Stanford Law Review

Volume 76 March 2024

ARTICLE

Disrupting Utility Law for Water Justice

Sharmila L. Murthy*

Abstract. Water is essential for survival, yet this critical resource is increasingly unaffordable for many Americans. Utilities have raised water rates to maintain degraded infrastructure and comply with environmental standards. As water rates rise faster than inflation, low-income households are forced to make difficult trade-offs involving social, economic, and health ramifications. Utility-level customer assistance programs only go so far, in part because many utilities face legal barriers to addressing affordability. Utilities are usually required to set water rates that reflect the cost of service and to ensure that the rates for each customer class are just, reasonable, and nondiscriminatory. These requirements are often interpreted as creating an explicit or implicit prohibition on cross-subsidization of water rates. As a result, most water utilities do not set water tariffs based on household income levels or use water revenue to fund customer assistance programs—even if doing so would be financially advantageous. In some jurisdictions, utilities are also concerned that cross-subsidized rate structures could be construed as illegal taxes or gifts under state constitutions.

Technological disruption has ushered in critical examination of the law governing other utilities, such as electricity and telecommunications. This Article argues that the increasing unaffordability of water services—which threatens basic water access for millions of Americans—is a form of social disruption requiring a re-examination of the key tenets of water utility law. Several states and cities have modified their water utility codes to enable the utilities to use the revenue from water tariffs to fund customer assistance programs or to set water rates based on household income. In other words, these

* Professor of Law and Public Policy, Northeastern University (effective July 2023, but on leave). Sharmila L. Murthy wrote and submitted this Article for publication while at Suffolk University Law School. She earned her J.D. from Harvard Law School, her M.P.A. from Harvard Kennedy School of Government, and her B.S. in Natural Resources from Cornell University. She is grateful for the feedback of William Boyd, Rebecca Bratspies, Sarah Burstein, Stephen Cody, Rebecca Curtin, Martha Davis, Adam Eckart, Gabriel Eckstein, Steve Ferrey, Robert Fischman, Felix Mormann, Thomas Mitchell, Laura Mott, Tim Mulvaney, Vanessa Casado Perez, Heather Payne, Sabeel Rahman, J.B. Ruhl, Troy Rule, Jennifer Rushlow, James Salzman, Sarah Schendel, Danielle Stokes, Daniel Walters, and Gina Warren. She also appreciates the opportunity to have presented this paper at the EnviroSchmooze workshop hosted by Texas A&M School of Law, Boston College Law School, Northeastern University School of Law, and at the works-in-progress session of the Environmental Law and Natural Resources sections of the American Association of Law Schools.

utilities can now make water truly affordable for everyone they serve. These efforts bring a renewed, justice-oriented meaning to the concepts of just, reasonable, and nondiscriminatory services, thereby enabling utilities to achieve the goal of universal access to water. Drawing on case studies from Philadelphia, Atlanta, and California, this Article proposes a novel approach for promoting the horizontal diffusion of best practices: developing a model law on water affordability through the Uniform Law Commission.

Table of Contents

Introduction

Water is essential for survival. We depend on this vital resource to drink, prepare food, wash, and fulfill basic sanitation and hygiene needs. Americans have long taken for granted access to safe and affordable water. Yet events over the last decade have highlighted that lack of access to this critical resource is not simply a problem in developing countries. Thousands—if not millions—of families in the United States have had their access to safe water threatened in recent years.[1] For example, between 2014 and 2019, over 141,000 households in Detroit had their water shut off for non-payment.[2] In 2018, 40,000 residences in Philadelphia—approximately 8% of the service population—were eligible for water shutoffs.[3] Although water may be less expensive than other utility services,[4] the costs are nonetheless great for low-income households that face water bills that continue to grow faster than inflation and represent increasingly large proportions of their incomes.[5] For example, water rates in Baltimore increased by close to 83% between 2010 and 2017.[6] Concerns about access to safe water are particularly acute in communities of color, raising

1. Elizabeth A. Mack et al., *An Experiment in Making Water Affordabl Philadelphia's Tiered Assistance Program (TAP)*, 56 J. AM. WATER RES. ASS'N 431, 431 (2020); Nina Lakhani, *Millions in US at Risk of 'Water Shutoffs' amid Layoffs Triggered by Pandemic*, GUARDIAN (Apr. 6, 2020, 7:00 EDT), https://perma.cc/QD96-Z6N8 (noting that there "is no national database tracking shutoffs or the number of US households left without running water").

2. Joel Kurth & Mike Wilkinson, *I Hate to Complain, but I Haven't Had Water in a Year. A Detroit Story.*, BRIDGE MICH. (Feb. 17, 2020), https://perma.cc/TX4W-V22X; *see also* ANNA RECCHIE ET AL., HAAS INST. FOR A FAIR & INCLUSIVE SOC'Y, MOSES & PRAXIA PARTNERS, WATER EQUITY AND SECURITY IN DETROIT'S WATER & SEWER DISTRICT 61 (2019), https://perma.cc/SX89-UKL2.

3. Mack et al., *supra* note 1, at 434.

4. AM. WATER WORKS ASS'N, THINKING OUTSIDE THE BILL: A NEW GUIDE TO AFFORDABILITY AND CUSTOMER ASSISTANCE 9 (3d ed. 2022), https://perma.cc/37U4-VKXK (noting that, in 2020, the typical U.S. household spent $680 on water bills compared to $1,400 and $1,500 on telephone and electricity bills, respectively); *see also* G. Tracy Mehan III & Ian D. Gansler, *Addressing Affordability as a Necessary Element of Full-Cost Pricing*, *in* TRANSFORMATIVE ISSUES SYMPOSIUM ON AFFORDABILITY: SPECIAL CONTENT COLLECTION 41, 41 (2018), https://perma.cc/25TN-ETPP (describing water as "underpriced, [yet] expensive").

5. STANLEY J. CZERWINSKI, ELIZABETH FRETWELL, R. SCOTT FOSLER, GREG LINDSEY & MICHAEL A. PAGANO, NAT'L ACAD. OF PUB. ADMIN., DEVELOPING A NEW FRAMEWORK FOR COMMUNITY AFFORDABILITY OF CLEAN WATER SERVICES 21-22 (2017), https://perma.cc/5L92-U49N; Mehan & Gansler, *supra* note 4, at 41; Diego S. Cardoso & Casey J. Wichman, *Water Affordability in the United States*, 58 WATER RES. RSCH. e2022WR032206, at 2 (2022), https://perma.cc/Y9UU-YPUN.

6. CZERWINSKI ET AL., *supra* note 5, at 22. The quoted statistic refers to both water and sewer rates, but as discussed further below, I generally use the term "water" for simplicity in this Article.

environmental justice and civil rights concerns.[7] For instance, the recent water crisis in Jackson has its roots in the disinvestment that occurred after the city began to desegregate.[8]

Many low-income communities face a Hobson's choice[9]: clean water or affordable water. They will not have access to clean water or sanitary treatment of wastewater unless they invest in costly infrastructure.[10] But making such investments often increases water rates to such a degree that the precious resource is effectively out of reach.[11] Poor households are then forced to make difficult choices when faced with high water bills—deciding between paying for other basic goods and services and paying for water service.[12] Living with the constant threat of water service termination is stressful and

7. COTY MONTAG, NAACP LEGAL DEF. & EDUC. FUND, THURGOOD MARSHALL INST., WATER/COLOR: A STUDY OF RACE AND THE WATER AFFORDABILITY CRISIS IN AMERICA'S CITIES 1, 31 (2019), https://perma.cc/PP3J-3DL9; Press Release, NAACP Legal Def. & Educ. Fund, LDF and ACLU of Michigan Ask for Immediate Moratorium on Detroit's Water Shut-Offs (July 18, 2014), https://perma.cc/7V62-YRBU.

8. Molly Hennessy-Fiske, *White Then Black Residents Abandoned Jackson, Propelling Its Water Crisis*, WASH. POST (Sept. 4, 2022, 6:00 AM EDT), https://perma.cc/5YHN-SZXY.

9. "Hobson's choice" is "an apparently free choice when there is no real alternative." *Hobson's Choice*, MERRIAM-WEBSTER, https://perma.cc/XEL4-2NVG (archived Feb. 3, 2024).

10. As discussed in Part II below, water rates are rising in many places due to the costs of treating wastewater and managing stormwater. Moreover, many older cities with combined sewer overflows face challenges complying with the Clean Water Act. *See* Federal Water Pollution Control Act Amendments of 1972, Pub. L. No. 92-500, 86 Stat. 816 (codified as amended at 33 U.S.C. §§ 1251-1387). Although the Environmental Protection Agency's expectation is that the community will achieve compliance as soon as possible, financial capability is one factor considered when creating the schedule for implementation. Communities with affordability concerns, i.e., with less ability to bear rate increases to pay for costly measures, will have longer compliance schedules, which means that the water will not meet the standards of the Clean Water Act for a longer period of time. *See, e.g.*, ROGER COLTON, BALTIMORE'S CONUNDRUM: CHARGING FOR WATER/WASTEWATER SERVICES THAT COMMUNITY RESIDENTS CANNOT AFFORD TO PAY 1, 31 (2018), https://perma.cc/PPW9-3CZ4 (explaining Baltimore's dilemma between building needed water infrastructure and ensuring water affordability for residents); *see also* EPA, CLEAN WATER ACT FINANCIAL CAPABILITY ASSESSMENT GUIDANCE 1-2 (2023), https://perma.cc/2J44-E9KY.

11. *See* MONTAG, *supra* note 7, at 33.

12. Gregory Pierce, Ahmed Rachid El-Khattabi, Kyra Gmoser-Daskalakis & Nicholas Chow, *Solutions to the Problem of Drinking Water Service Affordabilit A Review of the Evidence*, 8 WIREs WATER e1522, at 1-2 (2021), https://perma.cc/N8H9-NGCG; DAHLIA ROCKOWITZ ET AL., UNIV. OF MICH. POVERTY SOLS., HOUSEHOLD WATER SECURITY IN METROPOLITAN DETROIT: MEASURING THE AFFORDABILITY GAP 1-2 (2018), https://perma.cc/4Z6L-JPDE; JENNIFER READ, NOAH ATTAL, ELIN BETANZO, RITCHIE HARRISON & ASHLEY STOLTENBERG, UNIV. OF MICH. WATER CTR. & GRAHAM SUSTAINABILITY INST., WATER SERVICE AFFORDABILITY IN MICHIGAN: A STATEWIDE ASSESSMENT 6, 32-33 (2022), https://perma.cc/7U3X-5DZX.

presents daily struggles for low-income families.[13] The COVID-19 pandemic ushered in a wave of moratoria on disconnections, but as these bans sunset, concerns about water access have re-emerged.[14] As a report sponsored by the American Water Works Association (AWWA) Water Utility Council observed, "the pandemic has been a catalyst for the development of sustainable solutions to these long-standing issues, in part because the affordability problem became more visible and obvious."[15] Addressing these inequities is not simply a moral imperative, but also one that makes economic sense in terms of increased productivity and reduced healthcare costs.[16] Although many water utilities have developed customer assistance programs, these programs often do not go far enough in ensuring affordable access to this precious resource, and they do not solve many of the underlying problems.[17]

This Article argues that the key principles of utility law, which have long served as a check on abuses of power by natural monopolies, have created legal barriers to water affordability.[18] The term affordability is used in this Article to mean "the ability of individual customers to pay for water and sewer services to meet their basic needs while maintaining the ability to pay for other

13. ROCKOWITZ ET AL., *supra* note 12, at 3 (finding in a study of low-income households in Detroit and surrounding counties that "[forgone] expenses include housing, medicine and medical/dental care, transportation, fresh fruits and vegetables and school supplies" and that "51% of households are switching-off between paying their energy and water bills"); *see* Nadia Gaber et al., *Water Insecurity and Psychosocial Distres Case Study of the Detroit Water Shutoffs*, 43 J. PUB. HEALTH 839, 844 (2021) ("[W]e find a positive, significant relationship between three of our measures of water insecurity and psychological distress . . . .").

14. Mildred E. Warner, Xue Zhang & Marcela González Rivas, *Which States and Cities Protect Residents from Water Shutoffs in the COVID-19 Pandemi* , 67 UTILS. POL'Y art. 101118, at 1 (2020), https://perma.cc/2A45-UZEN; *see, e.g.*, Nushrat Rahman, *After 3-Year Moratorium, Detroit Set to Resume Water Shutoffs for High-Debt Customers*, DETROIT FREE PRESS (updated Aug. 9, 2023, 6:55 PM ET), https://perma.cc/YG4F-3UPK.

15. AM. WATER WORKS ASS'N, *supra* note 4, at 2.

16. *See* U.S. WATER ALL., THE PATH TO UNIVERSALLY AFFORDABLE WATER ACCESS: GUIDING PRINCIPLES FOR THE WATER SECTOR 4 (2022). Utility rate expert Roger Colton has also argued that allocating universal service costs among all customer classes—i.e., residential and non-residential—reflects the mutual advantages that the various customer classes gain from tiered rate structures. Sierra Club Direct Testimony of Roger D. Colton on Behalf of the Sierra Club, at Ex. 8, *In re* Duke Energy Progress, LLC's Request to Initiate Tech. Conf. Regarding the Projected Transmission & Distrib. Projects to Be Included in a Performance-Based Regul. Application, N.C. Utils. Comm'n, No. E-2, Sub 1300 (Mar. 27, 2023), https://perma.cc/BNB4-V6FS.

17. *See infra* Part I.C.2.

18. *See* UNC ENV'T FIN. CTR., NAVIGATING LEGAL PATHWAYS TO RATE-FUNDED CUSTOMER ASSISTANCE PROGRAMS: A GUIDE FOR WATER AND WASTEWATER UTILITIES 7, 9, 11-12 (2017), https://perma.cc/3BUR-D5AB; Mehan & Gansler, *supra* note 4, at 43.

essential costs."[19] In contrast, affordability issues faced by utilities are sometimes described as "financial capability," which refers to "the ability of the utility to pay for the capital and operations cost associated with providing safe and reliable water and wastewater services."[20] In addition, for simplicity, this Article generally uses the term "water" to describe the provision of both clean water and wastewater services.[21]

Utilities are usually required to set water rates to reflect the cost of service[22] and to ensure that the rates within a customer class are just, reasonable, and nondiscriminatory.[23] Together, these requirements are often interpreted as creating an explicit or implicit prohibition on cross-subsidization of water rates within the same rate class.[24] If, for example, wealthier households are charged higher rates than lower-income households, then the former is subsidizing the latter, even though they are all part of the same rate class.[25] As a result, to avoid violating the non-discrimination

19. Manuel P. Teodoro, *Measuring Household Affordability for Water and Sewer Utilities*, J. AM. WATER WORKS ASS'N, Jan. 2018, at 13, 15; *see* AM. WATER WORKS ASS'N, M1 PRINCIPLES OF WATER RATES, FEES, AND CHARGES: MANUAL OF WATER SUPPLY PRACTICES 209 (7th ed. 2017).

20. CZERWINSKI ET AL., *supra* note 5, at 35 (quoting Jon P. Davis & Manuel P. Teodoro, *Financial Capability and Affordability*, *in* WATER AND WASTEWATER FINANCE AND PRICING: THE CHANGING LANDSCAPE 443 (George A. Raftelis ed., 4th ed. 2015)); *see also* MARGARET SCHNEEMANN, DEFINING & MEASURING WATER AFFORDABILITY: A LITERATURE REVIEW 2 (2019), https://perma.cc/3U47-TLU6. *See generally* EPA, *supra* note 10 (describing the EPA's procedures for assessing a utility's financial capability to implement required water infrastructure).

21. *See* AM. WATER WORKS ASS'N, *supra* note 19, at 190 (noting that "many water utilities provide wastewater service and the two services are included on a single customer bill").

22. Cost of service usually means that rates are designed to cover operations, maintenance, reinvestment, and the building of required infrastructure systems. *See* Mack et al., *supra* note 1, at 434.

23. *See, e.g.*, ALASKA STAT. § 42.05.391(a) (2024) ("A public utility may not establish or maintain an unreasonable difference as to rates, either as between localities or between classes of service."); Town of Wickenburg v. Sabin, 200 P.2d 342, 344 (Ariz. 1948) ("The common law upon the subject is founded on public policy which requires one engaged in a public calling to charge a reasonable and uniform price to all persons for the same service rendered under the same circumstances." (quoting 4 EUGENE MCQUILLIN, THE LAW OF MUNICIPAL CORPORATIONS § 1829 (2d ed. 1943))); Village of Niles v. City of Chicago (*Village of Niles I*), 401 N.E.2d 1235, 1242 (Ill. App. Ct. 1980); *see also* Mehan & Gansler, *supra* note 4, at 43-44.

24. Residential households and commercial customers are usually considered to be different rate classes. *See* AM. WATER WORKS ASS'N, *supra* note 19, at 74 ("It is common for water utilities to have three principal customer classes: residential, commercial, and industrial.").

25. *See* UNC ENV'T FIN. CTR., *supra* note 18, at 18. However, there is always a small degree of cross-subsidization in any rate structure because, for example, customers live different distances from the water plant, so the true costs of service vary for everyone. *Id.*

principle, water utilities usually do not set water tariffs based on household income levels or use water revenue to fund customer assistance programs—even if doing so would be financially advantageous for the utility.[26]

It may seem counter-intuitive to suggest that utilities facing rising costs would benefit from charging some customers lower rates. However, a more dependable revenue stream—even at a lower rate—could help improve a utility's credit rating and reduce costs related to disconnection.[27] Consider this example:

> If a household has a water bill totaling $100 but can only afford $75, the household may choose not to pay anything towards the bill because it will not prevent the bill being overdue and may or may not prevent the water being shut off. If through an affordability program the bill is reduced to $75, the household will be able to afford the full bill and may prevent shut off. This scenario means both that the household will preserve their access to water and that the utility will receive the $75 in revenue and avoid the expense of shutting off the water.[28]

Charging low-income customers a lower rate than other customers may benefit a utility financially, but the utility may not create this kind of cross-subsidized rate structure for fear of being sued for creating unreasonably discriminatory rates.[29] If a utility does not use rate revenue to fund a water affordability program, then the utility must rely on other, less dependable sources of funding, such as charitable donations.[30] In some jurisdictions, utilities are also concerned that cross-subsidized rate structures could be construed as illegal taxes or gifts under their state constitutions.[31] Water utilities are incentivized to create rates that can withstand legal scrutiny because ratemaking is highly technical, costly, and time-consuming.[32] Thus, even if the law does not explicitly prohibit a utility from using rate revenue to fund affordability programs, cautious attorneys advising utilities may interpret the law as if it does. With these real and perceived legal constraints,

---

26. *See id.* at 7, 9.

27. EPA, *supra* note 10, at 26. For further discussion, see Part III.B below.

28. MOONSHOT MISSIONS, WATER AFFORDABILITY ANALYSES FOR SIX MICHIGAN COMMUNITIES 17 (2022), https://perma.cc/2NLB-64VG.

29. *See* UNC ENV'T FIN. CTR., *supra* note 18, at 11, 16-17; C. (Kees) W. Corssmit, *History of Water Rates and Legal Challenges*, *in* WATER RATES, FEES, AND THE LEGAL ENVIRONMENT 7, 16 (C. (Kees) W. Corssmit ed., 2d ed. 2010).

30. UNC ENV'T FIN. CTR., *supra* note 18, at 9. For more detail on methods used by utilities to help low-income customers, see the discussion on customer assistance programs in Part I.C.2 below.

31. The paradigmatic case here is Detroit, which did not adopt an ambitious overhaul of its rate structure for fear of litigation alleging that it was charging an illegal tax; rather, it has developed a charity-based model. *See infra* notes 334-42 and accompanying text.

32. *See* Frederick Huff, *Water Rate Conflict Resolution in the Legal System*, *in* WATER RATES, FEES, *supra* note 29, at 23, 27-31. *See generally* UNC ENV'T FIN. CTR., *supra* note 18; AM. WATER WORKS ASS'N, *supra* note 19.

how can a utility fulfill its seminal role of "providing stable, reliable, and *universal* service at just and reasonable rates"?[33]

This Article tackles water utility law—an overlooked area of legal scholarship—with an eye towards helping utilities provide *universal* service.[34] The legal literature on public utilities focuses primarily on fields that have experienced some form of disruptive technological innovation—such as telecommunications and energy.[35] I posit that a different kind of disruption—one that is social and not technological—now requires a re-examination of the key tenets of water utility law. As water utilities have been forced to raise rates to cover increasing costs of service, low-income households have increasingly struggled to pay their bills.[36] This social disruption, which came to the fore during the COVID-19 pandemic, has been evidenced by the threatened shutoffs and drinking water crises—from Detroit to Baltimore to Jackson—that have garnered national and even international attention.[37] This is not a widespread

33. William Boyd, *Public Utility and the Low-Carbon Future*, 61 UCLA L. REV. 1614, 1619 (2014) (emphasis added); *see also* K. Sabeel Rahman, *Infrastructural Regulation and the New Utilities*, 35 YALE J. ON REGUL. 911, 922 (2018) (discussing the "larger normative theory implicit in the public utility tradition").

34. In an important move, the American Water Works Association adopted a Policy Statement on Affordability in 2018. Am. Water Works Ass'n, *AWWA Policy Statement on Affordability* (Oct. 24, 2018), https://perma.cc/7P4U-HYJZ.

35. *See, e.g.*, Jim Rossi & Morgan Ricks, *Foreward to Revisiting the Public Utility*, 35 YALE J. ON REGUL. 711, 713-14 (2018). In much of the literature, water only tends to be referenced as a classic public utility because it is a stable resource and the economies of scale of its provision leads to natural monopolies. *See, e.g.*, Christopher S. Yoo, *Common Carriage's Domain*, 35 YALE J. ON REGUL. 991, 1013, 1017 (2018); William J. Novak, *The Public Utility Idea and the Origins of Modern Business Regulation*, *in* CORPORATIONS AND AMERICAN DEMOCRACY 139, 142 (Naomi R. Lamoreaux & William J. Novak eds., 2017); William Boyd, *Just Price, Public Utility, and the Long History of Economic Regulation in America*, 35 YALE J. ON REGUL. 721, 754 (2018). Although Sabeel Rahman connects public utility law to water provision in several articles, his primary focus is on the failure of public authorities during the Flint water crisis and on privatization trends, rather than the details of water utility ratemaking. *See, e.g.*, Rahman, *supra* note 33, at 936-37; K. Sabeel Rahman, Essay, *Constructing Citizenshi Exclusion and Inclusion Through the Governance of Basic Necessities*, 118 COLUM. L. REV. 2447, 2469-72, 2477-78, 2495-97 (2018) [hereinafter Rahman, *Constructing Citizenship*]; K. Sabeel Rahman, *Infrastructural Exclusion and the Fight for the Cit Power, Democracy, and the Case of America's Water Crisis*, 53 HARV. C.R.-C.L. L. REV. 533, 536-41 (2018) [hereinafter Rahman, *Infrastructure Exclusion*].

36. AM. WATER WORKS ASS'N, *supra* note 4, at 2. For a discussion of the causes of rising costs, see also Part I below.

37. *See, e.g.*, AM. WATER WORKS ASS'N, *supra* note 4, at 2-3; Press Release, NAACP Legal Defense Fund, Civil Rights Groups Call on United Nations Rapporteurs to Refer Human Rights Abuses in Detroit Water Shut-off Campaign to United States Government (Oct. 16, 2014), https://perma.cc/3D78-RCGF; Letter from Kary L. Moss, Exec. Dir., ACLU Fund of Michigan, and Sherrilyn Ifill, Dir.-Couns., NAACP Legal Def. & Educ. Fund, to Catarina de Albuquerque, Special Rapporteur on the Hum. Right to Safe Drinking Water & Sanitation, and Leilani Farha, Special Rapporteur on Adequate Hous., U.N. Off. of the High Comm'r for Hum. Rts. (Oct. 16, 2014),
footnote continued on next page

concern in all communities, but it is a growing concern across the United States.[38] Legal scholars have examined access to safe and affordable water from the lenses of human rights, environmental justice, environmental quality, the Safe Drinking Water Act, and constitutional law.[39] However, there is almost no legal scholarship on water ratemaking. Rather, this topic has been the purview of public policy, geography, and public finance scholars,[40] industry experts,[41] public agencies,[42] and non-profit organizations.[43] This Article fills a

https://perma.cc/5FDX-JB25; Press Release, U.N. Off. of the High Comm'r for Hum. Rts., Joint Press Statement by Special Rapporteur on Adequate Housing as a Component of the Right to an Adequate Standard of Living and to Right to Non-Discrimination in This Context, and Special Rapporteur on the Human Right to Safe Drinking Water and Sanitation Visit to City of Detroit (United States of America) 18-20 October 2014 (Oct. 20, 2014), https://perma.cc/P444-DF66; Laura Gottesdiener, *UN Officials "Shocked" by Detroit's Mass Water Shutoffs*, AL JAZEERA AM., (Oct. 20, 2014, 3:00 PM ET), https://perma.cc/96RD-9N5F; Rahman, *supra* note 14; Luke Broadwater, *City Shuts Off Water to Delinquent Residents; Hits Baltimore Co. Homes Hardest*, BALT. SUN, https://perma.cc/S7XM-VJU2 (updated June 1, 2019, 5:20 PM); Press Release, Balt. City Dep't of Pub. Works, Delinquent Water Accounts Facing Turnoff (Mar. 27, 2015), https://perma.cc/DY6M-AQBH.

38. AM. WATER WORKS ASS'N, *supra* note 4, at 2.

39. *See generally* JAMES SALZMAN, DRINKING WATER: A HISTORY (rev. & updated ed. 2017); James Salzman, *Safe Drinking Water*, *in* FIFTY YEARS AT THE US ENVIRONMENTAL PROTECTION AGENCY: PROGRESS, RETRENCHMENT, AND OPPORTUNITIES 211 (A. James Barnes, John D. Graham & David M. Konisky eds., 2021); Heiner Bielefeldt, *Access to Water, Justice and Human Rights*, *in* THE HUMAN RIGHT TO WATER 49 (Eibe H. Riedel & Peter Rothen eds., 2006); Benjamin Mason Meier et al., *Translating the Human Right to Water and Sanitation into Public Policy Reform*, 20 SCI. & ENG'G ETHICS 833 (2014); Margaret Satterthwaite, *On Rights-Based Partnerships to Measure Progress in Water and Sanitation*, 20 SCI. & ENG'G ETHICS 833 (2014); MONTAG, *supra* note 7; Rhett B. Larson, *The New Right in Water*, 70 WASH. & LEE L. REV. 2181 (2013); Rhett B. Larson, *Water Security*, 112 NW. U. L. REV. 139 (2017); KNUT BOURQUAIN, FRESHWATER ACCESS FROM A HUMAN RIGHTS PERSPECTIVE: A CHALLENGE TO INTERNATIONAL WATER AND HUMAN RIGHTS LAW (2008); Gonzalo Aguilar Cavallo, *The Human Right to Water and Sanitatio Going Beyond Corporate Social Responsibility*, 29 UTRECHT J. INT'L & EUR. L., no. 76, 2013, at 39; Erik B. Bluemel, Comment, *The Implications of Formulating a Human Right to Water*, 31 ECOLOGY L.Q. 957 (2004); Amanda Cahill, *'The Human Right to Water—A Right of Unique Status The Legal Status and Normative Content of the Right to Water*, 9 INT'L J. HUM. RTS. 389 (2005); Martha F. Davis, *Freedom from Thirs A Right to Basic Household Water*, 42 CARDOZO L. REV. 879 (2021).

40. *See, e.g.*, Teodoro, *supra* note 19, at 13, 22; UNC ENV'T FIN. CTR, *supra* note 18, at 7; Elizabeth A. Mack & Sarah Wrase, *A Burgeoning Crisi A Nationwide Assessment of the Geography of Water Affordability in the United States*, 12 PLOS ONE e0169488, at 1 (2017), https://perma.cc/D93U-UXGH.

41. AM. WATER WORKS ASS'N, *supra* note 19.

42. *See, e.g.*, CZERWINSKI ET AL., *supra* note 5; EPA, DRINKING WATER AND WASTEWATER UTILITY CUSTOMER ASSISTANCE PROGRAMS 2-3 (2016), https://perma.cc/L82R-UNGL.

43. *See, e.g.*, NAT'L CONSUMER L. CTR, REVIEW AND RECOMMENDATIONS FOR IMPLEMENTING WATER AND WASTEWATER AFFORDABILITY PROGRAMS IN THE UNITED STATES (2014), https://perma.cc/JRP2-PXNH.

gap in the literature. It highlights the ways in which the basic tenets of utility law have prevented water utilities from addressing affordability and identifies approaches for overcoming these legal barriers. Given that utility law is a creature of state and local law, this Article also proposes a novel solution for encouraging states to adopt best practices: developing a model state law through the Uniform Law Commission.[44] In this regard, this Article moves beyond mere theory and offers a pragmatic approach for implementing an important normative goal: ensuring that utilities provide affordable access to safe water to *all* that they serve.

This Article's analysis is most relevant to certain regions of the United States, namely areas with adequate water resources and where residents are usually connected to networked infrastructure.[45] For example, near the Great Lakes, water rate increases have threatened water access for low-income households, even though they live near the most abundant freshwater supply in the country.[46] However, many people in the United States also face water insecurity for a variety of other reasons, including contamination and scarcity, a significant problem exacerbated by climate change.[47] In parts of the nation,

44. The most famous example of the Uniform Law Commission's work is likely the Uniform Commercial Code, but it was the Uniform Partition of Heirs Property Act (UPHPA) that sparked the idea for this Article. *Partition of Heirs Property Act*, UNIF. L. COMM'N, https://perma.cc/E4C3-59Y6 (archived Mar. 26, 2024); *see* Thomas W. Mitchell, *Restoring Hope for Heirs Property Owner The Uniform Partition of Heirs Property Act*, STATE & LOC. L. NEWS, Fall 2016, at 6, 6 (discussing motivations behind the UPHPA, including a belief that "this area of law could not be reformed," and noting that many states have already adopted the UPHPA).

45. Even though water may be available, it is still very costly to treat it to a standard that is safe to drink. *See Drinking Water Treatment Technology Unit Cost Models*, EPA (May 5, 2023), https://perma.cc/69QH-2433 (noting that there are treatment, monitoring, and administrative costs associated with complying with drinking water standards).

46. Maria Zamudio & Will Craft, *A Water Crisis Is Growing in a Place You'd Least Expect It*, NPR (Feb. 8, 2019, 6:50 AM ET), https://perma.cc/DAX9-UJHS.

47. Many communities across the United States do not have adequate networked access to safe drinking water or sanitation. *See, e.g.*, DIG DEEP & US WATER ALL., CLOSING THE WATER ACCESS GAP IN THE UNITED STATES: A NATIONAL ACTION PLAN 26-65, (2019), https://perma.cc/4G6P-TP7M (providing case studies of communities without access to networked water in California, the Navajo Nation, Texas Colonias, the rural South, Appalachia, and Puerto Rico, in part because of climate change); ALA. CTR. FOR RURAL ENTER., COLUM. L. SCH. HUM. RTS. CLINIC & INST. FOR THE STUDY OF HUM. RTS. AT COLUM. UNIV., FLUSHED AND FORGOTTEN: SANITATION AND WASTEWATER IN RURAL COMMUNITIES IN THE UNITED STATES 12 (2019), https://perma.cc/9UJK-YDCU (discussing rural communities without adequate wastewater infrastructure). Moreover, drought conditions in the West and Southwest have also made clean water a scarcer resource. For example, nearly a million people in California lack access to safe drinking water. *See* AUDITOR OF THE STATE OF CAL., NO. 2021-118, STATE WATER RESOURCES CONTROL BOARD: IT LACKS THE URGENCY NECESSARY TO ENSURE THAT FAILING WATER SYSTEMS RECEIVE NEEDED ASSISTANCE IN A TIMELY MANNER 17 (2022), https://perma.cc/P42X-95N6.

residents also rely on small water systems or non-networked water sources, like wells.[48] Native Americans also face severe inequities. For example, approximately 30-40% of the Navajo Nation is without household access to drinking water.[49] These are serious concerns, but addressing them all is beyond the scope of this Article.

This Article proceeds in four Parts. In Part I, I discuss the crisis of water unaffordability and the burden it imposes on households facing the threat of water shutoffs. Utilities also face pressure to raise rates to cover mounting infrastructure and environmental compliance costs.[50] Utilities can shut off water service to customers who do not pay their bills—but doing so has significant social and health consequences and, in many instances, further impoverishes low-income households without necessarily helping the utility's bottom line.[51] Recent increases in federal funding and utility-level customer

48. *See, e.g.*, Nathaniel Logar, James Salzman & Cara Horowitz, *Ensuring Safe Drinking Water in Los Angeles County's Small Water Systems*, 32 TUL. ENV'T. L. J. 205, 209, 218 (2019) ("Small [water] systems are scattered throughout [L.A. County] over a broad area, in both rural communities and urban neighborhoods in Los Angeles and other cities in the county."); Amber Wutich et al., *Water Insecurity in the Global Nort A Review of Experiences in U.S. Colonias Communities Along the Mexico Border*, 9 WIREs WATER e1595, at 7 (2022), https://perma.cc/YD27-WX7G ("Water insecurity problems in colonias generally result from precarious reliance on a combination of private water truck vendors, self-hauled water, or bottled water; shutoffs or inability to afford piped water connections; reliance on a private well with unregulated groundwater; or connection to a piped water system with unsafe water." (citations omitted)).

49. LAUREN PATTERSON, DUKE NICHOLAS INST. FOR ENV'T POL'Y SOLS. & ASPEN INST. ENERGY & ENV'T PROGRAM, WATER AFFORDABILITY & EQUITY: RE-IMAGINING WATER SERVICES; A REPORT FROM THE 2020 ASPEN-NICHOLAS WATER FORUM 12 (2020), https://perma.cc/K358-MRGG.

50. *See* MOONSHOT MISSIONS & NAT'L ASS'N OF CLEAN WATER AGENCIES, ADDRESSING THE AFFORDABILITY OF WATER AND WASTEWATER SERVICES IN THE U.S.: CASE STUDIES OF UTILITY AFFORDABILITY PROGRAMS AND RATE STRUCTURES 2-3 (2021), https://perma.cc/H3J4-838S.

51. *See* ROGER D. COLTON, THE AFFORDABILITY OF WATER AND WASTEWATER SERVICE IN TWELVE U.S. CITIES: A SOCIAL, BUSINESS AND ENVIRONMENTAL CONCERN 2 (2020); Nina Lakhani, *Reveale Millions of Americans Can't Afford Water as Bills Rise 80% in a Decade*, GUARDIAN (June 23, 2020, 5:00 AM EDT), https://perma.cc/V8CB-UCDV. Although this Article focuses on water, utility shutoffs of any kind can have similar negative consequences. Indeed, such concerns are what motivated the creation of the Low-Income Home Energy Assistance Program (LIHEAP), which provides federally funded assistance to reduce costs associated with home energy. *See Low Income Home Energy Assistance Program (LIHEAP)*, ADMIN. FOR CHILDREN & FAMS., https://perma.cc/GXU7-9BYD (last updated Nov. 29, 2023); LIBBY PERL, CONG. RSCH. SERV., RL33275, THE LIHEAP FORMULA (2019), https://perma.cc/QCR6-R9LS; *see also* AM. WATER WORKS ASS'N, *supra* note 19, at 216 (noting that gas, electricity, and telephone utilities faced affordability concerns earlier in their histories because costs for those utility services were traditionally higher than water services).

assistance programs will help to address these problems, but they will not go far enough.[52]

Part II situates the provision of water services within the broader field of public utility law. I briefly explore scholarly debates over the effects of disruptive technologies on the public utility model in other sectors, such as electricity and telecommunications. Unlike these other services, water has long been viewed as a classic monopoly devoid of the pressures that have driven change in other utility sectors. I argue that the increasing unaffordability of water and wastewater services for low-income Americans—which has threatened widespread water shutoffs in some cities—is a form of social disruption that merits re-examination of the key tenets of water utility law.

In Part III, I analyze how fundamental principles of utility law in state and local laws discourage water utilities from addressing water affordability, even when it makes financial sense. Utilities are usually required to set water rates in a manner that is just, reasonable, and non-discriminatory. Paradoxically, utilities often interpret these principles as prohibiting any form of cross-subsidization, which prevents them from using water revenue to fund affordability programs, even when it may make financial sense.[53]

In Part IV, I examine three jurisdictions—Philadelphia, Atlanta, and California—that demonstrate how states or local governments could modify their utility laws to overcome legal barriers to affordability. Building on these case studies, this Article concludes with a suggested policy reform: developing a model state law through the Uniform Law Commission.[54] The model state law, which could also be adopted by cities in home-rule jurisdictions, would not mandate that utilities implement certain types of affordability programs. Rather, the model law would remove actual or perceived legal barriers that utilities face while developing affordable rates. More specifically, the law would allow utilities to use water revenue to fund affordability programs and to cross-subsidize low-income rates. By giving water utilities the ability to create water affordability programs that make financial sense, the model law

52. *See infra* Part I.C.

53. *See* UNC ENV'T FIN. CTR., *supra* note 18, at 7-9 ("Ambiguous and restrictive statutory language has created the perception in many states that utilities are not allowed to tap their primary revenue source (customer rate revenues) to fund [customer assistance programs] . . . ."). *But see* EPA, *supra* note 10, at C-9 ("Rate design . . . can provide a sustainable approach for utilities that can allow lower income customers to consistently pay bills in full and on time."); MOONSHOT MISSIONS, *supra* note 28, at 22 (examining six low-income communities in Michigan and finding that "an affordability program was feasible and reasonable, in nearly all circumstances, which would allow nearly all households to have an affordable rate without impacting the community's water revenue requirements"). For further discussion, see Part III below.

54. *See supra* note 44 and accompanying text.

would help improve access to safe and affordable water and ensure that utilities fulfill their mandate to provide universal service to everyone they serve.[55]

I. The Crisis of Water Affordability

Water rates are rising across the United States.[56] Between 2008 and 2014, water and wastewater rates increased by 41% and 37%, respectively.[57] Industry experts suggest that "[w]ater is woefully underpriced,"[58] because it has generally been supplied as a matter of public policy.[59] Yet rising costs burden low-income households whose water bills have become increasingly large proportions of their incomes.[60] In recent years, water costs have risen several times faster than inflation.[61] For example, the water rates in Baltimore increased close to 83% between 2010 and 2017.[62] Although the city had a median household income of $39,386 in 2017, a sizeable percentage of its population lives in extreme poverty—"over 13% of the population and 27% of families have an annual income below $10,000."[63] In Michigan, the inflation-

55. This Article does not attempt to prescribe criteria for determining when an affordability program might make financial sense for a utility. Rather, the focus of the Article is on addressing perceived legal barriers that may inhibit a utility from adopting certain kinds of rate structures or programs.

56. AM. WATER WORKS ASS'N, *supra* note 19, at xix. The American Water Works Association recounts:

> During the last 20 years of the 20th century and now into the second decade of the 21st century, the cost of supplying potable water increased significantly. This rapid increase can be attributed to many factors, including the passage and implementation of the US Safe Drinking Water Act and corollary legislation in other countries, population growth, the need to develop more remote and expensive water supplies, the need to replace aging infrastructure, and rapid economic development in some areas. The amplified costs of meeting water quality requirements and utility plant needs have resulted in increased water rates and charges.

Id.

57. U.S. GOV'T ACCOUNTABILITY OFF., GAO-16-785, WATER INFRASTRUCTURE: INFORMATION ON SELECTED MIDSIZE AND LARGE CITIES WITH DECLINING POPULATIONS 2 (2016), https://perma.cc/45SN-Q7RU.

58. Mehan & Gansler, *supra* note 4, at 41.

59. MONTAG, *supra* note 7, at 23.

60. *Id.* at 25-26; WATER RSCH. FOUND. & EPA, BEST PRACTICES IN CUSTOMER PAYMENT ASSISTANCE PROGRAMS 32 (2010), https://perma.cc/696G-5LRS.

61. Mehan & Gansler, *supra* note 4, at 41-42; Cardoso and Wichman, *supra* note 5, at 2; *see also* SCOTT R. UNGER, ERICA M. KILGANNON, DOUGLAS B. ELLIOTT, KATHERINE A. CORT & KATE L.M. STOUGHTON, PAC. NW. LAB'Y, WATER AND WASTEWATER ANNUAL PRICE ESCALATION RATES FOR SELECTED CITIES ACROSS THE UNITED STATES: 2023 EDITION 8 (2023), https://perma.cc/P8LK-GJ9Q (finding that "the [inflation-adjusted] rate for water increased approximately 37% between 2008 and 2021, and the rate for wastewater increased 67% between 2008 and 2021").

62. CZERWINSKI ET AL., *supra* note 5, at 22.

63. *Id.*

adjusted cost of water service increased 188% between 1980 and 2022, with some of the most dramatic increases experienced by residents in Detroit (285%) and Flint (320%).[64]

A growing share of low-income Americans struggle to afford their water bills,[65] which forces these households to make difficult choices.[66] They may consume less water than required to meet basic drinking, sanitation, and hygiene needs, which can cause severe health problems.[67] Households may be forced to decide between paying for other basic goods and services and paying for water service.[68] Living with the constant threat of water service termination is stressful.[69] If the water is shut off, the household cannot function normally; for example, water shut offs can place children at risk of removal by child protective services.[70] The product of a multiplicity of factors,

64. READ ET AL., *supra* note 12, at 16.

65. Mack & Wrase, *supra* note 40, at 3 (noting that the percentage of U.S. households that will find water bills unaffordable could triple from 11.9% to 35.6% if rates increase according to recent projections). Energy scholars have noted similar cost trends. *See, e.g.*, Shelley Welton, *The Bounds of Energy Law*, 62 B.C. L. REV. 2339, 2378 (2021) (discussing how many low-income households suffer from high energy burdens).

66. In today's world, full-time employment does not necessarily guarantee that a household will be able to meet its bills. As a U.S. Government Accountability Office (GAO) study revealed, about 70% of people receiving Medicaid or federal Supplemental Nutrition Assistance Program (SNAP) benefits in 2018 worked full time, with about 90% in the private sector. U.S. GOV'T ACCOUNTABILITY OFF., GAO-21-45, FEDERAL SOCIAL SAFETY NET PROGRAMS: MILLIONS OF FULL-TIME WORKERS RELY ON FEDERAL HEALTH CARE AND FOOD ASSISTANCE PROGRAMS 9-11 (2020), https://perma.cc/N65T-PL6V. The GAO found that Walmart and McDonald's were among the biggest employers of enrollees in these programs. *See id.* at 29-72 (presenting the raw data); Eli Rosenberg, *Walmart and McDonald's Have the Most Workers on Food Stamps and Medicaid, New Study Shows*, WASH. POST (Nov. 18, 2020, 6:02 PM EST), https://perma.cc/VV2F-HSH3.

67. Pierce et al., *supra* note 12, at 2 (citing Asher Y. Rosinger, *Biobehavioral Variation in Human Water Need How Adaptations, Early Life Environments, and the Life Course Affect Body Water Homeostasis*, 32 AM. J. HUM. BIOLOGY e23338, at 1-2 (2020), https://perma.cc/ZP4Z-JQTR (discussing negative health concerns of water restriction)).

68. Pierce et al., *supra* note 12, at 2; ROCKOWITZ ET AL., *supra* note 12, at 1-4.

69. *See* ROCKOWITZ ET AL., *supra* note 12, at 3 (finding in a study of low-income households in Detroit and surrounding counties that forgone "expenses include housing, medicine and medical/dental care, transportation, fresh fruits and vegetables and school supplies. 51% of households are switching-off between paying their energy and water bills"); READ ET AL., *supra* note 12, at 33 (noting that when water prices increase "the mental health impact from the stress and shame of struggling to support a family accumulates"); Gaber et al., *supra* note 13, at 844 (finding a "significant relationship between . . . water insecurity and psychological distress").

70. Sharmila L. Murthy, *A New Constitutive Commitment to Water*, 36 B.C. J. L. & SOC. JUST. 159, 169, 201-02 (2016) (describing how water shutoffs in Detroit often prompted families to make other living arrangements due to concerns that Child Protective Services would get involved).

skyrocketing water rates threaten water access and can impose devastating consequences on affected families.

A. The Legacy of Racial Discrimination in Creating Barriers to Water Access

Communities of color disproportionately experience increases in water rates and disconnections, raising environmental justice concerns.[71] The most well-known examples of water shutoffs have been in older cities with large African American neighborhoods,[72] like Detroit,[73] Baltimore,[74] and Philadelphia.[75] For example, between 2014 and 2019 more than 141,000 households in Detroit have had their water disconnected due to non-payment.[76] In Philadelphia, approximately 227,000 customers—40% of water accounts—were past due in 2016.[77]

The legacy of racism and segregation continues to affect access to safe and affordable water.[78] Historically, cities prioritized infrastructure to communities that were predominantly white, thereby excluding communities of color from utility services.[79] In the mid-twentieth century, some municipalities did not construct water and sanitation lines to African-American communities.[80] Other Black communities were denied access to water infrastructure through "underbounding," the phenomenon of

71. AM. WATER WORKS ASS'N, *supra* note 4, at 2; LAUREN A. PATTERSON & MARTIN W. DOYLE, DUKE NICHOLAS INST. FOR ENV'T POL'Y SOLS., 2020 ASPEN-NICHOLAS WATER FORUM: WATER AFFORDABILITY AND EQUITY BRIEFING DOCUMENT 12-13 (2020), https://perma.cc/GYU9-RN5E.

72. *See* PATTERSON, *supra* note 49, at 3.

73. Murthy, *supra* note 70, at 160-61 (describing shutoffs in Detroit and surrounding factors).

74. Deborah Weiner, *Insurmountable Bills Lead to Water Shutoffs in Baltimore*, WBALTV (updated Feb. 13, 2017, 11:00 PM EST), https://perma.cc/4X8Y-SMRP.

75. Brett Walton, *Philadelphia Water Rate Links Payments to Household Income*, CIRCLE OF BLUE (May 16, 2017), https://perma.cc/4RZA-ASQX.

76. *See supra* note 2.

77. George Spencer, *7 Years, No Water at Home for Senior*, NBC10 PHILA. (updated Apr. 8, 2016, 6:57 PM), https://perma.cc/74D6-5N6G.

78. AM. WATER WORKS ASS'N, *supra* note 4, at 2; PATTERSON & DOYLE, *supra* note 71, at 10-11.

79. AM. WATER WORKS ASS'N, *supra* note 4, at 2; PATTERSON & DOYLE, *supra* note 71, at 10-11. However, when municipalities first began to install water and sewer systems in cities in the late 1800s to prevent the spread of waterborne disease, the public health of all people, particularly Black families that were less likely to have access to private soures of clean water, improved. MONTAG, *supra* note 7, at 9-10; WERNER TROESKEN, WATER, RACE, AND DISEASE 88 (2004) (describing white self-interest in a subchapter called "Why Bigots Wanted Sewers for Everybody").

80. PATTERSON, *supra* note 49, at 10 (discussing examples from Zanesville, Ohio, and Roanoke, Virginia).

municipalities excluding racial minority groups from their municipal boundaries.[81] These discriminatory practices contributed to grievances during the civil rights era.[82] Similarly, in California's Central Valley, rural Latino communities that had been discouraged from incorporating had less access to funding to build infrastructure as compared to incorporated towns in neighboring areas.[83]

As the Maryland State Advisory Committee to the U.S. Commission on Civil Rights has observed, "the legacy of historical policies promoting White middle-class flight out of cities, such as redlining and suburbanization, has directly contributed to failing water infrastructure in communities of color, and to the lack of investment in maintaining or improving that infrastructure."[84] These effects are still felt today. For instance, recent water supply challenges in Jackson, Mississippi, have been attributed to a legacy of racial discrimination, a long history of underinvestment in water infrastructure, and the challenges of maintaining infrastructure with a shrinking rate base.[85] Moreover, due to historic housing discrimination, people of color are more likely to rent their homes, which often makes them less likely to be eligible for help with water bills from existing customer assistance programs.[86]

Utilities rely on water shutoffs or the threat of shutoffs to help ensure payment for services.[87] But at what cost? For instance, beginning in 2014, the Detroit Water and Sewer Department disconnected the water to thousands of

81. Charles S. Aiken, *Race as a Factor in Municipal Underbounding*, 77 ANNALS ASS'N AM. GEOGRAPHERS 564, 565-67, 569 (1987); *see also* Hannah Gordon Leker & Jacqueline MacDonald Gibson, *Relationship between Race and Community Water and Sewer Service in North Carolina, USA*, 13 PLOS ONE e0193225, at 3 (2018), https://perma.cc/X9GZ-N7LJ.

82. MONTAG, *supra* note 7, at 14 ("In the Kerner Commission's 1968 report, examining the causes of race riots throughout the U.S., municipal inadequacies were cited as a major grievance by Black communities.").

83. PATTERSON, *supra* note 49, at 10.

84. MD. ADVISORY COMM. TO THE U.S. COMM'N ON C.R., WATER AFFORDABILITY IN MARYLAND 1 (2022), https://perma.cc/C4RL-DUCD.

85. Ahmad Hemingway, *Jackson Water Crisis Reignites Nationwide Aging Infrastructure Conversation in Other Cities*, ABC NEWS (Sept. 3, 2022, 8:43 AM), https://perma.cc/37V8-RS9T; *see also* Montag, *supra* note 7, at 1-2; Sarah Fowler, *Big Companies Cashed In on Mississippi's Water. Small Towns Paid the Price.*, N.Y. TIMES, https://perma.cc/GC6X-J9DH (updated Feb. 9, 2024).

86. *See* MD. ADVISORY COMM. TO THE U.S. COMM'N ON C.R., *supra* note 84, at 11; Martha F. Davis, *Hidden Burden Household Water Bills, "Hard-to Reach" Renters, and Systemic Racism*, 52 SETON HALL L. REV. 1461, 1488-90 (2022). Renters often do not receive water bills directly from their water or wastewater providers. Instead, water bills are usually bundled in with the cost of rent. JANET CLEMENTS ET AL., WATER RSCH. FOUND., CUSTOMER ASSISTANCE PROGRAMS FOR MULTI-FAMILY RESIDENTIAL AND OTHER HARD-TO-REACH CUSTOMERS 3-4 (2017), https://perma.cc/5ZZE-CPGZ; READ ET AL., *supra* note 12, at 34-35.

87. PATTERSON, *supra* note 49, at 3.

households,[88] prompting international and national condemnation.[89] At the time of the disconnections, Detroit was in the process of helping to create the Great Lakes Water Authority.[90] Neighboring counties were reluctant to join this new regional water authority if it meant being saddled with Detroit's unpaid water bills.[91] The very public way in which these shutoffs occurred may have reflected an attempt by the utility to show bondholders that it was getting its books in order.[92]

B. Utilities Struggle to Cover Increasing Costs

Water utilities play critical roles in maintaining our social and physical infrastructure. They construct and maintain a network of pipes and treatment facilities with the goal of providing clean water and disposing of wastewater in environmentally friendly ways.[93]

States determine the organizational and financial structure of utility operations within their jurisdictions.[94] The terminology used to describe water utilities varies by state, and the system has been described as "dauntingly complex."[95] Water utilities are usually regulated at the state or local level, with enabling legislation that outlines the powers they hold.[96] They may be

88. *See supra* note 2; Murthy, *supra* note 70, at 160-61.

89. *See, e.g.*, Press Release, Office of the United Nations High Commissioner for Human Rights, Detroit: Disconnecting Water from People Who Cannot Pay—An Affront to Human Rights, Say UN Experts (June 25, 2014), https://perma.cc/7LR2-WEHU; Rose Hackman, *What Happens When Detroit Shuts Off the Water of 100,000 People*, ATLANTIC (July 17, 2014), https://perma.cc/KZ33-8GZA; Gottesdiener, *supra* note 37.

90. Murthy, *supra* note 70, at 175.

91. *Id.* at 176.

92. *Id.*; *see also* PATTERSON, *supra* note 49, at 3 (noting that water shutoffs are an "enforcement mechanism [that] provides a level of assurance to investors and rating agencies that a utility can collect the revenue needed to pay its debts").

93. CZERWINSKI ET AL., *supra* note 5, at 1.

94. *Id.* at 3, 22-23; *see, e.g.*, MASS. ADVISORY COMM. TO THE U.S. COMM'N ON C.R., TURNING OFF THE TAP: MASSACHUSETTS' LOOMING WATER AFFORDABILITY CRISIS 6-7 (2020), https://perma.cc/A3YH-UUKC (noting that in Massachusetts, investor-owned utilities are regulated by the state Department of Public Utilities, while other entities include "city-owned water systems, water districts, fire districts, and homeowners' associations that provide water services").

95. James Salzman, *The Past, Present and Future of the Safe Drinking Water Act* 3 (Pub. L. Legal Theory, Rsch. Paper No. 22-21, 2022), https://perma.cc/Y7S8-3D5K ("Through its history, the United States has developed a dauntingly complex array of public water systems. There are now over 150,000 PWS scattered throughout the country, ranging from the Los Angeles utility that serves over 4 million people to the Winterhaven Mobile Estates that serves less than 30 customers.").

96. Rowe McKinley, *Introduction*, *in* WATER RATES, FEES, *supra* note 29, at 1, 4; UNC ENV'T FIN. CTR., *supra* note 18, at 7, 9, 11-12, 76.

creatures of state or local government, such as a department within the boundaries of a city. Some states, like Washington, have public utility districts.[97] These public utilities may have their rates set at the local or state level. However, "public" utilities are not necessarily publicly owned; rather, in line with the public utility model discussed in Part II below, they are considered public because they must offer their services to the public in a non-discriminatory manner.[98] Water utilities may be private, investor-owned utilities that are regulated by state public utility commissions or state public service commissions,[99] akin to the manner in which electric or gas utilities are regulated.[100] In some cases, states may fully or partially regulate municipal utilities.[101] State and local laws dictate the obligations of utilities operating within their jurisdictions, and different rules apply depending on whether the utility is publicly or privately owned.[102]

Almost 80% of the U.S. population is served by publicly owned water utilities.[103] Community water systems owned by private water utilities serve

97. *Frequently Asked Questions*, WASH. PUB. UTIL. DISTS. ASS'N, https://perma.cc/HQE8-9L6B (archived Feb. 28, 2024) (defining a Public Utility District as "a community-owned, locally regulated utility created by a vote of the people" pursuant to the Revised Code of Washington Title 54, under which they "are authorized to provide electricity, water and sewer services, and telecommunications service"); *see also* CHARLES F. PHILLIPS, JR., THE REGULATION OF PUBLIC UTILITIES: THEORY AND PRACTICE 650 n.117 (3d ed. 1993).

98. CHARLIE HARAK, OLIVIA WEIN, JENIFER BOSCO & JOHN HOWAT, NAT'L CONSUMER L. CTR., ACCESS TO UTILITY SERVICES § 1.1.5 (NCLC Digital Library 2018). Much of the literature on public utility regulation pertains to the regulation of energy (gas/electricity) and telecommunications. *See supra* note 35 and accompanying text.

99. UNC ENV'T FIN. CTR., *supra* note 18, at 64 & n.186. In six jurisdictions (Georgia, Michigan, Minnesota, North Dakota, South Dakota, and the District of Columbia), private water and wastewater companies are not regulated by commissions. *Id.* However, they are still subject to legal requirements regarding rate-setting. *See, e.g.*, MICH. COMP. LAWS § 486.315 (2024) (prohibiting "the imposition of undue or excessive rates or charges for the supply of water").

100. HARAK ET AL., *supra* note 98, § 1.2.3.

101. Corssmit, *supra* note 29, at 8-9 (providing examples of full state regulation, such as Alaska over the Anchorage water utility, and partial regulation, such as when rates are set for users outside the boundaries of a municipality).

102. UNC ENV'T FIN. CTR., *supra* note 18, at 7. Although this Article focuses exclusively on utilities, some households receive their water from their own sources, such as from wells. According to the EPA's definition, there are more than 148,000 public water systems in the United States, which supply drinking water to 90% of Americans. *Information About Public Water Systems*, EPA, https://perma.cc/274W-9S2T (archived Feb. 3, 2024).

103. U.S. GOV'T ACCOUNTABILITY OFF., GAO-21-291, PRIVATE WATER UTILITIES: ACTIONS NEEDED TO ENHANCE OWNERSHIP DATA 8 (2021), https://perma.cc/8YJJ-ZA85 ("According to [Safe Drinking Water Information System (SDWIS)] data, about 261 million people, or almost 80 percent of the U.S. population, receive drinking water from about 24,000 community water systems owned by local government utilities (e.g., cities, counties, public water authorities). About 50 million people are served by the

footnote continued on next page

more than 10% of the U.S. population,[104] with the remaining population "served by other water sources, such as privately owned wells."[105] But either form of water utility qualifies as a "public water system," defined by the EPA as one that "provides water for human consumption through pipes or other constructed conveyances to at least 15 service connections or serves an average of at least 25 people for at least 60 days a year."[106] According to this definition, there are more than 148,000 public water systems in the United States.[107] Most municipally owned water systems are small, but some, like the Los Angeles Department of Water and Power, serve millions of people.[108]

Utilities face challenges associated with the poor condition of their aging water infrastructure, including deferred maintenance and lack of investment in infrastructure.[109] The U.S. water infrastructure is aging and deteriorating.[110] Consisting of a network of underground pipes, water infrastructure is easy to deprioritize and ignore.[111] As the saying goes, "out of sight, out of mind." Upgrading infrastructure increases capital costs, which generally necessitates higher revenues to cover needed financing and operating costs.[112] Moreover, in many older cities, the rate base has been shrinking as people leave the city limits for the suburbs. For example, between 1960 and 2010, Detroit's population shrunk by almost a million people—from 1.6 million to 714,000.[113]

---

remaining 26,000 community water systems. These systems are primarily owned by private utilities involving a mix of highly different ownership structures including nonprofit organizations (e.g., small homeowner associations with volunteer boards); ancillary companies (e.g., mobile home parks); and for-profit companies including publicly traded companies.").

104. *Id.* at 8 n.16 (citing SDWIS data and noting that this is nearly 37 million people).

105. *See id.* at 7 n.15.

106. *Information About Public Water Systems*, *supra* note 102. The EPA classifies public water systems into three categories: (1) Community Water Systems, which supply water to the same population year-round; (2) Non-Transient Non-Community Water Systems, which regularly supply water to at least twenty-five of the same people at least six months per year, such as those at schools, factories, office buildings, and hospitals; and (3) Transient Non-Community Water Systems, which provide "water in a place such as a gas station or campground where people do not remain for long periods of time." *Id.*

107. *Id.*; *see also* U.S. GOV'T ACCOUNTABILITY OFF., *supra* note 103, at 7 n.15 (noting that "in 2017, community water systems provided water to about 94 percent of the population in the United States").

108. SALZMAN, *supra* note 95, at 3; U.S. GOV'T ACCOUNTABILITY OFF., *supra* note 103, at 7.

109. CZERWINSKI ET AL., *supra* note 5, at 35.

110. *Id.* at 21.

111. *See* PATTERSON, *supra* note 49, at 30.

112. CZERWINSKI ET AL., *supra* note 5, at 21.

113. Michelle Wilde Anderson, *The New Minimal Cities*, 123 YALE L.J. 1118, 1137-38 (2014); Steven Gray, *Vanishing Cit The Story Behind Detroit's Shocking Population Decline*, TIME (Mar. 24, 2011), https://perma.cc/CS68-5UZN.

The American Society of Civil Engineers has rated the nation's infrastructure a C-, which reflects some improvement from the D+ received just a few years ago.[114] More than a decade ago, the American Water Works Association estimated that restoring existing water systems and expanding them to meet needs would cost at least $1 trillion over the course of twenty-five years.[115] Another estimate from 2012 found that simply building and upgrading municipal wastewater treatment plants would require $271 billion.[116] To meet federal water quality and safety requirements as well as public health goals, an estimated $744 billion would be required over a twenty-year period for the capital cost of wastewater and drinking-water infrastructure.[117]

Utilities have also faced increasing costs. Water treatment and delivery costs for a utility are either fixed or increase as electricity prices increase.[118] Despite these fixed or increasing costs, many utilities face declining revenue streams due to changes in water use patterns (such as those due to conservation) or declining populations in inner cities and small communities, which reduce the rate base (i.e., the number of people across whom costs can be spread).[119] In other words, utilities cannot simply decrease supply (and costs) in the face of declining demand. Moreover, utilities face pressures to increase water rates to fund needed infrastructure investments or to meet environmental regulatory requirements, but doing so compounds water affordability challenges for low-income users.[120]

Compliance with federal water quality standards is costly, even though it is essential for good health.[121] Environmental compliance is relevant to the

114. AM. SOC'Y OF CIVIL ENG'RS, 2021 REPORT CARD FOR AMERICA'S INFRASTRUCTURE 2 (2021), https://perma.cc/MS4L-HBF7; *see also* CZERWINSKI ET AL., *supra* note 5, at 35 (noting that in 2017 clean water infrastructure scored a D+ and drinking water infrastructure scored a D).

115. AM. WATER WORKS ASS'N, BURIED NO LONGER: CONFRONTING AMERICA'S WATER INFRASTRUCTURE CHALLENGE 3 (2012), https://perma.cc/P56E-CJSA.

116. CLAUDIA COPELAND, CONG. RSCH. SERV., RL30030, CLEAN WATER ACT: A SUMMARY OF THE LAW 5 (2016), https://perma.cc/254G-CMFA.

117. ELENA H. HUMPHREYS & JONATHAN L. RAMSEUR, CONG. RSCH. SERV., R46892, INFRASTRUCTURE INVESTMENT AND JOBS ACT (IIJA): DRINKING WATER AND WASTEWATER INFRASTRUCTURE 1 (2022), https://perma.cc/QEX6-RR4C (finding that over the next twenty years $473 billion on infrastructure improvements is needed for safe drinking water and $271 is needed for improvements to wastewater treatment facilities).

118. *See* AM. WATER WORKS ASS'N, *supra* note 19, at 96-97 (describing fixed versus variables charges that utilities face); *Energy Efficiency for Water Utilities*, EPA, https://perma.cc/9X4A-B4L4 (last updated Feb. 29, 2024) (noting that "40 percent of operating costs for drinking water systems can be for energy").

119. CZERWINSKI ET AL., *supra* note 5, at 27.

120. *Id.* at 17. See Part III.B below for further discussion on utility funding constraints.

121. CZERWINSKI ET AL., *supra* note 5, at 1, 17, 24.

entire lifecycle of water: source protection, treatment of water for drinking and hygiene, quality of pipes, and the collection, treatment, and safe disposal of wastewater and stormwater.[122] The Safe Drinking Water Act of 1974 establishes national health-based standards for specific maximum contaminant levels in drinking water.[123] Wastewater utilities also must comply with the Clean Water Act, which regulates pollutant discharges into waters subject to federal regulatory jurisdiction.[124] After the 1972 amendments, utilities were required to develop certain standards of treatment and received federal assistance for the construction of wastewater treatment facilities.[125] Yet some cities continue to struggle with meeting water quality standards, especially if they are under consent decrees to overhaul their legacy combined sewer overflow systems.[126] In older cities, the pipes designed to carry sewage sometimes also carry stormwater.[127] When it rains, the pipes cannot handle the volume, so the water is diverted into emergency outflows to avoid backups into houses and buildings.[128] As a result of these combined sewer overflows, raw sewage can be discharged directly into waterways during rain events, causing public health threats.[129] Addressing combined sewer overflows requires significant investments in infrastructure, necessitating capital investments that raise utility costs, which are often then passed on to customers in the form of higher rates.

122. *Id.* at 25.

123. Safe Drinking Water Act, Pub. L. No. 93-523, § 2(a), 88 Stat. 1660, 1660 (1974) (codified as amended at 42 U.S.C. § 300(f)). The 1996 amendments to the Safe Drinking Water Act mandated that states make publicly available source water assessments, which identified the susceptibility of their public water systems to contamination. Safe Drinking Water Act Amendments of 1996, Pub. L. No. 104-182, § 132(a), 110 Stat. 1613, 1673 (1996) (codified as amended at 42 U.S.C. § 300j-13).

124. Federal Water Pollution Control Act Amendments of 1972, Pub. L. No. 92-500, 86 Stat. 816 (codified as amended at 33 U.S.C. §§ 1251-1387). In 1948, Congress enacted the Federal Water Pollution Control Act. *See* Federal Water Pollution Control Act, ch. 758, 62 Stat. 1155 (1948) (codified as amended in scattered sections of 33 U.S.C.). However, it was significantly amended in 1972, and the resulting law is generally known as the Clean Water Act.

125. COPELAND, *supra* note 116, at 1-2.

126. Mehan & Gansler, *supra* note 4, at 41; CZERWINSKI ET AL., *supra* note 5, at 26-27, 64, 78.

127. CZERWINSKI ET AL., *supra* note 5, at 26 ("Combined Sewer Systems exist in cities that span 32 states and serve over 40 million people. The majority of these systems are in Maine, New York, Pennsylvania, West Virginia, Ohio, Indiana, Michigan, and Illinois.").

128. *Id.*

129. *Id.* (noting that Combined Sewer Overflows "release approximately 850 billion gallons a year of untreated wastewater and stormwater").

C. Recent Tools to Address the Crisis Do Not Go Far Enough

1. Recent influx of federal funding

As discussed, utilities face increasing costs to upgrade outdated infrastructure and meet environmental compliance obligations, but they have not had adequate funding to maintain systems for a variety of reasons.[130]

After the passage of the Clean Water Act and the Safe Drinking Water Act, federal funding for clean water initially increased.[131] In 1977, five years after the Clean Water Act was passed, the federal government funded 63% of capital expenditures for water and wastewater.[132] During the 1970s and 1980s, Congress provided funding to help municipalities construct wastewater treatment plants and other projects through grants covering up to 55% of project costs (or up to 75% of project costs if innovative or alternative technology was used).[133] The 1987 amendments to the Clean Water Act extended federal funding until the early 1990s and paved the way for full state and local government responsibility for financing.[134] Federal funding was used to capitalize the Clean Water State Revolving Fund (CWSRF) and Drinking Water State Revolving Fund (DWSRF) programs.[135] States contribute matching funds and then can loan the funds out for water and wastewater treatment construction; as the funds are repaid, they become available for other project loans.[136] The Water Infrastructure Finance

130. *Id.* at 27.

131. COPELAND, *supra* note 116, at 4 ("Federal law has authorized grants for planning, design, and construction of municipal sewage treatment facilities since 1956 . . . . Congress greatly expanded this grant program in 1972 in order to assist cities in meeting the act's pollution control requirements."); *see also* CZERWINSKI ET AL., *supra* note 5 at 3, 23.

132. PATTERSON, *supra* note 49, at 15; *see also* Marian Swain, Emmett McKinney & Lawrence Susskind, Commentary, *Water Shutoffs in Older American Citie Causes, Extent, and Remedies*, 43 J. PLAN. EDUC. & RSCH. 758, 758 (2023) (describing the decline in federal funding for water infrastructure improvements since the 1970s); Cong. Budget Off., Public Spending on Transportation and Water Infrastructure, 1956 to 2017, at 7-10 (2018), https://perma.cc/JU87-7XXY (presenting graphs that show, inter alia, a decline in the percentage of total federal spending on transportation and water infrastructure).

133. COPELAND, *supra* note 116, at 5.

134. Federal aid for wastewater treatment construction was authorized through 1994 and grants made under the Clean Water Act's Title II program were authorized through 1990. *Id.*

135. CZERWINSKI ET AL., *supra* note 5, at 25, 128-29 (noting that although the first of these programs is officially known as the State Water Pollution Control Revolving Fund, it is commonly referred to as the Clean Water State Revolving Fund); COPELAND, *supra* note 116, at 5.

136. COPELAND, *supra* note 116, at 5.

and Innovation Act of 2014 created a new federal loan program to help finance water-related infrastructure.[137]

The amount of federal funding available has been insufficient to meet the nation's substantial water infrastructure investment needs.[138] After initial grant funding was converted to the capitalization of state revolving loan funds, the average annual federal funding for clean water decreased by more than half.[139] Between the mid-to-late 1980s and the late 2010s, federal financial assistance to local governments for public water and wastewater systems was flat and actually decreased as a fraction of total investment.[140]

Faced with this decline in federal funding, state and local governments have borne most of the costs of water infrastructure improvements. For example, in 2020, local governments funded over 90% of this infrastructure.[141] Utilities have also raised their rates and fees to cover costs.[142] Spending funds to meet stringent water quality standards has also raised concerns about how to spend scarce local dollars.[143] As an official from Maine testified during the debate over the 1996 amendments to the Safe Drinking Water Act, "[w]e will have the cleanest water in the state and the dumbest kids" because funds that might otherwise go to education would have to go towards water.[144]

Recent increases in federal funding will enable utilities to make much-needed investments in water and wastewater infrastructure. In March 2021, Congress passed the American Rescue Plan of 2021, which established the Coronavirus State and Local Fiscal Recovery Funds to provide state, local, and Tribal governments with resources to address the economic impact of the pandemic.[145] The U.S. Department of the Treasury issued rules enabling Coronavirus State and Local Fiscal Recovery Funds to be used for water, sewer, and broadband infrastructure.[146] More specifically, the Treasury regulations allow American Rescue Plan funds to be used for projects that meet the

137. *What Is WIFI* , EPA, https://perma.cc/7FHH-4SVB (archived Feb. 4, 2024); CZERWINSKI ET AL., *supra* note 5, at 137.

138. *See* COPELAND, *supra* note 116, at 5 (describing $271 billion in unmet funding needs for municipal wastewater treatment plants and other water quality improvement projects eligible for funding as of 2012).

139. CZERWINSKI ET AL., *supra* note 5, at 23.

140. *Id.* at 37.

141. PATTERSON, *supra* note 49, at 15.

142. Swain et al., *supra* note 132, at 758.

143. Bonds can also be a source of financing for utilities. Jason G. Mumm, *Case Stud Revenue Bond Compliance*, *in* WATER RATES, FEES, *supra* note 29, at 99-100.

144. Salzman, *supra* note 94, at 8.

145. American Rescue Plan Act of 2021, Pub. L. No. 117-2, § 9901, 135 Stat. 4, 223 (codified as amended at 42 U.S.C. § 802).

146. Coronavirus State and Local Fiscal Recovery Funds, 31 C.F.R. § 35 (2023).

eligibility requirements of both the Clean Water and Drinking Water State Revolving Funds, plus additional projects related to stormwater, lead remediation, household water quality testing, drinking water projects to support increased population, and rehabilitation of dams, reservoirs, and private wells.[147]

The Bipartisan Infrastructure Law (BIL),[148] passed by Congress in November 2021, now enables the single biggest investment that the federal government has ever made in clean water: the allocation of $50 billion to enhance the nation's drinking water and wastewater systems.[149] The majority of these funds are being allocated through the CWSRFs and DWSRFs, which have provided low interest rate financing for local projects.[150] The BIL has also sought to address historic underinvestment by requiring that "49 percent of funds provided through the DWSRF Supplemental Funding and the DWSRF Lead Service Line Replacement Funding be provided as grants and forgivable loans to disadvantaged communities."[151] With respect to the DWSRF Emerging Contaminants Funding, the BIL also mandates that 25% of funds "be provided as grants or forgivable loans to disadvantaged communities or public water systems serving fewer than 25,000 people."[152] The law also requires that 49% of funds allocated through the CWSRF General Supplemental Funding "be provided as grants or forgivable loans to communities that meet the state's affordability criteria[153] or specific project types."[154] These requirements are

147. *Id.* § 35.6(e)(1); *see also* U.S. DEP'T OF THE TREASURY, CORONAVIRUS STATE & LOCAL FISCAL RECOVERY FUNDS: 2022 OVERVIEW OF THE FINAL RULE 37-38 (2022), https://perma.cc/FQ6H-FDDJ (listing the types of water and sewer infrastructure projects that may be eligible).

148. Infrastructure Investment and Jobs Act, Pub. L. No. 117-58, 135 Stat. 429 (codified as amended in scattered sections of the U.S. Code).

149. EPA, Fact Sheet: Bipartisan Infrastructure Law: State Revolving Funds Implementation Memorandum 1 (2022), https://perma.cc/6BCA-L6T5.

150. Memorandum on Implementation of the Clean Water and Drinking Water State Revolving Fund Provisions of the Bipartisan Infrastructure Law from Radhika Fox, Assistant Adm'r, EPA Off. of Water, to the EPA Reg'l Water Div. Dirs. & State SRF Program Managers 1, 9 (Mar. 8, 2022), https://perma.cc/7S26-525T (noting that since 1988 these SRFs have marshaled more than $200 billion in funds that states, Tribes, and territories have used for water and wastewater and further noting that the BIL will appropriate more than $43 billion through the existing CWSRF and DWSRF programs for use between 2022 and 2026).

151. EPA Fact Sheet, *supra* note 149, at 1.

152. *Id.*

153. *Id.*; *see also* CZERWINSKI ET AL., *supra* note 5, at 4, 27 (noting that within regulatory circles, the concept of community affordability has focused on whether a community could afford to comply with water quality standards set by the Clean Water Act, not whether an individual could afford to pay their water bills).

154. EPA Fact Sheet, *supra* note 149, at 1.

helping the EPA to advance President Biden's Justice40 Initiative, which sets a goal that federal agencies deliver 40% of the overall benefits of certain federal climate, clean energy, water and wastewater, and other investments to disadvantaged communities that are marginalized by underinvestment and overburdened by pollution.[155]

The Inflation Reduction Act, passed by Congress in August 2022, also allocates funding to help with climate resilience and drought relief.[156]

The federal dollars to be invested in United States water and wastewater systems over the coming years because of these recent congressional authorizations will be, in the words of the EPA, "nothing short of transformational."[157] Yet deploying these funds will take time. Repairing and replacing water and wastewater infrastructure is expensive and time consuming because it involves, for example, digging up and replacing underground pipes and water mains.[158] It also requires replacing water treatment plants and storage tanks as well as making investments to comply with water quality standards.[159] Given the overwhelming challenges facing many water utilities, it is not yet clear whether this funding will be enough. Moreover, given the sheer scale of investments required, questions about affordability for low-income households remain.[160]

2. Customer assistance programs

Just over one quarter of utilities in the United States offer some type of customer assistance program, according to a 2016 EPA study.[161] However, most of these programs do not go far enough in addressing the growing unaffordability problem.[162]

---

155. Memorandum from Radhika Fox, *supra* note 150, at 4; Exec. Order No. 14,008, 3 C.F.R. 477 , 492-93 (2022) (establishing the Justice40 Initiative).

156. Inflation Reduction Act of 2022, Pub. L. No. 117-169, §§ 30002, 40001, 80001-80004, 136 Stat. 1818, 2027, 2028, 2088-90 (codified in scattered sections of the U.S. Code).

157. EPA Fact Sheet, *supra* note 149, at 1.

158. *See* AM. WATER WORKS ASS'N, *supra* note 115, at 4.

159. *Id.*

160. *See, e.g.*, MD. ADVISORY COMM. TO THE U.S. COMM'N ON C.R., *supra* note 84, at 3; MASS. ADVISORY COMM. TO THE U.S. COMM'N ON C.R., *supra* note 94, at 3.

161. EPA, CUSTOMER ASSISTANCE PROGRAMS, *supra* note 42, at 2 (reviewing 795 large and medium utilities across the country and finding that 228 utilities, or 29%, offer one or more type of customer assistance program). The study, however, did not employ a uniform or standardized definition of customer assistance programs and instead let each utility define what counts as a customer assistance program. *See id.* at B-1.

162. *See* AM. WATER WORKS ASS'N, *supra* note 19, at 214-19 (discussing potential legal, administrative, historical, outreach, and funding challenges to setting up an effective program and observing that "[a]ffordability programs may be more widely needed as

footnote continued on next page

Of the nearly 800 utilities surveyed by the EPA, just under 20% in 2016 offered bill discounts, which are often provided to vulnerable populations, such as the elderly, the disabled, or low-income households.[163] Depending on the program, this discount may be applied to different aspects of the water bill, such as the total cost, the fixed cost portion, or the variable consumption charges. For example, the Boston Water and Sewer Commission offers a 30% discount on water bills for senior citizens and individuals with disabilities.[164] Unlike most states, the utility code in Washington state specifically authorizes utilities to provide assistance to low-income customers.[165] As a result, Seattle Public Utilities provides a 50% discount on utility bills to customers with incomes at or below 70% of the state median income.[166]

Of utilities surveyed by the EPA in 2016, approximately 12% attempted to address affordability concerns by providing flexible payment terms.[167] For example, a utility might reward timely payments with partial forgiveness of old debt, or it might adjust the timing of the bill to better meet the needs of low-income households. [168] Approximately 11% of customer assistance programs are in the form of temporary assistance, designed to help customers on a short-term basis after an unexpected hardship, such as a death or divorce.[169] Although these kinds of customer assistance programs provide valuable support to low-income and vulnerable households, they are temporary by definition and do not address other underlying problems.[170]

Approximately 4% of utilities surveyed by the EPA in 2016 offered customer assistance programs that focus on efforts to promote water

---

the cost of water and wastewater service escalates more than other goods and services, placing additional pressure on low-income customers").

163. *Id.* at 6-9 (referring to 155 of 795 utilities surveyed and identifying typical categories of eligible participants); *see also* NAT'L CONSUMER L. CTR., *supra* note 43, at 12-14.

164. *Residential Billing Info & Assistance*, BOS. WATER & SEWER COMM'N, https://perma.cc/54WB-XBF8 (archived Feb. 4, 2024) (to locate, select "Elderly & Disability Discounts").

165. WASH. REV. CODE §§ 35.92.020, 74.38.070; UNC ENV'T FIN. CTR., *supra* note 18, at 149.

166. *Seattle Public Utilities: Utility Discount Program*, CITY OF SEATTLE, https://perma.cc/ML5P-38Q8 (archived Feb. 4, 2024).

167. EPA, CUSTOMER ASSISTANCE PROGRAMS, *supra* note 42, at 7 (referring to 98 of 795 utilities surveyed).

168. *See id.*

169. *See id.* (referring to 87 of 795 utilities surveyed).

170. *See* Murthy, *supra* note 70, at 183, 219-24 (explaining that Detroit's 10-point plan, which had elements of a bill discount program, flexible terms, and temporary assistance, was not successful because it did not resolve the underlying unaffordability of water for the city's low-income population); *see also* AM. WATER WORKS ASS'N, *supra* note 19, at 214-19.

efficiency.[171] These measures often include helping pay for leak repairs and water-saving fixtures.[172]

Just 1% of utilities surveyed by the EPA in 2016 offered lifeline rates that provide an initial volume of water for basic consumption needs at low cost.[173] Lifeline rates are designed to provide a lower or fixed rate for a minimum amount of water that is used for basic needs. Some utilities may offer the lifeline rate only to low-income households, but others make the rate universally available.[174] For example, the water utility in Washington, D.C., makes the first 3,000 gallons of water usage available at a low rate and charges a higher cost for each additional gallon.[175] The lifeline rate is an example of an inclining block tariff, where the cost of the initial volume of water is low, and the next volume of water has a higher rate, and so on.[176] They are often described as "conservation rates" because they help promote water conservation by charging a higher price for higher volume, discretionary water uses, such as watering lawns and filling swimming pools.[177] Also known as a tiered rate structure, an inclining block tariff allocates a greater portion of the cost of service to those whose usage places larger demands on local water and wastewater systems and sources of supply.[178]

Lifeline rates may help some households afford enough water for basic needs, but meeting that goal also depends on the size of the household. The water needs of an extended family living together under one roof are certainly different than that of a single person.[179] Moreover, lifeline rates have been criticized as a means to control behavior, especially that of low-income customers who cannot otherwise afford higher rates.[180] Despite these

171. EPA, CUSTOMER ASSISTANCE PROGRAMS, *supra* note 42, at 7 (referring to 32 of 795 utilities surveyed).

172. *See id.*

173. *Id.* (referring to 5 of 795 utilities surveyed).

174. *Id.* at 11.

175. *Lifeline Rate*, DC WATER, https://perma.cc/T3DJ-TU8G (archived Feb. 4, 2024).

176. NAT'L CONSUMER L. CTR., *supra* note 43, at 15; EPA, CUSTOMER ASSISTANCE PROGRAMS, *supra* note 42, at 7, 11. Unlike some inclining block tariffs, however, lifeline rates may be priced below the marginal cost of service given the public health benefit of everyone having access to a minimum amount of water. *See* WATER RSCH. FOUND. & EPA, *supra* note 60, at 55.

177. *See* WATER RSCH. FOUND. & EPA, *supra* note 60, at 56.

178. KELLY J. SALT, LEAGUE OF CAL. CITIES, ADOPTING CONSERVATION-BASED WATER RATES THAT MEET PROPOSITION 218 REQUIREMENTS (2016), https://perma.cc/H4RK-6NRU.

179. *See* Sophie Trémolet & Diane Binder, *What Are the Strength and Limitations of Lifeline Rate* , BODY OF KNOWLEDGE ON INFRASTRUCTURE REGUL., https://perma.cc/5RPB-XGRB (archived Feb. 4, 2024).

180. Davis, *supra* note 86, at 1495 ("[U]sing conservation initiatives as a key strategy to lower water costs for low-income consumers . . . is just another version of using water to

footnote continued on next page

objections, lifeline rates are best understood as a broader customer assistance strategy. For instance, DC Water does not rely on a lifeline rate only; rather, its authorizing code requires that it offer other programs specifically designed to mitigate the impact of higher costs on low-income customers.[181]

Although courts deciding water rate cases often look to guidance developed for other utilities,[182] water utilities have generally taken a more conservative approach to ratemaking. For example, energy utilities have long employed a model known as the Percentage of Income Payment Plan (PIPP), wherein a rate is tailored to a household's income so that the utility bill does not surpass a fixed percentage of that income.[183] In several states, PIPPs are used for both electric and gas services.[184] Customers participating in a PIPP are often required to enroll in a conservation program to ensure that usage does not exceed a given level.[185] In contrast, no water utility used this PIPP approach until 2017, when Philadelphia became the first utility to adopt an income-based water rate.[186]

In the wake of the COVID-19 pandemic, the federal government finally created a temporary, emergency nationwide program designed to help low-income customers with their water bills.[187] Congress allocated significant

---

control the behavior (i.e., encouraging shorter showers, etc.) of those who cannot afford rising water prices. As prices rise, more affluent and more white consumers retain the option of not conserving water because they do not need discounts; they can afford to water their lawns, wash their cars, take long showers, and so on." (footnote omitted)).

181. The D.C. Code states that the utility "shall offer financial assistance programs to mitigate the impact of any increases in retail water and sewer rates and the impervious area charge on low-income residents of the District, including a low-impact design incentive program." D.C. CODE § 34-2202.16(b-1)(1) (2023); *see also Customer Assistance Programs*, DC WATER, https://perma.cc/TPM3-Q7HL (archived Feb. 4, 2024); UNC ENV'T FIN. CTR., *supra* note 18, at 152-53.

182. *See, e.g.*, Village of Niles v. City of Chicago (*Village of Niles II*), 558 N.E.2d 1324, 1335 (Ill. App. Ct. 1990) (citing Bd. of Pub. Util. Comm'rs v. N.Y. Tel. Co., 271 U.S. 23, 32 (1926)) (remarking that paying bills for services does not turn ratepayers into utility owners).

183. *See* WATER RSCH. FOUND. & EPA, *supra* note 60, at 52; NAT'L CONSUMER L. CTR., *supra* note 43, at 32; Overview of Percentage of Income Payment Plans (PIPP), LIHEAP Clearinghouse (2014), https://perma.cc/N9JC-Z27R.

184. Overview of Percentage of Income Payment Plans (PIPP), *supra* note 183 (summarizing the PIPPs of several different states).

185. WATER RSCH. FOUND. & EPA, *supra* note 60, at 52; NAT'L CONSUMER L. CTR, *supra* note 43, at 17, 42-43.

186. *See infra* Part IV.A.1.

187. Consolidated Appropriations Act, 2021, Pub. L. No. 116-260, § 533, 134 Stat. 1182, 1627 (allocating $638 million "to prevent, prepare for, and respond to coronavirus, for necessary expenses for grants to carry out a Low-Income Household Drinking Water and Wastewater Emergency Assistance Program"); American Rescue Plan Act of 2021, Pub. L. No. 117-2, § 2912, 135 Stat. 4, 51 (codified at 15 U.S.C. § 9058b) (providing an additional $500 million "for grants to States and Indian Tribes to assist low-income

footnote continued on next page

funding to the Administration for Children and Families within the Department of Health and Human Services to provide grants to states, territories, and Tribes to assist low-income households with water and wastewater bills.[188] The funding program, known as the Low Income Household Drinking Water Assistance Program (LIHWAP), has been closely modeled on the existing Low Income Home Energy Assistance Program (LIHEAP),[189] which was created by the Low-Income Home Energy Assistance Act.[190] Advocates and scholars examining water affordability have recognized the need for a national strategy to addressing water affordability, similar to that available in other sectors.[191] Through grants to states, territories, and Tribes, LIHWAP channels funds to public water systems to assist low-income

households, particularly those with the lowest incomes, that pay a high proportion of household income for drinking water and wastewater services, by providing funds to owners or operators of public water systems or treatment works to reduce arrearages of and rates charged to such households for such services").

188. ADMIN. FOR CHILDREN & FAMILIES, U.S. DEP'T OF HEALTH & HUM. SERVS., LOW INCOME HOUSEHOLD WATER ASSISTANCE PROGRAM: INFORMATION MEMORANDUM 1 (2021), https://perma.cc/47L2-XX2R.

189. Admin. for Children & Families, *supra* note 51 (describing the federal government's use of LIHEAP to provide states funding to help eligible low-income households with expenses associated with seasonal heating and/or cooling); ADMIN. FOR CHILDREN & FAMILIES, U.S. DEP'T OF HEALTH & HUM. SERVS., LOW INCOME HOUSEHOLD WATER ASSISTANCE PROGRAM: IMPLEMENTATION AND IMPACT REPORT PART ONE 6 (2024) [hereinafter ADMIN. FOR CHILDREN & FAMILIES, LIHWAP REPORT], https://perma.cc/X5WZ-SXD6.

190. Low-Income Home Energy Assistance Act of 1981, Pub. L. No. 97-35, § 2601-10, 95 Stat. 358, 893-902 (codified as amended at 42 U.S.C. §§ 8621-8630).

191. *See, e.g.*, Murthy, *supra* note 70, at 214-16; PATRICIA A. JONES & AMBER MOULTON, UNITARIAN UNIVERSALIST SERV. COMM. 33 (2016), https://perma.cc/9H39-GNPG (noting that the "idea to develop national affordability legislation came out of [a] gathering of social movements in Detroit" amid the widespread water shutoffs in 2015); *History*, NCLAWATER, https://perma.cc/K9KC-BGKZ (archived Mar. 24, 2024); *Bipartisan Pair of Senators Unveil New Federal Water Affordability Plan*, AM. WATER SHUT-OFFS (Nov. 16, 2018), https://perma.cc/K6VG-JGAW; Marian Swain, *201 The Year of Water Affordability Reform in Americ* , ENHANCING WATER AFFORDABILITY (Jan. 29, 2019), https://perma.cc/3KLS-TKDP ("The drumbeat of reporting and research from dedicated journalists, academics, and advocates may make 2019 the year that city and state governments, and even the US Congress, recognize the water affordability crisis and take necessary measures to make sure all Americans can afford access to this basic and crucial service."); ASPEN INSTITUTE & NICHOLAS INSTITUTE FOR ENV'T POL'Y SOLS. AT DUKE UNIV., TOWARD A NATIONAL WATER AFFORDABILITY STRATEGY: REPORT FROM THE ASPEN-NICHOLAS ROUNDTABLE SERIES ON WATER AFFORDABILITY (2022), https://perma.cc/S8S3-ETTU; Mariana Sarango, Laura Senier & Sharon L. Harlan, *The High Health Risks of Unaffordable Wate An In-Depth Exploration of Pathways from Water Bill Burden to Health-Related Impacts in the United States*, 2 PLOS WATER e0000077, at 13 (2023), https://perma.cc/YH98-54BJ; Lauren A. Patterson, Sophia A. Bryson & Martin W. Doyle, *Affordability of Household Water Services Across the United States*, 2 PLOS WATER e0000123, at 15 (2023), https://perma.cc/EB2K-XBMZ.

households with their water bills.[192] LIHWAP is certainly a step in the right direction. However, it is a temporary "emergency program" designed to help families facing disconnection of water services.[193] Federal funding expired on September 30, 2023, and, as of this Article's publication, has not been renewed.[194] It is not yet clear whether the program will have sufficient funding on an ongoing or future basis to effectively address concerns about water affordability.

Although the rise in customer assistance programs helps to address affordability concerns, many utilities are constrained in *how* they structure these programs. Customer programs that are funded through short-term grants, charities, or other non-water revenue funds do not necessarily foster long-term financial sustainability.[195] Utilities can offer more comprehensive affordability programs when they fund these programs through their regular utility budget or by adding a surcharge to customers not facing financial hardships. Research suggests that income-based water rates can make financial sense for utilities because they can benefit from a steadier stream of revenue, which can improve their credit rating and decrease costs associated with disconnections.[196] However, many utilities do not explore these options because of actual or perceived legal barriers that utilities face.[197] Appreciating these legal risks requires understanding the legal principles that govern utility ratemaking.

II. Reclaiming Public Utility Law

This Part situates the provision of water within the larger scholarly discourse about the role of public utilities in society. Part II.A discusses how the public utility was first viewed as a useful model for regulating natural

192. *See* ADMIN. FOR CHILDREN & FAMILIES, LIHWAP REPORT, *supra* note 189, at 2-4.

193. ADMIN. FOR CHILDREN & FAMILIES, *supra* note 188, at 2.

194. *See* Admin. for Children & Families, U.S. Dep't of Health & Hum. Servs., *LIHWAP Fact Sheet*, OFF. OF CMTY. SERVS., https://perma.cc/HXD9-HPWJ (archived Feb. 4, 2024).

195. *See* UNC ENV'T FIN. CTR., *supra* note 18, at 9; NAT'L ASS'N OF CLEAN WATER AFFORDABILITY, THE GROWING U.S. WATER AFFORDABILITY CHALLENGE AND THE NEED FOR FEDERAL LOW-INCOME WATER CUSTOMER ASSISTANCE FUNDING 2 (2022), https://perma.cc/6YNB-P9RU (noting that many utility customer assistance programs "currently lean on a patchwork of unstable sources of funding from philanthropy to fluctuating local budgets"); *Paying for Clean Wate Rates, Funding & Community Affordability*, NACWA, https://perma.cc/K8MG-L5PT (archived Mar. 24, 2024) ("Utilities have worked hard to establish local community assistance programs, but the extent of the assistance these programs can provide is constrained by limited local funding sources.").

196. *See infra* notes 321-23 and accompanying text.

197. *See* Mehan & Gansler, *supra* note 4, at 43-44 (discussing nondiscriminatory and other requirements in state water service statutes).

monopolies, such as the provision of grain and railroads. However, its relevance waned in the face of deregulatory forces and so-called disruptive technologies, such as cellphones that replaced landlines and renewable energy sources that threatened to make the electricity grid obsolete.[198] Recently, scholars have sought to reclaim the normative power of the public utility, arguing that it is highly relevant for addressing today's complex problems, whether related to electricity or too-big-to-fail companies.[199]

The water sector has largely been absent from these debates, perhaps because water is a unique, non-fungible resource that is not subject to the same level of technological disruption. Part II.B posits that water affordability challenges in the United States have been a form of social disruption, which now necessitates a re-evaluation of the core tenets of water utility law. Reclaiming public utility law in the water sector requires giving meaning to the idea of universal service at fair and reasonable rates.[200]

A. The Rise, Fall, and Resurgence of the Public Utility Model

The advent of new technologies has revitalized the concept of "the public utility" among legal scholars. [201] Just as the rise of railroads, telecommunications, and other industries prompted scholars and policymakers in the late nineteenth and early twentieth centuries to develop the public utility model, scholars are now returning to that concept to address modern problems in areas as diverse as finance, the internet, healthcare, and climate change.[202] This relatively recent revitalization of public utility law stands in contrast to the observations made in 2017 by legal historian William J. Novak.[203] He observed the public utility, which was once "this big, powerful, proliferating thing at the very center of American law and political economy" became "something of a backwater concerning fewer and fewer things—electricity, gas, water—of perhaps ever receding significance."[204]

198. *See infra* notes 237-39 and accompanying text.

199. *See infra* notes 249-57 and accompanying text.

200. *See* Boyd, *supra* note 35, at 727 (noting that "the history of just price reminds us that relations of reciprocity and fairness in exchange are at the very core of the public utility idea").

201. For example, in 2018, the *Yale Journal on Regulation* held a symposium on public utility law that was published as a special issue of essays. *See* Rossi & Ricks, *supra* note 35, at 713-14 (describing the essays in the collection as "challeng[ing] the notion that public utility ideas are obsolete or irrelevant to modern issues in economic regulation").

202. Rahman, *supra* note 33, at 914.

203. Novak, *supra* note 35.

204. *Id.* at 142.

Public utility law is premised on the ideas that natural monopolies cannot function like traditional free market actors and regulation is needed to promote economic efficiency and consumer welfare.[205] Natural monopolies, such as the provision of water or electricity, are characterized by high fixed-capital investments to start production, economies of scale so that average costs decrease when service expands, and a network infrastructure that is expensive to build and maintain.[206] Because natural monopolies have exclusive franchise, public utility law evolved to ensure that they serve all customers on equal terms and that rates are just, reasonable, and nondiscriminatory.[207] Otherwise, outsized market power would allow monopolies to charge prices higher than levels expected in a competitive market.[208] Demand for utility services also tends to be more inelastic than other services, which can create incentive for abuse in the absence of regulation.[209] Because they are providing a public good, regulated monopolies cannot be allowed to simply run out of supply; rather, they must be constructed for excess capacity so that they can accommodate peak demand.[210] Rate regulation became the dominant means of curbing potential market abuses because the inherent features of natural monopolies made them resistant to traditional antitrust remedies.[211]

In the late nineteenth and early twentieth centuries, the public utility reflected "a new regime of modern business regulation."[212] The birth of public utility law in the United States is often traced back to an 1877 Supreme Court case involving the regulation of grain elevators.[213] In *Munn v. Illinois*, the Court upheld state price regulation by drawing on a seventeenth century treatise by Lord Chief Justice Hale called *De Portibus Maris*, which observed that every

205. Rossi & Ricks, *supra* note 35, at 712 ("Public utility was theorized as a form of incomplete contract, which offered financial stability to the regulated firm (helping to lower its costs of capital) while also protecting consumers from the abuses associated with monopoly." (footnote omitted)).

206. Boyd, *supra* note 33, at 1638-39; Corssmit, *supra* note 29, at 10.

207. Boyd, *supra* note 33, at 1640.

208. *See* Boyd, *supra* note 35, at 729-30.

209. 2 ALFRED E. KAHN, THE ECONOMICS OF REGULATION: PRINCIPLES AND INSTITUTIONS 102 (1970).

210. HARAK ET AL., *supra* note 98, § 1.1.5.

211. *See* Boyd, *supra* note 33, at 1639; *see also* Rahman, *supra* note 33, at 916-17.

212. Novak, *supra* note 35, at 139 (describing the "public utility" as a "public service" corporation); Rahman, *Constructing Citizenship*, *supra* note 35, at 2463 (noting that "the emergence of public utility regulation represented a critical phase of state-building, as reformers and policymakers innovated the institutions, tools, and practices that would become the modern administrative state").

213. *See* Novak, *supra* note 35, at 170; Boyd, *supra* note 33, at 1636-37.

business "affected with a public interest" requires special regulatory attention.[214] The decision in *Munn* gave rise to the idea of the public utility and helped to propel later political reforms to regulate industry during the Progressive and New Deal eras.[215] For example, in 1887, to curb the monopolistic behavior of railroads, Congress deemed railroads common carriers and authorized the Interstate Commerce Commission to regulate their rates.[216]

By the early twentieth century, state regulation over private businesses had become thoroughly grounded as an idea in the American legal and political economy.[217] State commissions began to adopt regulations for water, gas, and electricity in a "veritable epidemic of laws."[218] These regulations generally featured reliance on scientific principles and regulation by experts.[219] Thus, it was not a far step for the U.S. Supreme Court to hold in 1934 that economic regulation over any business could be justified on the grounds of "public interest" more generally, rather than only over particular businesses that were "affected with a public interest."[220] Drawing on public utility ideas during the

214. Munn v. Illinois, 94 U.S. 113, 125-26 (1877) (citing HALE, DE PORTIBUS MARIS, *reprinted in* 1 A COLLECTION OF TRACTS RELATIVE TO THE LAW OF ENGLAND, FROM MANUSCRIPTS 45, 78 (Francis Hargrave ed., 1787) (c. 1670)) ("[I]t has been customary in England from time immemorial, and in this country from its first colonization, to regulate ferries, common carriers, hackmen, bakers, millers, wharfingers, innkeepers, &c., and in so doing to fix a maximum of charge to be made for services rendered, accommodations furnished, and articles sold.").

215. Rossi & Ricks, *supra* note 35, at 711-12; Novak, *supra* note 35, at 139-40 ("[F]resh concepts of 'public utility' and 'public service' propelled new American conceptions of economic justice and social reform into the twentieth century.").

216. Rossi & Ricks, *supra* note 35, at 711; Corssmit, *supra* note 29, at 10; Interstate Commerce Act, ch. 104, 24 Stat. 379 (1887) (codified as amended in scattered sections of 49 U.S.C.).

217. Novak, *supra* note 35, at 142 (describing the concept of the public utility as a "big, powerful, proliferating thing at the very center of American law and political economy between the Civil War and the New Deal—what Felix Frankfurter dubbed 'perhaps the most significant political tendency at the turn of the century'"); Boyd, *supra* note 35, at 755 (describing the emergence of state regulation of public utilities around the beginning of the twentieth century).

218. Boyd, *supra* note 35, at 755 (quoting William E. Mosher, *A Quarter-Century of Regulation by State Commissions*, 14 PROC. OF THE ACAD. OF POL. SCI., May 1930, at 35, 36); *see* Boyd, *supra* note 33, at 1640 ("By 1930, every state but Delaware had a public utility statute that charged some type of administrative entity with responsibility for regulating public utilities such as water, gas, and electricity.").

219. *See* Boyd, *supra* note 33, at 1640 ("These were quintessential Progressive-era laws, built on principles of scientific management and regulation by experts."); Rahman, *supra* note 33, at 921-22 ("City-level reformers similarly drove a wave of 'municipalization', converting private control over electricity, transportation, water, and more into public provision—or tightly regulated private provision.").

220. Nebbia v. New York, 291 U.S. 502, 536-39 (1934) (involving the regulation of milk prices during the Great Depression); *see also* Novak, *supra* note 35, at 143; Boyd, *supra* note 33, at 1638 ("With the Court finally out of the business of trying to determine which businesses could be subjected to price regulation, legislatures were free to move

footnote continued on next page

New Deal era, Congress gave federal regulators the authority to regulate interstate gas and electric power rates.[221] In 1935, Congress created the Federal Power Commission (the predecessor to the Federal Energy Regulatory Commission) to regulate wholesale power sales and transmission in interstate commerce.[222] Congress also passed the Public Utility Holding Company Act to address concerns about regional utility holding companies that had avoided state regulation in the early twentieth century and may have facilitated the wave of utility bankruptcies during the Great Depression.[223]

The public utility "was a distinctively American approach to the 'social control of business'—a third way between unregulated markets and outright public ownership that promised to harness the energy of private enterprise and direct it toward public ends."[224] The regulation of key public services by corporations—such as the supply of water and energy, the movement and storage of agricultural products, the transportation of goods and services, and communications—laid the legal foundation for the modern American administrative and regulatory state.[225] Indeed, "the power and historical significance of public utility came from the way in which it burrowed its way to the very core of the American legal and political-economic system."[226] As Felix Frankfurter wrote in 1930, "To think of contemporary America without the intricate and pervasive systems which furnish light, heat, power, water, transportation, and communication, is to conjure up another world. The needs thus met are today as truly public services as the traditional governmental functions of police and justice."[227]

---

forward in regulating any and all businesses as long as they could show some rational basis for the regulation.").

221. Rossi & Ricks, *supra* note 35, at 712.

222. Federal Power Act, ch. 687, 49 Stat. 838 (1935) (codified as amended in scattered sections of 16 U.S.C.).

223. Public Utility Holding Company Act, ch. 687, 49 Stat. 803 (1935) (repealed 2005); Boyd, *supra* note 33, at 1629-30. In addition, legal principles developed under the Sherman Antitrust Act and the Federal Trade Commission built on the public utility model. Novak, *supra* note 35, at 153-54; Corssmit, *supra* note 29, at 10.

224. Boyd, *supra* note 33, at 1616.

225. Novak, *supra* note 35, at 139-41, 175 (observing that between the Civil War and the New Deal, the concept of the public utility continued to be applied to an ever-expanding number of fields and led to extraordinary measures, such as the creation of the Food Administration during World War I, the Office of Price Administration and the General Maximum Price Regulation during World War II, and the Tennessee Valley Authority as part of the New Deal); Rahman, *supra* note 33, at 918.

226. Novak, *supra* note 35, at 140; *see also* Rahman, *Infrastructure Exclusion*, *supra* note 35, at 547; Welton, *supra* note 65, at 2351-52.

227. FELIX FRANKFURTER, THE PUBLIC AND ITS GOVERNMENT 81 (1930); *see also* Boyd, *supra* note 33, at 1638; Novak, *supra* note 35, at 142.

The demise of public utility law is often traced to inflation-induced deregulatory efforts in the 1970s.[228] A wide range of industries were restructured, including airlines, trucking, railroads, telephones, natural gas, and electric power.[229] Public choice theory and the Chicago school of thought gave intellectual firepower to deregulatory efforts by questioning core features of the public utility.[230] These scholars argued that franchise regulation inhibited competition and innovation, that customer service obligations enabled cross-subsidies and limited consumer choices, and that price regulation encouraged rent-seeking and inefficiencies.[231] They further posited that rate regulation was anathema to fundamental market principles, even for natural monopolies.[232]

The reasons for the downfall of public utility law were complicated. Public utility regulation has faced real problems due to rent-seeking, regulatory capture, and overinvestment.[233] But by "making the pathologies of rate regulation seem like the inevitable outcome of the regulatory model itself rather than the more mundane result of how well the regulators did their job, [critics aligned with the Chicago School] reinforced a naturalized view of markets as superior to government regulation."[234] Conversely, public utility regulation has also been critiqued by left-leaning historians who perceived it as the epitome of corporate control of government.[235] As a result, deregulatory efforts combined with other factors, such as the prolonged energy crisis of the 1970s and rising environmental concerns, resulted in a critique of the public utility model that diminished its perceived value.[236]

Disruptive technologies further hastened the demise of the public utility model. For example, in fields like telecommunications, new technologies eroded the control of prior monopolies and allowed for new market entrants that promoted competition.[237] Wireless and cable networks have nearly

228. Rossi & Ricks, *supra* note 35, at 712; Boyd, *supra* note 35, at 771 ("During the 1970s, as the economy groaned under the strains of stagflation and in the midst of an energy crisis brought on by successive oil price shocks, these criticisms of rate regulation gained considerable traction, providing much of the intellectual rationale for the broader agenda of deregulation that would hit full stride in the 1980s.").

229. *Id.*

230. Boyd, *supra* note 33, at 1620, 1651.

231. Rossi & Ricks, *supra* note 35, at 713.

232. Boyd, *supra* note 33, at 1651-53.

233. *Id.* at 1635.

234. *Id.* at 1656.

235. *Id.* at 1654.

236. *Id.* at 1636.

237. *Id.* at 1616.

replaced the need for telephone landlines and enabled new market entrants.[238] The rise of distributed energy sources, like rooftop solar, also raised concerns about utilities getting "trapped in an economic death spiral as distributed generation [ate] into their regulated revenue stream and force[d] them to raise rates, thereby driving more customers off the grid."[239]

Recently, however, scholars have begun to revisit and reclaim the public utility as an important concept of legal theory and political economy. For instance, William Boyd disputes as "rhetorical excess" the conventional wisdom that electric utilities are in a "death spiral" necessitating the creation of "new, twenty-first-century business models" for them.[240] Instead, he argues that decarbonizing the power sector in the United States requires revitalizing and expanding the notion of public utility.[241] He is skeptical of predictions that new energy technologies are providing the disruptive forces necessary to shake up and break up the electricity sector.[242] Instead, he suggests that the unique features of the electric power grid, which require a precise level of planning and sequencing,[243] combined with the need for significant financial investments, necessitate "a level of certainty regarding cost recovery that markets alone will have difficulty providing."[244]

Decentralized green energy, such as rooftop solar, has threatened to make the electricity grid obsolete, just as cellphones supplanted phone landlines.[245] However, Boyd questions the value of comparing the electricity field with the telecommunications field because the existing electricity system is more complex and interdependent, mitigating the ability of new technologies to actually disturb the existing system.[246] For example, defection from the

238. *See id.* at 1626; *see also* Jon Brodkin, Opinion, *When the Landline Is a Lifeline*, N.Y. TIMES (June 4, 2014), https://perma.cc/VE2Z-V8RM; Eduardo Porter, *From Lottery to Oligopoly in Wireless Spectrum*, N.Y. TIMES (June 4, 2013), https://perma.cc/BM6Y-KLSH.

239. Mark Chediak & Ken Wells, *Why the U.S. Power Grid's Days Are Numbered*, BLOOMBERG (Aug. 22, 2013, 4:11 PM PDT), https://perma.cc/Z5T2-5NRF; *see also* Diane Cardwell, *On Rooftops, A Rival for Utilities*, N.Y. TIMES (July 26, 2013), https://perma.cc/RQN9-T86W.

240. Boyd, *supra* note 33, at 1675-76.

241. *Id.* at 1619-20.

242. *Id.* at 1617.

243. *Id.* at 1618, 1622 ("The U.S. electric power system . . . . has been described as the most complex machine ever built. Organized into three major grids, or interconnects, (Eastern, Western, and Texas) it joins a diverse array of generation assets with high-voltage transmission lines, local distribution systems, and, increasingly, active demand-side and distributed resources to deliver a highly reliable service to millions of households and businesses in a manner that must precisely balance generation (supply) and load (demand) in real-time." (footnotes omitted)).

244. *Id.* at 1618.

245. *See, e.g.*, Chediak & Wells, *supra* note 239.

246. Boyd, *supra* note 33, at 1625-26.

electricity grid is not likely to occur in the same way that cellphones have replaced phone landlines.[247] Another distinguishing feature between the sectors is that disruption in the energy sector has largely been on the generation side (i.e., renewable energy), not the distribution side. Most customers will not leave the grid because they still expect to have access to electricity and gas whenever they flip a switch, regardless of how the energy is produced and generated.[248] In contrast, the experience of using a mobile phone that is truly mobile is quite distinct from using a traditional phone that is physically attached to one location.

The current narrative on deregulation creates, in Boyd's words, a "stark choice between the power of markets and disruptive innovation on the one side and ossification and rent seeking on the other."[249] Proponents of this narrative have unfairly maligned the public utility concept. Instead of focusing on the need for radical change, Boyd suggests that utilities can adjust and adapt in pragmatic ways.[250] He offers a powerful view of the public utility "as a common, collective enterprise" that should be considered a "normative undertaking rather than a technical way of regulating a certain kind of activity."[251]

Boyd is not alone in seeking to reclaim the idea of a public utility as a useful model for addressing complex problems facing our society. K. Sabeel Rahman posits that the concept of the public utility can be harnessed to regulate private actors that have outsized control over our "social infrastructure," i.e., goods and services that form the backbone of our political economy. [252] These include too-big-to-fail financial institutions and information platform companies, such as Google, Meta, Amazon, and Uber.[253] He likens these companies to firms that held accumulated power in the late-nineteenth century,[254] such as financial firms and railroad tycoons.[255]

247. *See id.* at 1626, 1680.

248. *See id.* at 1626-27.

249. *Id.* at 1620.

250. *Id.* at 1681.

251. *Id.* at 1650.

252. K. Sabeel Rahman, *The New Utilitie Private Power, Social Infrastructure, and the Revival of the Public Utility Concept*, 39 CARDOZO L. REV. 1621, 1625 (2018); *see also* Rahman, *supra* note 33, at 913 ("While conventionally the idea of 'infrastructure' might evoke images of roads and bridges, the concept is much broader. Infrastructure also describes a wider range of goods and services, which together operate at scale, enable widespread downstream uses, and thus serve as foundational necessities for economic and social life.").

253. Rahman, *supra* note 252, at 1626.

254. Rahman, *supra* note 33, at 914, 916.

255. Rahman, *supra* note 252, at 1628.

Ultimately, Rahman argues that the public utility is a flexible methodology with normative force that can be adapted to address today's challenges.[256]

Yet in contrast to other fields like energy, telecommunications, and the internet, the water sector has not experienced the kind of disruptive technology that has led to scholarly debates over the value of the public utility model. The mechanism for treating and delivering water via pipes has essentially remained the same, so water is generally still described as paradigmatic of a natural monopoly for which the public utility model fits.[257] Water is essential for life itself and is not replaceable like other goods. In contrast, electric power can be generated in many ways, and there are numerous modes of transportation and means of communication. But we all need water to survive.

This is not to say that there has been no innovation in the water sector. Certainly, water scarcity in some places has prompted the development of new technologies, such as those for desalination or water recycling.[258] Similar to disruption in the energy sector, this type of change occurs at generation, so consumers may not even be aware of the change. However, the high energy costs associated with these new treatment technologies (plus public perceptions about the suitability of wastewater reuse) have limited their spread.[259] The demand by consumers for bottled water is perhaps a form of "innovation" in water delivery, though one with significant negative environmental impacts.[260] But bottled water cannot replace what most Americans have come to expect: that clean water will be delivered via pipes to their homes and will be available every time they turn on the tap. This expectation, however, has been challenged for millions of people in our country who face rising water bills that threaten their access to this life-sustaining resource.[261]

256. Rahman, *supra* note 33, at 915, 923.

257. Yoo, *supra* note 35, at 1013, 1017; Novak, *supra* note 35, at 142; Boyd, *supra* note 35, at 754.

258. *See, e.g.*, Françoise Bichai, Arani Kajenthira Grindle & Sharmila L. Murthy, *Addressing Barriers in the Water-Recycling Innovation System to Reach Water Security in Arid Countries*, 171 J. CLEANER PROD. S97, S100 (2018).

259. *See id.* at S103-04; Claire Fahy, *Would You Drink Wastewate What If It Was Bee* , N.Y. TIMES (July 22, 2023), https://perma.cc/3AFG-AZAP. This Article focuses on urban areas in the United States that generally have access to sufficient water (i.e., Northeast, Great Lakes). In contrast, technological "innovation" in water has largely been driven by arid regions.

260. Joey Grostern, *Environmental Impact of Bottled Water 'Up to 3,500 Times Greater than Tap Water,'* GUARDIAN (Aug. 5, 2021, 5:30 AM EDT), https://perma.cc/4N6R-9XTS.

261. Lakhani, *supra* note 51.

B. Social Disruption in the Water Sector

This Article posits that water affordability has created a form of social disruption that now requires a close re-examination of the public utility model in the water sector. Access to clean, safe, affordable water is not something that all Americans can take for granted. It has been over a decade since the United Nations recognized a human right to safe drinking water and sanitation,[262] and progress has been made globally on expanding access to these vital services.[263] Yet our national news seems to be increasingly filled with disturbing reports of households that have lost access to safe drinking water and sanitation services.[264]

Increasingly unaffordable bills threaten household water access in the United States. As a recent study from Michigan State stated, "When a household is unable to pay its water bills (i.e., the water is shut off), there are impacts to the household (damage to health and dignity), the water utility (operational costs and unreliable revenue), and society (public health and collective well-being)."[265] Although little data exists on the number of disconnections, one study estimated that in 2016, fifteen million U.S. residents experienced a water shutoff.[266] That study found that the highest rates of shutoff occurred in the Midwest (Michigan and Iowa) and in the South (Oklahoma, Arkansas, Louisiana, and Florida).[267] According to the same study, high shutoff rates also occurred in cities with higher poverty rates, lower household incomes, more unemployment, and larger proportions of people of color.[268]

---

262. Press Release, General Assembly, General Assembly Adopts Resolution Recognizing Access to Clean Water, Sanitation as Human Right, by Recorded Vote of 122 in Favour, None Against, 41 Abstentions, U.N. Press Release GA/10967 (July 28, 2010), https://perma.cc/XD45-DLNL; Human Rights Council Res. 15/9, U.N. Doc. A/15/60 (Sept. 30, 2010), https://perma.cc/KAU7-NESZ.

263. U.N. DEP'T OF ECON. & SOC. AFFAIRS, THE SUSTAINABLE DEVELOPMENT GOALS REPORT 2022, at 38, U.N. Sales No. E.22.I.2 (2022), https://perma.cc/3J3S-QH6F; *see also* Sharmila L. Murthy, *Translating Legal Norms into Quantitative Indicator Lessons from the Global Water, Sanitation, and Hygiene Sector*, 42 WM. & MARY ENV'T L. & POL'Y REV. 385, 408-13 (2018).

264. The lead poisoning crisis in Flint, Michigan, is a glaring example that brought national attention to the need for safe drinking water. Valerie Strauss, *How the Flint Water Crisis Set Back Thousands of Students*, WASH. POST (July 3, 2019, 3:10 PM EDT), https://perma.cc/YKB6-U69H; Sharmila L. Murthy, *Lessons from Flint's Water Crisis*, WBUR: COGNOSCENTI (Feb. 8, 2016), https://perma.cc/A5CT-J3F9.

265. READ ET AL., *supra* note 12, at 6.

266. MASS. ADVISORY COMM. TO THE U.S. COMM'N ON C.R., *supra* note 94, at 3; FOOD & WATER WATCH, AMERICA'S SECRET WATER CRISIS: NATIONAL SHUTOFF SURVEY REVEALS WATER AFFORDABILITY EMERGENCY AFFECTING MILLIONS 7 (2018), https://perma.cc/H3DK-AX45.

267. FOOD & WATER WATCH, *supra* note 266, at 4, 7-8.

268. *Id.*

Older urban areas in the Northeast and Midwest have also faced significant affordability concerns. Due to rising costs related to replacing old infrastructure and addressing violations of the Clean Water Act, water rates in Baltimore have increased faster than the national average.[269] Estimates suggest that between 2010 and 2018, the cost of water service in Baltimore increased by 127%.[270] In 2019, over half of Baltimore's residents, especially those in low-income, majority-Black neighborhoods, could not afford their water bill.[271] In Detroit, over 141,000 households had their water shut off between 2014 and 2019.[272] After Detroit lifted its moratorium on water disconnections in 2023, many households were still behind on their bills and likely eligible for water shutoff.[273] In Philadelphia, 40,000 households were at risk of water service disconnections in 2018.[274] These are serious social disruptions with devastating effects for families and communities, including potential psychological distress.[275]

Water affordability remains a challenge across the United States. A 2017 analysis of water affordability across the country determined that the states of

269. Montag, *supra* note 7, at 33.

270. COLTON, *supra* note 10, at 12.

271. MD. ADVISORY COMM. TO THE U.S. COMM'N ON C.R., *supra* note 84, at 8.

272. *See supra* note 2.

273. Rahman, *supra* note 14 (noting that "[s]even hundred households in those census tracts with at least $5,000 in unpaid bills [were] at risk of shutoffs if they [did not] pay off their balance or enter into a payment plan"); Steve Neavling, *Hundreds of Detroiters at Risk of Water Shutoffs After 3-Year Moratorium Ends*, DETROIT METRO TIMES (Aug. 14, 2023, 11:32 AM), https://perma.cc/MKR6-Y2B3 ("Of the roughly 220,000 residential customers, about 60,000 are delinquent on their water bills. [Detroit Water & Sewage Department Director Gary] Brown estimates that about a third of those customers are unable to pay."); Whitney Burney & Brandon Speagle, *Thousands at Risk of Water Shutoffs in New Year as Detroit Moratorium Set to End*, WXYZ DETROIT (updated Dec. 16, 2022, 10:01 AM), https://perma.cc/Z9NQ-MTVB ("The city estimates of the more than 240,000 people using city water, around 60,000 people are behind on their bills. Brown says of those behind on payments, they believe around 49,000 people qualify for assistance.").

274. Mack et al., *supra* note 1, at 434 (citing statistics from the Philadelphia Water Department as well as an email from the utility noting that it served about 500,000 residential customers).

275. Amber Wutich, Alexandra Brewis & Alexander Tsai, *Water and Mental Health*, 7 WIRES WATER e1461, at 6 (2020), https://perma.cc/MVV6-F278 ("There is now abundant evidence, from a wide range of sources, of a relationship between water and mental health."); Asher Y. Rosinger & Sera L. Young, *The Toll of Household Water Insecurity on Health and Human Biolog Current Understandings and Future Directions*, 7 WIRES WATER e1468, at 2 (2020), https://perma.cc/F73T-MNVP (examining "how water insecurity can both directly and indirectly shape human biology, along with key biological consequences"); Gaber et al., *supra* note 13, at 844 ("Focusing on the residents of the Brightmoor neighborhood of Detroit, we find a positive, significant relationship between three of our measures of water insecurity and psychological distress, our measure of which is based on the Kessler Psychological Distress Scale—a validated measure of emotional distress in the literature." (footnote omitted)).

Mississippi, Louisiana, Alabama, Kentucky, and Arkansas had the greatest percentage of census tracts facing the highest risk of future water affordability challenges due to the low median household income.[276] The states of West Virginia, Arkansas, Idaho, Montana, and Mississippi had the highest percentage of census tracts in the at-risk category.[277] The study used the EPA's affordability threshold for the combination of water and wastewater bills as 4.5% of median household income, or 2% for drinking water services alone.[278] In addition, Phoenix was included alongside Detroit and Philadelphia as a city with concentrated poverty that resulted in "pockets of water poverty" in their downtown.[279] Across the country, more urbanized areas are likely to face water affordability challenges.[280]

Utilities may also be empowered by state law to place liens on a customer's home for unpaid water bills, which has had disproportionate effects on communities of color. For example, in Cuyahoga County, Ohio (where Cleveland is located), most of the 11,000 water liens on properties between 2014 and 2018 were placed on homes in majority-Black neighborhoods.[281] In 2019, the NAACP Legal Defense and Educational Fund filed a class action lawsuit against Cleveland raising constitutional and civil rights claims on behalf of the city's Black residents who were disproportionately affected by the city water department's policies.[282] The complaint alleged that the practices were discriminatory and unfair.[283] It also highlighted the consequences of the practice: loss of access to water and potentially also to housing.[284]

The COVID-19 pandemic made the connection between water affordability and public health more visible and salient, thereby highlighting the social disruption that occurs without access to water.[285] At the height of the pandemic, many states implemented moratoria on utility shutoffs and housing

276. Mack & Wrase, *supra* note 38, at 10-11 (defining the high-risk group as census tracts with median incomes below $32,000).

277. *Id.* (defining the at-risk group as census tracts with median incomes between $32,000 and $45,120).

278. *Id.* at 4.

279. *Id.* at 11.

280. *Id.* (finding that "81% of high-risk and 63% of at-risk tracts are located in Census-defined urbanized areas").

281. *See, e.g.*, MONTAG, *supra* note 7, at 4.

282. *LDF Files Lawsuit Against the City of Cleveland to Address Discriminatory Water Liens and Shutoffs*, LEGAL DEF. FUND (Dec. 18, 2019), https://perma.cc/CSY9-H2NK.

283. *Id.*; Complaint at 1, 32-33, Pickett v. City of Cleveland, No. 19-cv-02911 (N.D. Ohio Dec. 18, 2019), 2019 WL 7601740.

284. *Id.*

285. AM. WATER WORKS ASS'N, *supra* note 4, at 2-3.

evictions.[286] Where they applied, these moratoria typically prevented utilities from engaging in their usual collection procedures, which included the ability to terminate water service to households that were behind on their bills.[287]

The social disruption caused by the pandemic also shined a spotlight on the need for water utilities to address affordability.[288] However, as the next Part discusses, many utilities have not created effective affordability programs due to perceived legal barriers. Reclaiming the public utility model in the water sector requires re-examining the core tenets of utility law so that water utilities can fulfill their mission of providing *universal* services at just and reasonable rates.[289]

III. Key Principles of Water Utility Law

This Part provides an overview of the principles of utility law. It then examines how those key concepts are interpreted in ways that prevent utilities from using rate revenues to fund water affordability programs.

A. Key Principles of Ratemaking

Rate-setting is a complicated process governed by state law. Even within the same state, public and private utilities are usually subject to different requirements and regulated by different entities.[290] There is also

286. Warner et al., *supra* note 14, at 1; Kathryn M. Leifheit et al., *Expiring Eviction Moratoriums and COVID-19 Incidence and Mortality*, 190 AM. J. EPIDEMIOLOGY 2563, 2565 (2021) (noting that forty-three states and the District of Columbia instituted eviction moratoria in the spring of 2020).

287. *Map of Disconnection Moratoria*, NAT'L ASS'N OF REGUL. UTIL. COMM'RS (updated Sept. 9, 2021), https://perma.cc/3P5K-BHFN (summarizing the status of energy and water utility disconnection moratoria across all fifty states). According to recent research, states that adopted water shutoff moratoria experienced significantly lower rates of infection and death from the pandemic while the moratoria were in effect. Xue Zhang, Mildred E. Warner & Mary Grant, *Water Shutoff Moratoria Lowered COVID-19 Infection and Death Across U.S. States*, 62 AM. J. PREVENTATIVE MED. 149, 154 (2022); Kay Jowers, Christopher Timmins, Nrupen Bhavsar, Qihui Hu & Julia Marshall, *Housing Precarity & the COVID-19 Pandemi Impacts of Utility Disconnection and Eviction Moratoria on Infections and Deaths Across US Counties* 12 (Nat'l Bureau of Econ. Rsch., Working Paper No. 28394, 2021), https://perma.cc/6KA3-TK23; *see also* XUE ZHANG & MILDRED E. WARNER IN COLLABORATION WITH FOOD & WATER WATCH, THE RELATIONSHIP BETWEEN WATER SHUTOFFS AND COVID INFECTIONS AND DEATHS 6 (2021), https://perma.cc/BK8N-MHXM (estimating that a nationwide moratorium on water shutoff could have prevented as many as half a million COVID-19 infections and nearly 9,000 deaths).

288. AM. WATER WORKS ASS'N, *supra* note 4, at 2.

289. *See* Boyd, *supra* note 33, at 1704; Am. Water Works Ass'n, *supra* note 34.

290. *See* McKinley, *supra* note 96, at 4.

significant state-to-state variation.[291] Even so, some general principles apply across jurisdictions.

These concepts have been codified into industry standards, such as the American Association of Water Works M1 manual,[292] which courts have recognized as an authoritative source in water rate-making.[293] If the process for setting the rates seems fair and if accounting methods conform to industry practice, courts are likely to defer to the rate-making process.[294] As a result, water rates determined through proper procedures, such as via a city ordinance, are presumptively valid, and the party challenging the rates bears a high burden of proof to show otherwise.[295] Moreover, if a court reviews a challenge to a municipal utility's rates that is governed by a utility commission, it benefits from an administrative commission's experience and fact-finding.[296]

A key principle of utility ratemaking is that water rates should reflect the cost of service and should be just, reasonable, nondiscriminatory, and/or uniform.[297] These requirements might be set forth in statutes or be interpreted through the common law.[298] To be considered a separate rate class, material

291. UNC ENV'T FIN. CTR., *supra* note 18, at 8 (showing variation in ability for commission-regulated and noncommission-regulated utilities to implement customer assistance programs funded by ratepayers).

292. *See generally* AM. WATER WORKS ASS'N, *supra* note 19.

293. *Village of Niles II*, 558 N.E.2d 1324, 1332, 1339 (Ill. App. Ct. 1990) (assessing the degree to which expert testimony was consistent with American Water Works Association recommendations and state law).

294. *Id.* at 1342-43 (citing Austin View Civic Ass'n v. City of Palos Heights, 405 N.E.2d 1256 (Ill. App. Ct. 1980)) ("[I]f the rates charged to plaintiffs are not excessive, there is no unreasonable discrimination. In general we will not go beyond that determination into a review of internal management practices.").

295. *Id.* at 1330; *Village of Niles I*, 401 N.E.2d 1235, 1242 (Ill. App. Ct. 1980) ("A presumption of validity is accorded the rates enacted by city ordinance, and plaintiffs bear the heavy burden of proving that the rates charged are unjustly discriminatory and unreasonable."); Frederick Huff & Christopher Woodcock, *How to Avoid Lawsuits*, *in* WATER RATES, *supra* note 29, at 35, 38 (noting that the plaintiff has "the burden to establish that the utility lacks a rational basis for its decision. . . . because there is a legal presumption of regularity of the actions of public bodies").

296. *Village of Niles II*, 558 N.E.2d at 1332.

297. *See supra* note 23.

298. *See, e.g.*, ARK. CODE ANN. § 23-4-101(b) (2023) ("Whenever the commission . . . finds any existing rates . . . unjust, unreasonable, insufficient, unjustly discriminatory, or otherwise in violation of [the law] . . . [it] shall, by an order, fix reasonable rates . . . ."); CONN. GEN. STAT. § 7-239(a) (2023) ("The legislative body shall establish just and equitable rates or charges for the use of the waterworks system . . . ."); FLA. STAT. § 180.13(2) ("The city council . . . may establish just and equitable rates or charges to be paid to the municipality for the use of the utility by each person . . . ."); Rowland v. Kellogg Power & Water Co., 253 P. 840, 841 (Idaho 1927) ("The furnishing of water to [people], without paying the uniform rate charged like users, is positively prohibited . . . ."); Austin View Civic Ass'n v. City of Palos Heights, 405 N.E.2d 1256,
footnote continued on next page

differences must exist between groups of water users in terms of demand patterns or cost of service.[299] Nondiscrimination does not require absolute equality, and various factors, such as different costs of service, might affect rates.[300] However, in most jurisdictions, cost of service is the critical factor.

A seminal case in the water context on the meaning of nondiscriminatory rates is *Durant v. City of Beverly Hills*,[301] where a water user sued the municipal water utility because it charged higher rates to customers outside the city limits. The court held that the utility was entitled to discriminate between two different classes of customers, provided that the rates were not unreasonable or unjust.[302] It observed that "[l]ack of uniformity in the rate charged is not necessarily unlawful discrimination, and is not prima facie unreasonable."[303] Rather, the court held that "[t]here are many reasons . . . which would justify a difference in rates of service to consumers differently situated."[304] Because the city council had gone through the appropriate procedural steps to set the rates, the court refused to substitute its own judgment.[305] Rather, it found that the complaining water user bore the burden of proof to show why the "charges were unreasonable, unfair or fraudulently or arbitrarily established."[306]

1262 (Ill. App. Ct. 1980) ("Though there is no statute that prevents municipal corporations that operate public utilities from acting in an unreasonably discriminatory manner, there is still the common law duty that prevents them from doing so."); Eudora Dev. Co. of Kan. v. City of Eudora, 78 P.3d 437, 440 (Kan. 2003) ("Neither the common law nor the statutes forbid reasonable classification of rates or discrimination so long as it is not unjust, but is reasonable in view of substantial differences in services or in conditions of service.").

299. *See Village of Niles II*, 558 N.E.2d at 1337.

300. *See* City of Pompano Beach v. Oltman, 389 So. 2d 283, 286 (Fla. Dist. Ct. App. 1980) (holding that "[a] municipality must furnish utility services to all its users at reasonable and non-discriminatory rates," and that the utility was entitled to charge outside-city users a higher rate than in-city users, which reflected different costs-of-service); UNC ENV'T FIN. CTR., *supra* note 18, at 11; Daryani v. Rich Prairie Sewer & Water Dist., No. A05-1200, 2006 WL 619058, at *4 (Minn. Ct. App. Mar. 14, 2006) (also observing that "perfect equality" in rates is not expected and that quality cannot "be measured with mathematical precision"); Jarrett v. City of Boston, 74 S.E.2d 549, 551 (Ga. 1953) (finding that, where a utility charged some customers via meter and others at a flat rate, "[a] difference in conditions of service justifies a difference in charge").

301. 102 P.2d 759, 760-61 (Cal. Dist. Ct. App. 1940).

302. *Id.* at 762. Somewhat ironically, the allegedly discriminatory rates that were being charged by the municipal utility were significantly less than those that had been charged by the private water utility that had previously served the area outside the city limits. *Id.* at 761.

303. *Id.* at 762.

304. *Id.* at 763.

305. *Id.*

306. *Id.*

Water utilities usually want to avoid litigation over rate-setting because these lawsuits are highly technical, time-consuming, and costly.[307] To avoid legal challenges, utilities usually seek to ensure that their rates reflect the cost of service. Public and regulated private utilities typically use two different approaches to calculate revenue requirements for cost of service.[308] Publicly owned utilities usually use the cash-needs basis,[309] which means that the utility must acquire sufficient revenues from selling water to cover their operation and maintenance costs.[310] Utilities must also have enough resources to manage their debt obligations, such as from bond financing for capital infrastructure projects.[311] Other costs may include taxes and service charges paid to a municipality for support services, such as the use of computer facilities or human resources administration.[312]

Investor-owned utilities that are regulated by a utility commission typically use the utility-basis method.[313] Under this approach, regulated private utilities are entitled to a rate of return that is "reasonably sufficient to assure confidence in the financial soundness of the utility and . . . adequate, under efficient and economical management, to maintain and support its credit

307. For example, in *Village of Niles v. City of Chicago*, fifty-two suburban municipalities sued Chicago's municipal utility on the grounds that the water rates charged to them were excessive, unreasonable, and discriminatory. *Village of Niles II*, 558 N.E.2d 1324, 1328 (Ill. App. Ct. 1990). The trial lasted over a year, consisted of thirty-four days of testimony, and included conflicting expert witnesses. *Id.* at 1328-29. It resulted in a seventy-two-page trial court opinion and an appellate record with thousands of pages of transcript that required eleven boxes to store. *Id.* In addition, the original case was brought around 1978 and it went up on appeal twice, with a final conclusion to the litigation in 1990. *Id.*; *Village of Niles I*, 401 N.E.2d 1235, 1238 (Ill. App. Ct. 1980).

308. *Village of Niles II*, 558 N.E.2d at 1332, 1337 ("Cash basis accounting determines basic revenue requirements by adding up operation and maintenance expense, debt service requirements, and capital expenditures that are not debt financed. Utility basis rate calculation includes in the computation of total revenue requirements the operation and maintenance expense, taxes, depreciation expense, and a return on a rate base. The rate base consists of the value of the utility plant—the actual property used and useful in serving the customers.").

309. AM. WATER WORKS ASS'N, *supra* note 19, at 12-14 (noting that exceptions exist and that in some jurisdictions, regulation requires the use of the utility approach).

310. *Id.*

311. *Id.* at 13-14.

312. *Id.* at 13; *see also Village of Niles II*, 558 N.E.2d at 1341-42 (upholding reimbursement payments made by Chicago's water utility to the city's general corporate fund for various expenses and services that benefit the water system).

313. AM. WATER WORKS ASS'N, *supra* note 19, at 14 (noting that the utility-basis approach to measuring revenue requirements can also be required for "government-owned utilities in jurisdictions where the utility is regulated by a utility commission or other similar regulatory body"); *see also* Corssmit, *supra* note 29, at 9 (also noting that publicly owned utilities serving water users outside the city may use the utility basis with cash residual approach).

and enable it to raise the money necessary for the proper discharge of its public duties."[314] Moreover, the capital costs of a regulated utility can include costs associated with depreciation, debt service, dividends of stocks, and a rate of return on equity.[315]

B. Legal Barriers to Using Rate Revenues to Fund Customer Assistance Programs

Industry standards are consistent with the key legal principles, which are that rates should reflect the cost of service and should be just, reasonable, and non-discriminatory within a rate class. Traditionally, rate-setting processes did not mention affordability as a goal. The statements of the American Water Works Association, whose "membership includes over 4,300 utilities that supply roughly 80 percent of the nation's drinking water and treat almost half of the nation's wastewater,"[316] are instructive. The 2017 edition of the AWAA M1 manual stated:

> It is important to note that affordability and low-income rates and programs are a policy decision of the governing body of the utility, and, in some cases, utilities' governing boards or management take the position that it is not the role of a water utility to address society's low-income or affordability issues. That viewpoint is not shared by all utilities or policymakers, but it does highlight the range of differences of opinion on this topic. Moreover, in many states, legal constraints limit the forms and sources of funding for low-income affordability measures.[317]

However, in 2018, the AWWA adopted a Policy Statement on Affordability that "recognizes that providing reliable and high-quality water, wastewater, reclaimed water, and stormwater services at fair and reasonable

314. Bluefield Water Works & Improvement Co. v. Pub. Serv. Comm'n of W. Va., 262 U.S. 679, 693 (1923); *see also* Fed. Power Comm'n v. Hope Nat. Gas Co., 320 U.S. 591, 605 (1944) ("Rates which enable the company to operate successfully, to maintain its financial integrity, to attract capital, and to compensate its investors for the risks assumed certainly cannot be condemned as invalid, even though they might produce only a meager return on the so-called 'fair value' rate base."); AM. WATER WORKS ASS'N, *supra* note 19, at 48-49; Corssmit, *supra* note 29, at 11-12.

315. *Hope Nat. Gas Co.*, 320 U.S. at 596, 603 ("The rate-making process under the Act, i.e., the fixing of 'just and reasonable' rates, involves a balancing of the investor and the consumer interests. . . . From the investor or company point of view it is important that there be enough revenue not only for operating expenses but also for the capital costs of the business. These include service on the debt and dividends on the stock. . . . By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks." (citations omitted)); *see also* Corssmit, *supra* note 27, at 12.

316. *About Us*, AM. WATER WORKS ASS'N, https://perma.cc/LD3L-N4WF (archived Feb. 26, 2024).

317. AM. WATER WORKS ASS'N, *supra* note 19, at 208.

rates and charges to all customers is fundamental to a utility's mission."[318] In 2022, the AWWA acknowledged that, in the wake of the COVID-19 pandemic, there is now increased support for water affordability and assistance programs.[319] The shutoff moratoria and the availability of funds through LIHWAP also presented more opportunities for utilities to address affordability.[320] Achieving that goal requires understanding how the legal principles are interpreted as obstacles to affordability programs.

For some utilities, it makes financial sense for water utilities to address affordability—for example, by charging water rates based on household income.[321] After all, if water bills are too high, then a household may not pay its bills regularly, creating uncertain cash flows for the utility. In contrast, if a household can pay a lower water bill consistently, then the utility can rely on this revenue. The utility also avoids the cost of labor to disconnect and re-connect households, as well as costs associated with collecting unpaid bills. Prioritizing affordability sometimes enhances a utility's overall financial sustainability and enables it to secure financing on more favorable terms.[322] But despite financial incentives to do so, a utility may be reluctant to pursue affordability initiatives for fear of costly litigation over ratemaking.[323]

The key principles of water rate-setting are often interpreted as prohibiting the use of water revenues to fund water affordability programs.[324]

318. AM. WATER WORKS ASS'N, *supra* note 34.

319. AM. WATER WORKS ASS'N, *supra* note 4, at 2-3.

320. *See id.* at 3.

321. *See* COLTON, *supra* note 51, at 1-4; AM. WATER WORKS ASS'N, *supra* note 19, at 217-19 (describing the business case for creating affordability programs and noting that "[f]ailure to address affordability issues may result in increased utility costs for collections and bad debt"); ROGER COLTON, A WATER AFFORDABILITY PROGRAM FOR THE DETROIT WATER AND SEWERAGE DEPARTMENT (DWSD) 1, 5 (2005), https://perma.cc/FHP2-TTVL; *see also* EPA, *supra* note 42, at 2-5; EPA, *supra* note 10, at C-6 ("[C]ommunities should review how they currently set rates and review ways, within the boundaries of any applicable legal requirements or restrictions, including their state regulations, that rate design could be adjusted to offset costs to their most vulnerable residents while still making progress on their capital infrastructure projects. Options might include percentage of income plans, lifeline rates, payment restructuring programs, and customer charge waivers.").

322. CZERWINSKI ET AL., *supra* note 5, at 143; AM. WATER WORKS ASS'N, *supra* note 19, at 217-19 (noting that increased nonpayment and bad debt write-offs can affect revenue bonds and ultimately increase costs for other ratepayers).

323. For other utilities, it may not make financial sense to fund affordability programs. At a societal level, however, the cost of not providing water constitutes an externality that will likely be borne by the public. *See* Murthy, *supra* note 70, at 209. Without water, people are more likely to get sick and are less likely to attend school or work. *Id.* Their children may be removed from the home due to unsanitary conditions. *Id.*

324. *See* EPA, *supra* note 10, at C-6; UNC ENV'T FIN. CTR., *supra* note 18, at 7; AM. WATER WORKS ASS'N, *supra* note 19, at 208.

To avoid this concern, some utilities seek charitable donations from other customers, such as by offering "round-up" programs that allow customers to automatically round their water bills up to the next dollar.[325] The requirements that rates be just, reasonable, and non-discriminatory are sometimes interpreted as preventing utilities from using water tariffs to cross-subsidize low-income customers because income-based rates do not reflect cost-of-service differences.[326] As a result, utilities fear that low-income subsidies will result in lawsuits claiming a violation of basic water revenue principles, like undue discrimination.[327] Some utilities also avoid using water revenues to fund affordability programs for fear of violating state constitutional "gift clauses" or constitutional provisions concerning the imposition of new charges or taxes on property owners.[328]

Yet, despite this general presumption against cross-subsidies, they exist even within traditional rate structures. In the electricity system, flat-rate systems embed many cross-subsidies. For instance, consumers using electricity during off peak hours, when marginal costs are lower, subsidize those using electricity during peak hours, when marginal costs are higher.[329] Similarly, flat-rate tariffs based on historical average costs tend to benefit heavy electricity users that consume electricity during peak periods when costs are higher.[330] Similarly, in the water sector, all ratepayers within the same

325. *See* UNC ENV'T FIN. CTR., *supra* note 18, at 9; *see also* Mehan & Gansler, *supra* note 4, at 43.

326. Mehan & Gansler, *supra* note 4, at 43-44 ("Many states' statutes require water service rates to be 'reasonable,' 'uniform,' 'nondiscriminatory,' or 'just.' Often the intent behind these terms is to require utilities to charge all customers the same rate rather than prohibiting the use of rate revenue to subsidize low-income customers; however, the latter is a side effect."); *see* AM. WATER WORKS ASS'N, *supra* note 19, at 4 ("Water rates are considered fair and equitable when each customer class pays the costs allocated to the class and, consequentially, cross-class subsidies are avoided."); *see also* C. (Kees) W. Corssmit, *Preface*, *in* WATER RATES, FEES, *supra* note 29, at xi, xii; Corssmit, *supra* note 29, at 12.

327. UNC ENV'T FIN. CTR., *supra* note 18, at 9 ("Many states are in a kind of stalemate with cautious attorneys citing potential challenges and program advocates arguing that [customer assistance programs] would not get caught up in the language."); *see also* AM. WATER WORKS ASS'N, *supra* note 19, at 4; notes 299-301.

328. *See infra* Part IV.A.2 (discussing Atlanta as an example).

329. Richard L. Revesz & Burcin Unel, *Managing the Future of the Electricity Gri Modernizing Rate Design*, 44 HARV. ENV'T L. REV. 43, 101-02 (2020).

330. Carlos Batlle, Paolo Mastropiertro & Pablo Rodilla, *Redesigning Residual Cost Allocation in Electricity Tariff A Proposal to Balance Efficiency, Equity and Cost Recovery*, 155 RENEWABLE ENERGY 257, 260 (2020). More recent research on renewables has also highlighted cross-subsidies inherent within energy tariffs. For example, research on distributed generation finds that non-participants subsidize adopters of solar technology, who are able to reduce bills substantially and transfer costs to non-participants. Erik Johnson et al., *Peak Shifting and Cross-Class Subsidizatio The Impacts of Solar PV on Changes in Electricity Costs*, 106 ENERGY POL'Y 436, 444 (2017); *see also* Alexandra B. Klass, *Regulating the Energy "Free Riders,"* 100 B.U. L. REV. 581, 584 (2020).

customer class pay the same cost even though the actual cost of service depends in part on how far a customer lives from a water plant.[331] Customers that use a higher volume of water also increase peak demand, which can influence utility investment decisions.[332] Yet, unless the utility has a well-researched inclining block tariff, these high-volume consumers receive inherent subsidies.[333]

Detroit offers an interesting example of how legal concerns can shape policy decisions. In the wake of the massive water shutoffs in Detroit in the mid-2010s, a debate raged between advocates and the city about the best way to address concerns about water access.[334] Advocates sought income-based water rates because they believed this was the only long-term financially sustainable way to address affordability.[335] In contrast, the city sought to use a combination of charitable assistance and repayment plans.[336] In 2016, the Detroit Water and Sewer Department opted to create a charity-based assistance program out of concerns that an income-based program would face legal challenges as an illegal tax that violated the Michigan constitution.[337] In 2022, however, Detroit announced that it would be creating its first income-based water affordability plan.[338] The approach now includes a lifeline plan,

331. UNC ENV'T FIN. CTR., *supra* note 18, at 18; AM. WATER WORKS ASS'N, *supra* note 19, at 73-74.

332. UNC ENV'T FIN. CTR., *supra* note 18, at 18.

333. *Id.*

334. *See generally* JANICE BEECHER ET AL., CITY OF DETROIT BLUE RIBBON PANEL ON AFFORDABILITY, FINAL REPORT (2016), https://perma.cc/9GET-5UK7 (reporting the findings of a panel convened to investigate the feasibility of a proposed water affordability program).

335. Murthy, *supra* note 70, at 224.

336. *Id.* at 221-22.

337. *See* Bolt v. City of Lansing, 587 N.W.2d 264, 272-73 (Mich. 1998) (invalidating stormwater service charges on the grounds that they were improper taxes—not user fees—and under the Headlee Amendment to the state constitution, voter approval is required to impose new taxes); MICH. CONST. art. IX, § 31 ("Units of Local Government are hereby prohibited from levying any tax not authorized by law or charter . . . without the approval of a majority of the qualified electors of that unit of Local Government voting thereon."); *see also* Murthy, *supra* note 70 (providing a detailed analysis of the Detroit water shutoffs, advocacy efforts, and responses by the city and state); READ ET AL., *supra* note 12, at 32 (discussing how the Headlee Amendment is often incorrectly interpreted as preventing a utility from offering differentiated rates). *See* JANICE BEECHER ET AL., *supra* note 334, at 10, 29 ("The Headlee Amendment to the Michigan constitution and the Michigan Supreme Court's decision in *Bolt v. Lansing* generally have been interpreted to require that water services be priced based on the costs of service, and not on non-cost factors such as income or ability to pay. Also, Headlee and *Bolt* suggest that revenues collected from all utility customers should be used to pay system costs and may not be used to benefit a specific class of customers.").

338. *Mayor, DWSD Announce Detroit's First Income-based Water Affordability Plan*, CITY OF DETROIT (June 28, 2022), https://perma.cc/Z7ZG-S4DU.

which provides income-eligible Detroit residents with up to 1,125 gallons of indoor water usage per household member per month at a fixed rate based on their household income.[339] Residents must pay their monthly bill in order to be protected from shutoffs.[340] This program is supported by the Water Residential Assistance Program fund, which has received funding from the federal LIHWAP program, the budgeted revenues of the Great Lakes Water Authority, the Detroit Water & Sewerage Department, and the City of Detroit.[341] The factors that led to a change in policy are not entirely clear. However, it could reflect an implicit acknowledgment that the policy would likely survive a legal challenge and would not be struck down as an illegal tax under the state constitution.[342]

A 2017 report by the Environmental Finance Center at the University of North Carolina at Chapel Hill provides a comprehensive survey of the legal rules governing water utilities in all fifty states, as well as the District of Columbia and Puerto Rico.[343] The report found that utilities experience significant obstacles in addressing water affordability because they face "a complex, confusing, and often ambiguous legal framework that varies considerably from state to state."[344] A few states specifically authorize the use of water revenue to fund affordability programs, while a handful of states completely prohibit the practice.[345] Many states have no express authority on the question, whereas other states have ambiguous language in statutes or case law that could be construed to prohibit cross-subsidization of rates.[346] The legal landscape's complexity is further compounded by the fact that different sets of laws and regulations apply to commission-regulated utilities (usually private utilities) and noncommission-regulated utilities (usually public utilities). A summary chart from the report is reproduced below.

339. *The Lifeline Plan*, CITY OF DETROIT, https://perma.cc/Q2AP-8GNR (archived Feb. 4, 2024).

340. *Id.*

341. GREAT LAKES WATER AUTH., WATER RESIDENTIAL ASSISTANCE PROGRAM (WRAP) POLICY 4 (2022), https://perma.cc/4ECX-UQWE; Great Lakes Water Auth., Master Bond Ordinance Flow of Funds (2016), https://perma.cc/A4SL-JLHG; *DWSD Lifeline Plan Outreach and Resources*, CITY OF DETROIT, https://perma.cc/E73L-VVQH (archived Feb. 4, 2024).

342. *See* Memorandum from David Whitaker, Dir., Detroit City Council Legis. Pol'y Div. Staff, to the Detroit City Council 2-3, 10 (Oct. 21, 2015) (explaining why an income-based affordability plan would be constitutional under Michigan law).

343. UNC ENV'T FIN. CTR., *supra* note 18, at 7.

344. *Id.*

345. *Id.* at 8 figs.1 & 2 (showing that commission-regulated utilities with specific authorization to create customer assistance programs include the states of Washington, California, Nevada, and Kansas, while noncommission-regulated utilities with specific authorization consist only of those in Washington and Washington, D.C.).

346. *Id.*

Table 1
Authorization to Create Affordability Programs Using Rate Revenues[347]

	Number of States	
	Commission-Regulated Utilities	**Noncommission-Regulated Utilities**
Explicitly Authorized	4	2
No express authority, but nothing in the statutes or case law seems to limit an entity from implementing a program	10	28
Something in the statutes or case law, such as ambiguous language, limiting terminology, cost of service requirements, etc., suggests the **potential for challenges**	28	19
Specifically prohibited	3	3

The bottom line is that water utilities are incentivized by state law to create rate structures that can withstand legal scrutiny because litigation over water structures is costly and time-consuming. Even if there are no outright legal prohibitions on using rate revenues to fund customer assistance programs, the legal murkiness discourages utilities from doing so—even where financially advantageous and mutually beneficial.

If one conceives of a public utility in normative terms as "protect[ing] the public from the abuses of market power by providing stable, reliable, and universal service at just and reasonable rates,"[348] then the core concepts of water utility law must be re-evaluated. For example, the concept of non-discrimination needs to be broadened to allow utilities to make a business case for using rate revenues to fund affordability programs. If charging reasonable income-based water rates enables a utility to collect more revenue overall, reduce costs associated with disconnections and reconnections, and improve its bond rating, then the rates should be deemed to be just, reasonable, and non-discriminatory. The next Part offers several examples of how utilities across the country have achieved this goal.

347. *Id.* at 15 tbl.1. Five states as well as the District of Columbia and Puerto Rico have no commission-regulated utilities. *Id.* at 8 fig.1.

348. Boyd, *supra* note 33, at 1619.

IV. Addressing Legal Barriers to Affordability

To address water affordability, utilities should have the flexibility and freedom they need to create sustainable business models that use rate revenues to fund customer assistance programs. Cross-subsidization of rates need not be required, but also should not be prohibited, if the goal is to ensure universal access to a critical resource at just and reasonable rates.

The three jurisdictions highlighted below offer a roadmap for how states or local governments could modify their utility laws to overcome the legal barriers to affordability. The basic idea to simply declare that the use of water rate revenues either to fund customer assistance programs or to create income-based rates conform to the tenets of utility law. Drawing on the approach of Philadelphia, utility codes could be amended to clearly state that the use of water revenue to fund affordability measures is just, reasonable, and non-discriminatory.[349] Following the example of Atlanta, water affordability programs could be justified as a legitimate cost of service.[350] Finally, jurisdictions could also consider recognizing that access to water is a basic necessity (and a human right) and require that the utility make it available to all residents, as California has done.[351] These three case studies underscore that although we may conceive of water affordability as a national problem,[352] addressing it effectively requires a state-by-state, or even municipality-by-municipality, approach. As a result, this Part concludes with a proposal for reform: the development of a model water utility law through the Uniform Law Commission.

A. Case Studies

1. Philadelphia

Philadelphia, which has broad home rule powers,[353] was the first city in the nation to create an income-based water rate structure.[354] Known as the

349. *See infra* Part IV.A.1.

350. *See infra* Part IV.A.2.

351. *See infra* Part IV.A.3.

352. *See* AM. WATER WORKS ASS'N, *supra* note 4, at 3; Murthy, *supra* note 70, at 163.

353. The Philadelphia Home Rule Charter was amended to allow for the establishment of an independent rate-making body for fixing and regulating water and sewer rates and charges. *See* Phila. City Council Res. No. 120188 (May 12, 2012), https://perma.cc/RM4A-BGKF.

354. Mack et al., *supra* note 1, at 432; *see also* UNIV. OF MICH. WATER CTR., WATER AFFORDABILITY BASED ON INCOME: THE TIERED ASSISTANCE PROGRAM IN PHILADELPHIA 1-2 (2018), https://perma.cc/9MT6-CWDJ. Philadelphia is also unique because the rates of Philadelphia Water Department are subject to the review and approval of the

footnote continued on next page

Tiered Assistance Program,[355] Philadelphia's program is modeled on similar programs used by energy utilities.[356] Until Philadelphia developed its program, Percentage of Income Payment Plans (discussed earlier in Part I.C.2) were not being used in the water sector, perhaps out of a concern that cross-subsidizing rates in a way could be seen as violating key principles of utility law.

Philadelphia caps water bills at 2% to 3% of income for low-income households, with the rate depending on the household's income.[357] Households are then eligible to eventually have prior penalty charges forgiven, along with past due amounts.[358] This program has been important for Philadelphia's large low-income population.[359] At the end of April 2018, 40,000 residences were eligible for water disconnections due to nonpayment.[360]

Understanding how Philadelphia was able to overcome concerns over illegal cross-subsidization is instructive. All it took was a simple cross-reference between two different sections of the municipal code. The Philadelphia City Council modified its utility code by creating the Income-Based Water Rate Assistance Program (IWRAP).[361] Section 19-1605(3)(a) provides that "[b]ills issued pursuant to this IWRAP shall be deemed to comply with Philadelphia Code subsection 13-101(4)(d)."[362] This new IWRAP provision simply cross-references the section of the code requiring water rates to be "just, reasonable and nondiscriminatory," which is set forth in Section 13-101(4)(d).[363] In other words, the seemingly innocuous language, "shall be

---

Philadelphia Utility Commissioner. *See* Rowe McKinley, James A. (Tony) Parrott, David LaFrance & Thomas Catlin, *How to React to Lawsuits: Real or Threatened*, *in* WATER RATES, FEES, AND THE LEGAL ENVIRONMENT, *supra* note 30, at 66.

355. Press Release, Off. of the Mayor, Philadelphia Launches New, Income-Based, Tiered Assistance Program (June 20, 2017), https://perma.cc/JQN2-7HBR.

356. J.B. Wogan, *The Cost of Water Is Rising. Philadelphia Has an Unprecedented Plan to Make It More Affordable*, GOVERNING (June 29, 2017), https://perma.cc/TFK7-HBEX (to locate, select "continue to site"); *see also* WATER RSCH. FOUND. & EPA, *supra* note 60, at 52 (discussing percentage of income payment plans in the context of energy utilities); NAT'L CONSUMER L. CTR., *supra* note 43, at 32 (same).

357. Water Revenue Bureau, City of Phila. Dep't of Revenue, Assistance Programs Eligibility Guidelines (2023), https://perma.cc/JZA8-3B7Z; UNIV. OF MICH. WATER CTR., *supra* note 354, at 2.

358. Mack et al., *supra* note 1, at 434-35.

359. *Id.* at 433-34 (noting that over a quarter of Philadelphia's population lives in poverty).

360. *Id.* at 434.

361. PHILA., PA., CODE § 19-1605 (2023).

362. *Id.* § 19-1605(3)(a).

363. *Id.* § 13-101. Philadelphia Code Section 13-101 is titled "Fixing and Regulating Rates and Charges" and addresses water, sewer and storm water rates; sub-section (4)(d) states that "[t]he rates and charges shall be just, reasonable and nondiscriminatory as to the same class of consumers." *Id.* § 13-101(4)(d).

deemed to comply" solves a legal hurdle by making clear that the new income-based water rates meet the core principles of utility law. This approach would address the concerns of cautious lawyers who might interpret the law conservatively and otherwise advise the utilities to avoid creating income-based rates for fear of litigation over illegal rates.

The apparent simplicity of Philadelphia's approach belies the tremendous community advocacy that occurred on behalf of the city's low-income households. This advocacy was likely effective because all ratemaking in Philadelphia occurs through a proceeding before the Philadelphia Water, Sewer and Storm Water Rate Board, an independent body established by the city council to take testimony and consider other evidence to establish fair and reasonable rates.[364] Further, Philadelphia appoints a public advocate to represent the interests of residential customers and small businesses during water rate-setting proceedings.[365] The Community Legal Services of Philadelphia serves as the Philadelphia Public Advocate, which enabled the non-profit legal aid group to play a key role in the creation of the new Tiered Assistance Program.[366] In this capacity, the Public Advocate is also able to organize expert testimony on behalf of low-income consumers.[367] In addition, key members of the Philadelphia City Council advocated for the water affordability plan; this support paved the way for the passage of legislation in 2015 that explicitly stated that the new income-based bills would be deemed reasonable and nondiscriminatory within the meaning of Philadelphia's City Code.[368]

364. *Water, Sewer & Storm Water Rate Board*, CITY OF PHILA., https://perma.cc/6AYR-9KRF (archived Feb. 4, 2024); UNIV. OF MICH. WATER CTR., REIMAGINING THE WATER RATE-SETTING PROCESS IN PHILADELPHIA 1 (2018), https://perma.cc/BT52-Y4EE ("The five members [of the water rate board] are unpaid city residents who must have at least five years of experience in public or business administration, finance, utilities, engineering, or water resources management.").

365. UNIV. OF MICH. WATER CTR., *supra* note 364, at 1.

366. *CLS Is Working to Keep Water Rates Affordable, and We Need Your Help!*, CMTY. LEGAL SERVS. OF PHILA. (Mar. 18, 2022), https://perma.cc/822N-9VXM; *Robert Ballenger*, CMTY. LEGAL SERVS. OF PHILA., https://perma.cc/6FEU-RZVB (archived Feb. 4, 2024); Mack et al., *supra* note 1, at 436-37.

367. *See, e.g.*, Roger D. Colton, Principal, Fisher Sheehan & Colton, Direct Testimony on Behalf of the Philadelphia Public Advocate Before the Philadelphia Water, Sewer and Storm Water Rate Board (Apr. 12, 2023), https://perma.cc/RT5E-9G8Z; Wogan, *supra* note 356 (reporting that "Roger Colton, a law and economics consultant who testified before the Philadelphia City Council in 2015[,] . . . predicted that Philadelphia's water department would see a net gain in revenue as a result of lowering the rates and increasing compliance").

368. Wogan, *supra* note 356; Mack et al., *supra* note 1, at 436-37.

2. Atlanta

State constitutional "gift clauses" can also create legal barriers to affordability programs. These clauses seek to ensure that public funds are used for public purposes by preventing the government from giving benefits to individuals or corporations, such as through grants, subsidies, or donations.[369] Some of these gift clauses are broad enough that they are perceived as barriers to utilities creating customer assistance programs.[370] The city of Atlanta, which has broad home rule authority,[371] was able to overcome these barriers by amending its city charter to include the business justification of its conservation and affordability program as a way of addressing these constitutional concerns.[372]

Atlanta has one of the highest water rates in the country, in part due to the significant infrastructure rehabilitation needed to bring its wastewater discharges into compliance with the Clean Water Act.[373] Like many older cities, Atlanta's wastewater problems were due in part to its combined sewer overflow system.[374] At an estimated cost of approximately $4 billion, Atlanta's capital

369. Mehan & Gansler, *supra* note 4, at 44.

370. *Id.*

371. GA. CONST. art. IX, § II, para. II ("The General Assembly may provide by law for the self-government of municipalities . . . ."); GA. CODE ANN. § 36-35-3(a) (2023) ("The governing authority of each municipal corporation shall have legislative power to adopt clearly reasonable ordinances, resolutions, or regulations relating to its property, affairs, and local government for which no provision has been made by general law and which are not inconsistent with the Constitution or any charter provision applicable thereto."); GA. CONST. art. IX, § II, para. III(a)(6)-(7) ("In addition to and supplementary of all powers possessed by or conferred upon any county, municipality, or any combination thereof, any county, municipality, or any combination thereof may exercise the following powers and provide the following services: . . . (6) Storm water and sewage collection and disposal systems. (7) Development, storage, treatment, purification, and distribution of water.").

372. GA. CONST. art. IX, § II, para. VIII ("The General Assembly shall not authorize any county, municipality, or other political subdivision of this state, through taxation, contribution, or otherwise, to appropriate money for or to lend its credit to any person or to any nonpublic corporation or association except for purely charitable purposes."); Garden Club of Ga., Inc. v. Shackelford, 463 S.E.2d 470, 471 (Ga. 1995) (defining a gratuity "as '[s]omething given freely or without recompense; a gift'" (quoting McCook v. Long, 18 S.E.2d 488, 490 (Ga. 1942))). For the new city charter, see note 380 and the accompanying text below.

373. UNC ENV'T FIN. CENTER, *supra* note 18, at 123; *City of Atlanta Clean Water Act Settlement*, EPA (July 29, 1999), https://perma.cc/695P-M2WM.

374. After being sued by a local environmental non-profit organization and by federal and state environmental agencies, the city of Atlanta entered into a consent decree in 1998, which was then amended in 1999. Consent Decree at 5, 20-36, Upper Chattahoochee Riverkeeper Fund, Inc. v. City of Atlanta, No. 95-CV-2550 (N.D. Ga. Sept. 25, 1998), https://perma.cc/NA5W-Y5K6; First Amended Consent Decree at 4, United States v. City of Atlanta, No. 98-CV-1956 (N.D. Ga. Dec. 21, 1999), https://perma.cc/T6BR-

footnote continued on next page

improvement project has been one of the largest programs in the country.[375] Because these costs were funded in part by increases in water tariffs, Atlanta developed a customer affordability program to ensure that access to water did not become unaffordable for its most vulnerable populations.[376]

In developing its customer assistance program, Care and Conserve,[377] Atlanta was mindful of the legal constraints imposed by the so-called Gratuities Clause in the Constitution of Georgia, which states: "The General Assembly shall not authorize any county, municipality, or other political subdivision of this state, through taxation, contribution, or otherwise, to appropriate money for or to lend its credit to any person or to any nonpublic corporation or association except for purely charitable purposes."[378]

Concerned that cross-subsidization of low-income customers would violate the Gratuities Clause, Atlanta initially used donations, grants, and revenues from cellular tower leasing to fund its program.[379] In 2013, the city amended its code to allow the water utility to use system revenues to fund conservation, and affordability programs, when sufficient funds exist.[380] In doing so, the Atlanta City Council included strong business arguments for using water revenue to fund its Care and Conserve program.[381]

Atlanta's city code states that programs helping customers to conserve water and enhancing their lifeline access to water through bill assistance are "reasonable and customary costs of operating and maintaining the City of

---

WAVH. These consent decrees have had strict compliance schedules that have led to significant and costly investments in Atlanta's wastewater infrastructure. *See Consent Decree Projects*, CLEAN WATER ATLANTA, https://perma.cc/LF3L-RYPW (archived Feb. 4, 2024) (describing the billions of dollars that the city has invested to upgrade its sewer infrastructure to comply with the consent decrees); *History*, CITY OF ATLANTA DEP'T OF WATERSHED MGMT., https://perma.cc/JZM2-DLNW (archived Feb. 4, 2024).

375. *History*, CITY OF ATLANTA DEP'T OF WATERSHED MGMT., *supra* note 374.

376. *Care and Conserve*, CITY OF ATLANTA DEP'T OF WATERSHED MGMT., https://perma.cc/KA8G-3J7B (archived Mar. 23, 2024); *Atlanta's Care and Conserve Program*, CHATTAHOOCHEE RIVERKEEPER, https://perma.cc/4DPB-GGF7 (archived Mar. 23, 2024).

377. ATLANTA, GA., CODE § 154-130(a)(5). The first goal of this program is to promote conservation by providing customers with "access to water conserving measures, fixtures and devices." *Id.* § 154-130(a)(2). The second is to provide bill assistance to "economically disadvantaged customers" in order to improve "accessibility to the minimum quantity of water necessary to sustain life, safety, and health." *Id.* § 154-130(a)(3). In addition, Atlanta also has a provision in its water tariff structure that waives water rates by 30% for low-income customers (defined as household income of $25,000 or less) aged 65 or older. ATLANTA, GA., CODE § 154-111.

378. GA. CONST. art. IX, § II, para. VIII; *see also* UNC ENV'T FIN. CTR., *supra* note 18, at 123.

379. UNC ENV'T FIN. CTR., *supra* note 18, at 123.

380. ATLANTA, GA., CODE § 154-130(a)(4); Atlanta, Ga., Ordinance 154-130 (2013).

381. *See* ATLANTA, GA., CODE § 154-130; Atlanta, Ga., Ordinance 154-130 (2013).

Atlanta's drinking water and wastewater system."[382] It then includes a list of financial benefits to the utility, such as retaining customers, avoiding costs associated with disconnecting water services and collections, reducing expenses from bad debt, promoting conservation, improving water management, decreasing possible sewage leaks, and improving the good will of the city.[383] The city code also states that it is "national standard practice" to use water revenues, along with other charitable contributions, to fund conservation and affordability programs.[384]

To avoid violating the Gratuities Clause of the Constitution of Georgia, Atlanta has made clear that using water revenue to fund its Care and Conserve program ensures the financial sustainability of the utility. It is not simply about helping individual customers. To further ensure that it is not running afoul of this constitutional provision, the Atlanta City Code also states that "[a]ny benefit which may inure to private citizens in connection with or as a byproduct of the provision of these services is merely incidental to fulfilling the paramount public purposes served by such programs."[385] In addition, the city of Atlanta funds its water conservation and affordability programs on the basis of its broad authority to use money "derived from taxation, contributions, or otherwise . . . for purely charitable purposes."[386]

Atlanta's approach to water affordability offers useful insights for the development of a model law. By specifically ensuring that customer assistance programs designed to address affordability also ensure the financial sustainability of the utility, the model law could address concerns about violations of state constitutional gratuity clauses.

3. California

California's efforts to address water affordability underscore both the possibilities and limits of a model water utility law. California state law encourages private utilities to use revenue from water rates to fund customer assistance programs, even though it completely prohibits public utilities from doing so.[387] The California Public Utility Code regulating private utilities explicitly states that "[a]ccess to an adequate supply of healthful water is a basic necessity of human life, and shall be made available to all residents of

382. ATLANTA, GA. CODE § 154-130(a)(4).

383. *Id.*

384. *Id.*

385. *Id.*

386. ATLANTA, GA. CODE § 6-306; *see also* UNC ENV'T FIN. CTR., *supra* note 18, at 124.

387. UNC ENV'T FIN. CTR., *supra* note 18, at 7.

California at an affordable cost."[388] Moreover, it enables the California Public Utilities Commission to "implement programs to provide rate relief for low-income ratepayers" and to promote conservation.[389] As a result, all large, private water utilities regulated by the Commission have low-income customer assistance programs.[390] For example, the Contra Costa Water District, which provides water to approximately 500,000 people in northern California,[391] has a lifeline rate program for low-income customers who are older than sixty-two or have evidence of a permanent disability, such as a letter from the Social Security Administration.[392]

However, constitutional barriers in California have limited the state's ability to fully address water affordability. As creatures of state or local government, public utilities in California are constrained by provisions in the state constitution adopted in 1996 through Proposition 218.[393] The Constitution of California requires that revenues from fees or charges "not exceed the funds required to provide the property related service[,] . . . not be used for any purpose other than that for which the fee or charge was imposed[,] . . . [and that t]he amount of a fee or charge imposed . . . not exceed the proportional cost of the service attribute-able to the parcel."[394] In addition, no fee or charge can be imposed except for service "actually used by" the property owner and cannot be based on "potential or future use."[395] Impacted customers have litigated this provision in the courts, largely over the use of tiered rate structures designed to promote conservation.[396] Publicly owned

388. CAL. PUB. UTIL. CODE § 739.8(a) (West 2023).

389. *Id.* §§ 739.8(b), (c). Further, it *requires* that the commission at least "shall consider" these programs. *Id.*

390. *See* UNC ENV'T FIN. CTR., *supra* note 18, at 29 (noting that in California all "Class A" water utilities currently have customer assistance programs). For example, the California Water Service has a Customer Assistance Program (formerly known as Low Income Rate Assistance, or LIRA) that provides service-charge discounts to qualifying low-income customers. *Customer Assistance Program (CAP) Application*, CAL. WATER SERV., https://perma.cc/JL4K-MEBD (archived Feb. 4, 2024). Formed in 1926, the California Water Service "is the largest regulated American water utility west of the Mississippi River and the third largest in the country." *Company Information*, CAL. WATER SERV., https://perma.cc/K828-2SPL (archived Feb. 4, 2024).

391. *About Us*, CONTRA COSTA WATER DIST., https://perma.cc/95L6-SSFP (archived Mar. 24, 2024).

392. *Customer Payment Assistance*, CONTRA COSTA WATER DIST., https://perma.cc/D3ZL-LV73 (archived Mar. 24, 2024).

393. UNC ENV'T FIN. CTR., *supra* note 18, at 30.

394. CAL. CONST. art. XIII D, § 6(b)(1)-(3).

395. *Id.* at art. XIII D, § 6(b)(4).

396. *See, e.g.*, Richmond v. Shasta Cmty. Servs. Dist., 83 P.3d 518, 521, 528 (Cal. 2004) (finding that water service fees may be property-related fees within the meaning of Article XIII D, but only when charged for ongoing service rather than for a new connection);
footnote continued on next page

water systems in California have avoided using their water revenues to fund affordability programs for fear of violating these constitutional provisions.[397]

The state of California is now exploring other alternatives. The California State Legislature recognized a human right to water in 2012[398] and adopted a Low-Income Water Rate Assistance Act, which requires the state to develop a plan for implementation and funding.[399] In 2020, the California State Water Resources Control Board within the California Environment Protection Agency published a report identifying different approaches and funding sources to help low-income households afford drinking water that do not involve using water revenue.[400] However, the legal barriers in California also reveal the limits of a model utility law; some state constitutional clauses would continue to present barriers to water affordability programs.[401]

B. A Model Law Through the Uniform Law Commission

Although utility codes vary by state and even municipality, the core principles of utility law are similar across the United States. This similarity presents an opportunity to develop a model water utility law through the Uniform Law Commission, which was created in 1892 to provide "states with non-partisan, well-conceived and well-drafted legislation that brings clarity and stability to critical areas of state statutory law."[402] The model law would draw on the lessons learned from Philadelphia, Atlanta, and California, as well as other jurisdictions that have found ways to use rate revenue to fund water affordability programs.[403] Although the most famous example of the

---

Bighorn-Desert View Water Agency v. Verjil, 138 P.3d 220, 221, 226 (Cal. 2006) (same); City of Palmdale v. Palmdale Water Dist., 131 Cal. Rptr. 3d 373, 380-81 (Cal. Ct. App. 2011) (holding that tiered rates for irrigation customers exceeded the proportional cost of providing the water service); Capistrano Taxpayers Ass'n v. City of San Juan Capistrano, 186 Cal. Rptr. 3d 362, 381 (Cal. Ct. App. 2015) (holding that while tiered, or inclining block rates, are compatible with Article XIII D of the state constitution, the city failed to demonstrate that the tiers corresponded to the cost of service); *see also* SALT, *supra* note 178 (analyzing water rate legal decisions with goal of advising municipalities on how to structure rates).

397. *See* CAL. STATE WATER RES. CONTROL BD. ET AL., RECOMMENDATIONS FOR IMPLEMENTATION OF A STATEWIDE LOW-INCOME WATER RATE ASSISTANCE PROGRAM 22-23 (2020), https://perma.cc/WC3F-VQZ7; UNC ENV'T FIN. CTR., *supra* note 18, at 29-30.

398. 2012 Cal. Stat. 4779 (codified at CAL. WATER CODE § 106.3 (West 2024)).

399. 2015 Cal. Stat. 5177 (codified at CAL. WATER CODE § 189.5 (West 2024)); *see* CAL. STATE WATER RES. CONTROL BD. ET AL., *supra* note 397, at 6.

400. *Id.* at 22-23.

401. UNC ENV'T FIN. CTR., *supra* note 18, at 7, 17, 133.

402. *About Us*, UNIF. L. COMM'N, https://perma.cc/DM7N-7B9H (archived Feb. 4, 2024).

403. The Uniform Law Commission can develop a proposed law as either a uniform act or as a model act. *See New Project Criteri Statement of Policy Establishing Criteria and Procedures*

footnote continued on next page

Commission's work is probably the Uniform Commercial Code, this proposal concerning the water utility sector was inspired by the success of the Uniform Partition of Heirs Property Act.[404]

The proposed model water utility law would apply to a utility (whether private or municipal and whether regulated by a public utility commission or not) seeking to use revenue from water tariffs to fund customer assistance programs based on non-cost-of-service factors, such as household income. If these steps support the goal of water affordability, the rates and charges would be deemed to be just, reasonable, and nondiscriminatory. This language is inspired by the approach used by the Philadelphia City Council in creating its Income-Based Water Rate Assistance Program.[405] Moreover, the utility should be permitted to make a business case that justifies the use of water revenue to fund a customer assistance program or to cross-subsidize low-income households (such as through income-based water rates). For example, in

---

for Designation and Consideration of Uniform and Model Acts, UNIF. L. COMM'N, https://perma.cc/6CM7-ND68 (archived Feb. 4, 2024). Here, I suggest that a model act be pursued because of the varying ways that water utilities can be structured and regulated and because "uniformity is a desirable objective, although not a principal objective." *See id.* (noting that the Executive Committee makes the decision to designate an act as uniform or model depending on whether "enactment in a large number of states is expected and uniformity of the provisions among the states is a principal objective").

404. UNIF. L. COMM'N, *supra* note 44. The Uniform Law Commission provides a description of this act:

> The Uniform Partition of Heirs Property Act (UPHPA) helps preserve family wealth passed to the next generation in the form of real property. If a landowner dies intestate, the real estate passes to the landowner's heirs as tenants-in-common under state law. Tenants-in-common are vulnerable because any individual tenant can force a partition. Too often, real estate speculators acquire a small share of heirs' property in order to file a partition action and force a sale. Using this tactic, an investor can acquire the entire parcel for a price well below its fair market value and deplete a family's inherited wealth in the process. UPHPA provides a series of simple due process protections: notice, appraisal, right of first refusal, and if the other co-tenants choose not to exercise their right and a sale is required, a commercially reasonable sale supervised by the court to ensure all parties receive their fair share of the proceeds.

Id. See generally Mitchell, *supra* note 44; Thomas W. Mitchell, *Reforming Property Law to Address Devastating Land Loss*, 66 ALA L. REV. 1 (2014); Thomas W. Mitchell, *Growing Inequality and Racial Economic Gaps*, 56 HOW. L.J. 849 (2013); Kieran Marion & Thomas W. Mitchell, *Uniform Laws Update*, PROB. & PROP. Jan.-Feb. 2011, at 7; Matt Reynolds, *How Jim Crow-Era Laws Still Tear Families from Their Homes*, ABA J., Feb.-Mar. 2021, at 52; R. Wilson Freyermuth, *Teaching and Scholarship Enrichment Through Involvement in Law Reform*, 53 WAKE FOREST L. REV. 935 (2018); Rishi Batra, *Improving the Uniform Partition of Heirs Property Act*, 24 GEO. MASON L. REV. 743 (2017); Jesse J. Richardson, Jr., *The Uniform Partition of Heirs Property Ac Treating Symptoms and Not the Caus* , 45 REAL EST. L.J. 507 (2017); Avanthi Cole, *For the "Wealthy and Legally Savvy The Weaknesses of the Uniform Partition of Heirs Property Act as Applied to Low-Income Black Heirs Property Owners*, 11 COLUM. J. RACE & L. 343 (2021).

405. Philadelphia has broad home rule powers delegated to it by the state of Pennsylvania. *See* Phila. City Council, *supra* note 353; PA. CONST. art. IX, § 2; PHILA. HOME RULE CHARTER art. I, § 1-100.

adopting its utility ordinance, the City of Atlanta listed the objectives of the customer assistance programs for water and wastewater:

> (i) Retain customers; (ii) Avoid costs of disconnection and collections; (iii) Reduce bad debt expenses; (iv) Further federal, state and City policy to conserve water resources upon which the City relies; (v) Avoid or defer costly water supply enhancement projects and allow the City better leverage existing water resources; (vi) Reduce the likelihood of sewage spills; and (vii) Enhance the City's good will.[406]

Finally, as noted earlier, the water utility industry does not uniformly consider affordability as an appropriate goal of ratemaking.[407] The model law could follow California's example and specifically declare that water is a necessity of human life—perhaps even declaring it a human right—and state that safe water should be available at an affordable cost.[408] The model law could also underscore and lift up existing provisions in city charters. For instance, the charter of the city of Detroit states that "[t]he people have a right to expect city government to provide for its residents . . . safe drinking water and a sanitary, environmentally sound city."[409]

The model water utility law would preserve local control by not requiring that a utility adopt a particular affordability program. Rather, the proposed model law would simply remove a legal barrier that might prevent a utility from exploring creative policy solutions, such as using revenue from water tariffs to fund affordability programs. Moreover, the model law could avoid imposing any obligations on utilities that serve primarily low-income populations and are not able to self-fund their own affordability programs.[410]

The federal government would have a role to play here too. Congress could incentivize states to adopt the model water utility law by tying federal funds to adoption. For example, the Agriculture Improvement Act of 2018 gives federal loan preference to states that have adopted the Uniform Partition of Heirs Property Act.[411] Similarly, Congress could condition much-needed federal funding for water and wastewater infrastructure projects on state

406. Atlanta, Ga., Ordinance 154-130 (2013).

407. AM. WATER WORKS ASS'N, *supra* note 19, at 208.

408. *See supra* notes 388, 398. At the same time, such a proposed law should not inadvertently discourage utilities from undertaking needed capital investments or adequately treating the water/wastewater in order to cut costs. Such unintended consequences need to be considered when developing this model law.

409. DETROIT, MICH., CHARTER decl. rts. § 1; *see also* JANICE BEECHER ET AL., *supra* note 334, at 27.

410. *See, e.g.*, CAL. STATE WATER RES. CONTROL BD. ET AL., *supra* note 397, at 22.

411. Agriculture Improvement Act of 2018, Pub. L. No. 115-334, § 5104, 132 Stat. 4490, 4670 (2018) (codified at 7 U.S.C. § 1936c) ("[T]he Secretary shall give preference to eligible entities . . . in states that have adopted a statute consisting of an enactment or adoption of the Uniform Partition of Heirs Property Act . . . .").

adoption of the model water utility law. In short, this proposed model law offers a promising approach for addressing the roadblocks in state and local law that have long hindered utility efforts to address water affordability.[412]

Conclusion

As water rates across the United States continue to rise, low-income households that cannot afford their water bills are at risk of losing access to this precious resource. Ensuring that all Americans have clean and affordable water requires re-examining the legal framework governing how utilities deliver water and wastewater services. Although industry standards do not require that water rates be affordable, many utilities have created customer assistance programs to help low-income households maintain access to this vital resource. Paradoxically, however, these utilities are not always able to structure these programs in ways that make financial sense for fear of violating core principles of utility law, such as the principle of non-discrimination.

This Article examines the legal barriers to water affordability and explores how several utilities across the country have been able to overcome these challenges through changes to their utility codes. This analysis situates the water sector within the broader academic debates around the public utility model. That literature largely focuses on sectors that have experienced disruptive technology, whereas the water sector has experienced social disruption through water shutoffs and other threats to water access. The Article concludes by drawing on several case studies to develop a proposed model law on water affordability through the Uniform Law Commission. The proposed law would remove the legal barriers that prevent many utilities from using their water rate revenue to fund customer assistance programs and develop income-based water tariffs that would help ensure universal access to water.

As Justice Brandeis famously said, "It is one of the happy incidents of the federal system that a single courageous State may, if its citizens choose, serve as a laboratory; and try novel social and economic experiments without risk to the rest of the country."[413] Boyd suggests that it "is perhaps not purely a coincidence that Justice Brandeis's famous description of the states as laboratories of democracy came in a dissenting opinion in a 1932 case involving Oklahoma's effort to extend a scheme of quasi-public utility

412. The Uniform Law Commission receives many proposals for consideration and applies a set of new project criteria, so there is no guarantee that it would accept a new project on water affordability. *See* UNIF. L. COMM'N, *supra* note 403. However, even the process of submitting a proposal would help to elevate attention to this critical issue and promote the horizontal diffusion of ideas across state and municipal borders.

413. New State Ice Co. v. Liebmann, 285 U.S. 262, 311 (1932) (Brandeis, J., dissenting).

regulation to the manufacture and sale of ice."[414] In other words, "the conception of a public utility is not static"[415] because it can be adapted to address the challenges of our times. Expanding access to safe and affordable water requires disrupting longstanding principles of utility law and returning the public utility model to its normative, justice-oriented foundations.

414. Boyd, *supra* note 33, at 1704.

415. *New State Ice Co.*, 285 U.S. at 284 (Brandeis, J., dissenting); *see also* Rahman, *supra* note 33, at 922.