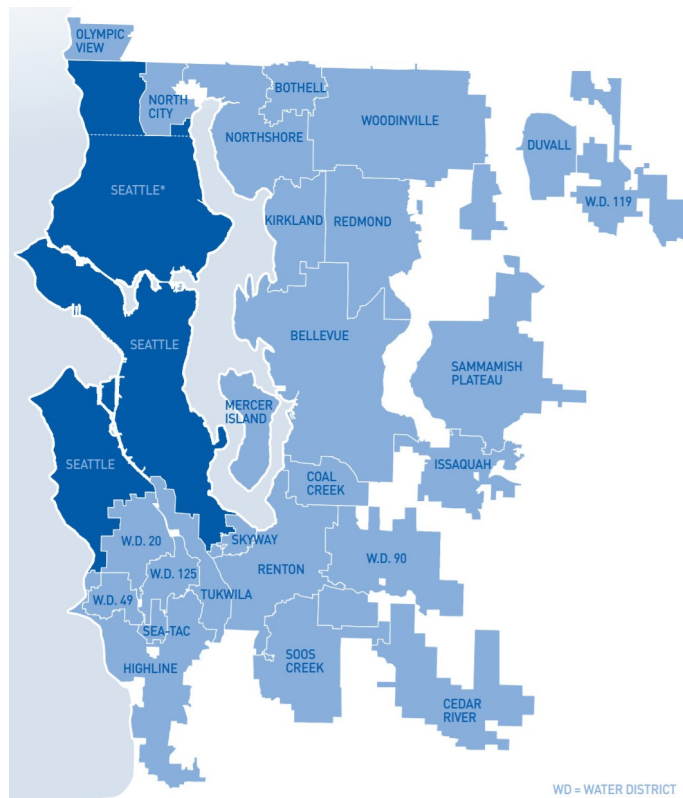
⁶⁰ "Discount Programs." Cleveland Water Department, 25 Feb. 2020, www.clevelandwater.com/customer-service/water-rates/discount-programs.

⁶¹ Elizabeth Barlik. 2021. Cleveland Public Water System. Personal communication, February 19.

Case Study: Seattle Public Utilities

Of the utilities surveyed in this report, few offered comprehensive coverage and easy access as Seattle's water system. The system serves 1.5 million residents in the greater Seattle, Washington area with direct service to residents in and around Seattle, alongside wholesale partnerships and emergency agreements with smaller municipalities and water districts (Figure 15).

Figure 15.
Service area map of the Seattle Public Utilities. Areas shaded dark blue represent direct service and those in light blue are wholesale or emergency agreements



Seattle is an expensive city; one study ranked it among the five most expensive cities to live in the country⁶² and Teodoro et al. (2017) ranked its water service as one of the most unaffordable.⁶³ To address this concern, the state legislature has prioritized the funding of clean and accessible drinking water and wastewater services. For example, recently proposed House Bill 1139 provides funding for the replacement of water pipes in schools that contaminated the water supply with lead.⁶⁴ In addition, Washington is one of very few states that explicitly allow public water utilities to use rate revenues to fund CAPs. This has allowed Seattle to have a financially generous CAP.

⁶² Schlosser, K. 2019. Cost of living study ranks Seattle as fifth most expensive U.S. city to live in. GeekWire. August 6. Accessed at: <https://www.geekwire.com/2019/cost-living-study-ranks-seattle-fifth-expensive-u-s-city-live/>

⁶³ Teodoro et al. (2017).

⁶⁴ Furfaro, Hannah. "Washington Bill Curbing Lead in School Drinking Water Heads for Inslee's Signature." The Seattle Times, The Seattle Times Company, 12 Apr. 2021, www.seattletimes.com/education-lab/washington-bill-curbing-lead-in-school-drinking-water-heads-for-inslees-signature/.

The discount is not the only area in which Seattle’s CAP excels. Seattle Public Utilities requires no documentation at the time of applying and the customer has up to six months after applying to submit proof of income and their state-issued I.D. This provides flexibility for customers who may need immediate financial assistance. The application itself reads more like a survey with twelve questions, most of which ask for name, address, and contact information. This single application is used for electric, water, sewage, and solid waste bill discounts. Most notably, the utility discount program provides bill discounts to water customers who are not directly responsible for the water bill (Figure 16).

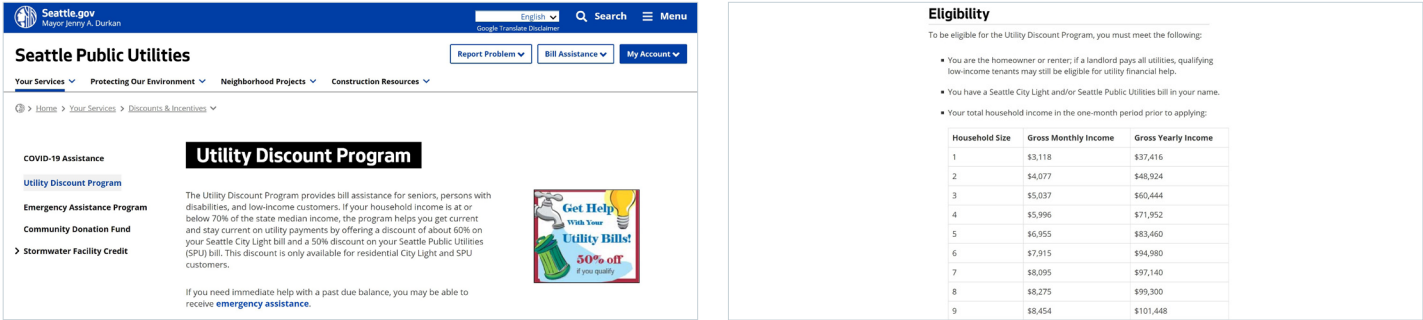


Figure 16. Seattle CAP application portal.

CAP participation rates are hard to obtain, but LIHEAP, which is often looked to as a model for water rate assistance, was documented in 2020 as having only a 20 percent participation rate among income-eligible households within the city of Seattle taking advantage of energy assistance programs.⁶⁵ It is reasonable to assume the participation rate in the Seattle Public Utilities CAP to range anywhere from 10 to 20 percent.

Increasing the CAP participation rate might cause an entirely new problem for the utility. Seattle Public Utilities uses 70 percent of the state median income as the income threshold for enrollment, which is currently \$60,438.⁶⁶ Roughly 40 percent of households would qualify for the CAP based on this income threshold.⁶⁷ Subsidizing water bills by 50 percent (as per the CAP) for nearly half the customers with rate revenues from the other 60 percent of the customers will result in a cycle of rate increases. This fear prompts many state legislatures to restrict the use of rate revenues to fund these types of assistance programs. However, if used effectively as one of several affordability measures, CAPs can serve their purpose for the most financially vulnerable customers and keep overall rates stable.

Seattle Public Utilities requires no documentation at the time of applying and the customer has up to six months after applying to submit proof of income and their state-issued I.D. This provides flexibility for customers who may need immediate financial assistance.

⁶⁵ <https://liheapch.acf.hhs.gov/news/nov10/seattle.htm>
⁶⁶ "State Median Income Chart." DSHS, www.dshs.wa.gov/esa/eligibility-z-manual-ea-z/state-median-income-chart.
⁶⁷ "Household Income in the Seattle Area, Washington (Metro Area)." The Demographic Statistical Atlas of the United States - Statistical Atlas, statisticalatlas.com/metro-area/Washington/Seattle/Household-Income.

Policy Recommendations

Based on the above scan of customer assistance programs in the largest water utilities, we offer a few policy recommendations:

A. State legislation that allows or even encourages utilities to use rate revenues for CAPs

Explicit authorization from state legislatures that allow water utilities to use rate revenues for CAPs would provide public water utilities with a guaranteed source of funds for CAPs. Not having the authorization or worse a prohibition, utilities are restricted to using non-rate revenue sources and donations, which are unreliable and limit the amount and scope of assistance offered.

B. Linkage of water assistance programs with federal programs

Customers struggling to pay their water bills are likely facing hardship in other areas such as rent, food, and other utility payments as well. There is a strong case, therefore, to link water utility CAPs with other utility CAPs or federal programs. LIHEAP (Low Income Home Energy Assistance Program) is the most obvious program to pair with, given its connection to other utility bills, but data sharing across other programs such as AFDC (Aid to Families with Dependent Children), SSSI (Supplemental Social Security Income), Medicaid, SNAP (Supplemental Nutrition Assistance Program), and other utilities would streamline access and bolster participation rates. LIHEAP could even be expanded to include a water bill assistance program such that it is a single program requiring one application.

C. Data sharing across utilities

Water utilities must be allowed to access and share data on their customers with other utilities such as gas and electric. Restrictions on data sharing, such as the one in California, are a detriment to expanding access to CAPs. Such data sharing can happen regardless of the linkages between water utility CAPs and other assistance programs.

D. Streamline customer application process

Even without linkages with other utility CAPs or federal assistance programs, there is a tremendous opportunity for utilities to streamline the application process by limiting the number of documents requested upfront, allowing electronic signing and submission, and providing as much information about the program including expected bill assistance.

E. Uniform income thresholds

In our analysis, we found wide variation in eligibility requirements and income thresholds set by water utilities. LIHEAP recommends utilities use income thresholds for eligibility at 60 percent of the state median income⁶⁸, but this may exclude larger households and those living in high-cost areas within a state. An alternate recommendation would be to set two sets of thresholds within any state: one for Tier 1 cities that have a high cost of living, and another for the rest of the state. Eligibility thresholds could also be linked to other well-subscribed programs in the state.

F. Vouchers for renters who indirectly experience high water bills

The exclusion of renters in many utility CAPs is a significant limitation. Utilities must eliminate homeownership as a requirement and expand qualification to those responsible for the water bill. This will still leave out that subset of renters who are not directly responsible for paying the water bill, but instead pay a flat fee as part of their rent to the property owner. Vouchers or cash assistance by the Federal Housing Administration and the Housing and Urban Development could offset some of the costs associated with utility bills for those customers. The California Water Board proposed a “renter’s water credit” that provides a state tax relief to such customers.

G. Prioritize lower water rates over CAPs

Since most CAPs offer assistance as a percentage of the water bill, increases in water rates can offset the benefits offered by CAPs for low-income customers. Eligibility loopholes and low enrollment rates compound this problem for those not participating in CAPs. Increased enrollment in CAPs can cause its own problem by reducing the number of customer accounts paying into the CAP fund, potentially limiting a utility’s ability to offer meaningful rate reduction. A better solution is to keep the cost of water low for basic consumption and make discretionary uses expensive.

H. Limit delinquent payment fees and water shutoffs

More than half (56 percent) of water utility professionals classified nonpayment of bills as a significant or moderate issue, according to the American Water Works Association 2019 State of the Water Industry Report.⁶⁹ The same report found that only 34 percent of the utilities reported offering any customer assistance program. Increased water rates, nonexistent or insufficient customer assistance programs, and excessive late or reconnection fees exacerbate affordability concerns. Utilities must prioritize customers’ public health and welfare concerns by eliminating shutoffs as a tool for rate payment and limiting or eliminating delinquent payment fees.

⁶⁸ “LIHEAP Service Eligibility Guidelines.” The Administration for Children and Families, www.acf.hhs.gov/ocs/grant-funding/liheap-service-eligibility-guidelines.

⁶⁹ “2019 State of the Water Industry Report.” American Water Works Association, 2019, www.awwa.org/Portals/0/AWWA/ETS/Resources/2019_STATE%20OF%20THE%20WATER%20INDUSTRY_post.pdf.

Concluding Thoughts

Even before the COVID-19 crisis, affordability was a serious national challenge for the water sector in light of continually rising water rates. Water utilities - mostly larger ones - have responded to this challenge by setting up customer assistance programs. Our review of CAPs at 20 largest utilities found wide variation in eligibility requirements, extent of assistance offered, and necessary documentation.

CAPs are notoriously under-subscribed and enrollment data are hard to obtain. They cater to a small section of the population, typically homeowners and certain other groups like seniors and disabled individuals, the income thresholds are often too low, and the assistance is provided on a “first-come-first-served” basis. A large portion of renters who live in multi-unit dwellings without individual meters pay their water bill as a flat fee to their landlord, and are therefore ineligible for CAPs. Although private investor-owned utilities have a lot more flexibility in setting up CAPs, our case study of Missouri American Water found a complex system of CAPs that separates customers based on the county of their residence. State regulations complicate what could be a single, nationwide program for each utility.

Federal funding along with guidelines can help utilities improve their existing CAPs and set up new ones when none exist. While this report was limited to a scan of large water utilities, the need for assistance is undoubtedly universal. Even at their best, CAPs are a band-aid solution to the larger problem of increasing water rates and higher demands on utilities. The reliance on rate revenues has the potential to be a downward spiral for CAPs. Increased enrollment in the assistance programs reduces the number of customer accounts paying into the CAP fund, potentially limiting a utility’s ability to offer meaningful rate reduction.

The scientific literature is sparse on the effectiveness of CAPs and other affordability interventions such as crisis relief in reducing the incidence of late bill payments, nonpayment, and service shutoffs, so this remains a topic of further investigation.⁷⁰

Although we did not review rate structures in this report, it is abundantly clear that water rate structures are not progressive--the first block is priced too high relative to other blocks, and the price for each subsequent block is only marginally higher than the previous one, resulting in water being unaffordable and inequitable for low-income users. Whether through bigger reforms to block rate structures or the addition of easy-to-use income-based assistance programs, many more water utilities need a viable strategy to ensure that their most disadvantaged customers aren’t shut off from water services. As the COVID-19 crisis demonstrated, water utilities are one economic shock away from a financial crisis. Utilities have a transactional relationship with their customers, but they tend to survive and even thrive when their customers are doing well.

⁷⁰ Pierce, G., El-Khattabi, A. R., Gmoser-Daskalakis, K., & Chow, N. (2021). Solutions to the problem of drinking water service affordability: A review of the evidence. *Wiley Interdisciplinary Reviews: Water*, e1522.

Appendix

Table S1.

Analysis of American Water CAPs

State	H ₂ O Help to Others		Other assistance programs	
	Program offered	Administered by	Program offered	Administered by
California			Monterey's Hardship Benefit Program	United Way Monterey County
Georgia			Project Water Help	The United Way of Greater Chattanooga
Hawaii				
Illinois	●	The Salvation Army		
Indiana				
Iowa	●	Community Action of Eastern Iowa		
Kentucky	●	The Dollar Energy Fund manages donations and grants. Program administered by multiple third-party agencies.		
Maryland	●	Dollar Energy Fund		
Michigan				
Missouri	●	Multiple third-party agencies	Pilot	American Water
New Jersey	●			
New York				
Pennsylvania	●	Dollar Energy Fund	Emergency Rental Assistance Program	Multiple community action agencies
Tennessee			Project Water Help	The United Way
Virginia	●	Dollar Energy Fund		
West Virginia	●	Dollar Energy Fund	Special Reduced Rate Program for Low Income Customers	American Water

