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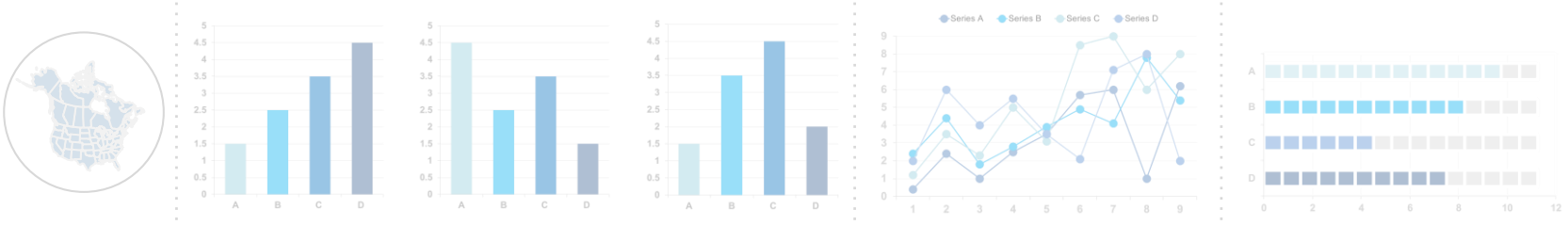
INSIGHT REPORT

U.S. Municipal Utility Water Rates Index 2024:
Drinking Water & Sewer

January 2025



Overview

BACKGROUND

Bluefield Research delivers a data-driven analysis of drinking water and sewer rates for 50 of the largest U.S. cities, uncovering insights into how rising costs and infrastructure demands are shaping residential bills over time. This analysis emphasizes ratepayers as the cornerstone of funding municipal operating expenditures, showcasing the cascading effects of utility investments on U.S. households.

The U.S. water sector, encompassing approximately 50,000 community drinking water and 19,000 wastewater systems, faces mounting financial pressures. Aging infrastructure, urban growth, water quality regulations, and workforce challenges drive a continuous rise in operating (OPEX) and capital (CAPEX) expenditures, trickling down into escalating monthly bills for residents.

While national trends reveal a steady upward trajectory in rates, the unique circumstances of each utility—ranging from regional politics and climate impacts to consumer behaviors—amplify disparities in pricing. Long-term rate planning is further strained by localized factors such as economies of scale, reliance on groundwater or surface water, population density, poverty rates, and geographical nuances.

Amid this complexity, Bluefield Research underscores the critical need for innovative strategies to balance financial sustainability, equity, and resilience, ensuring the continued delivery of essential water services in the face of unprecedented challenges.

This Insight Report provides a detailed examination of the 2024 water and sewer utility rate landscape across 50 of the largest U.S. cities, offering insights into infrastructure investment trends, affordability challenges, and the 61 utilities serving approximately 20% of the U.S population.

TAKEAWAYS

- **Increasing Rates Amid Infrastructure Needs:** Combined household water and sewer bills increased by 4.6% from 2023 to 2024, driven by rising operational costs, inflation, and capital investments for aging infrastructure. Over the past five years, combined water and sewer bills have surged by 24.1%, reflecting persistent cost pressures.
- **Sewer Costs Dominate Bills:** Sewer costs consistently make up ~59% of the combined monthly water and sewer bill due to higher maintenance and treatment expenses, surpassing water provision costs by US$19.33 per month on average since 2019.
- **Regional Disparities in Rates:** Northeast households faced the highest combined bills in 2024, averaging US$141.53 per month, compared to US$118.21 in the South. Monthly water bills ranged significantly, from US$21.76 in Phoenix, AZ, to US$122.94 in San Francisco, CA, illustrating regional cost and operational disparities.
- **Affordability Challenges:** Affordability is a growing concern, with cities like Birmingham, AL and Cleveland, OH exceeding the Environmental Protection Agency's (EPA) 4.5% affordability threshold for water and sewer costs relative to median household income. Minimum-wage earners in some cities need over 20 hours of work to cover monthly utility bills, compared to a national average of 11 hours.
- **Evolving Utility Strategies:** To address affordability and infrastructure needs, utilities are adopting tiered pricing, seasonal rate structures, and low-income assistance programs. However, these strategies vary widely across regions, reflecting the fragmented nature of the water sector.

Built on years of data and analysis, Bluefield Research's Municipal Water Corporate Subscription has become a key resource for companies across the value chain to identify the key states, systems, and opportunities that stand out in an already crowded field with increasing competition.

Research Methodology

Bluefield analyzed drinking water and sewer pricing in 50 U.S. metropolitan areas across 61 water and sewer utilities to identify key trends in municipal utility bills.

Regions and Cities Evaluated

Note: Exceptions include Charlotte Water's water rate schedule (effective on 1 July 2024), Detroit's sewer rate schedule (effective on 3 July 2024), and Los Angeles' sewer rate schedule (effective on 1 July 2024)
Source: Bluefield Research

Research Scope

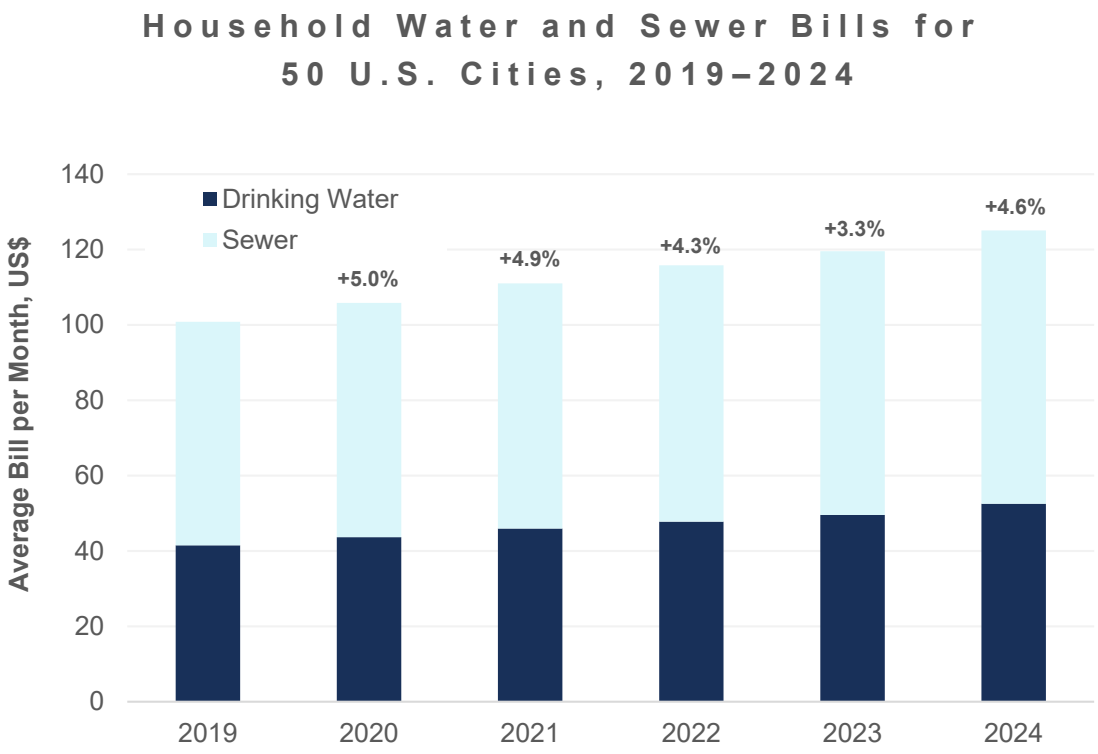
- The utilities surveyed collectively provide potable water and wastewater collection and treatment services to approximately 20% of the U.S. population.
- Residential water and sewer bills were calculated based on a 30-day billing period for standard 5/8" water meters and reflect new rates effective within the timeframe from 1 July 2023 to 30 June 2024.*
- Bills were calculated using a benchmark national average consumption level in addition to specific regional average consumption levels, allowing for a range of comparative conclusions to be drawn.
- Cities were grouped into four regions established by the U.S. Census Bureau to identify relevant regional variations in water and sewer pricing.

Key Assumptions

- Monthly residential sewer usage is assumed to be 100% that of potable water, unless otherwise specified by a surveyed utility.
- The most recently implemented schedule is still in effect, if a utility hadn't posted a new rate schedule within the designated timeline.
- A uniform monthly consumption was assumed for all residents within a metropolitan area for cities that bill based on individual household Winter Average Consumption or other seasonal averages.
- Sewer rates exclude charges for stormwater and/or impervious surface runoff, when applicable.

Water and Sewer Monthly Bills for U.S. Cities, 2019–2024

Over the past five years, combined drinking water and sewer bills increased 4.4% year-over-year on average as higher OPEX and CAPEX, aging infrastructure, and resiliency measures drive rate increases across the U.S.



Note: 2022 and 2020 only include 49 utilities due to data inconsistencies
Source: Bluefield Research

Analysis

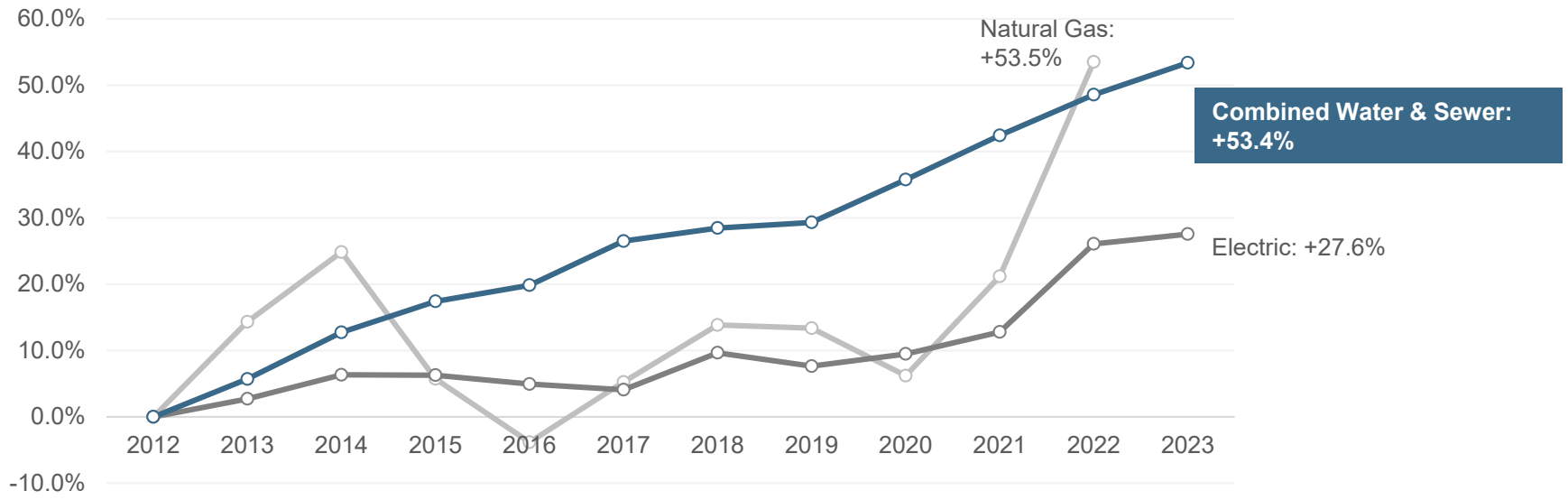
The combined water and sewer bill for a typical U.S. household has surged by 24.1% since 2019.

- A 4.6% increase this year alone underscores persistent cost pressures, driven by inflation, rising labor expenses, and escalating chemical and material costs.
- Sewer charges, consistently comprising ~59% of combined bills, reflect the high cost of maintaining and upgrading aging wastewater systems, often surpassing water provision costs by US$19.33 on average per month.
- Only two cities—Indianapolis, IN, and San Antonio, TX—bucked the trend in 2024 with declines in bills, while three cities faced over 10% rate hikes, exacerbating regional inequities.
- With wastewater treatment dominating utility costs, utilities are prioritizing compliance and environmental upgrades, amplifying financial strain on households.
- Utilities face higher wholesale water purchase prices and extended capital expenditures, intensifying long-term rate pressures across most regions.

Average Residential Bill by Utility

Core water uses—drinking, hygiene, and sanitation—remain consistent even as prices rise, reflecting price inelasticity compared to other critical infrastructure utilities.

Annual Percent Change in Average Residential Monthly Bill: 2019—2023



Note: Data from the American Gas Association only goes up to 2022. Average monthly bill for natural gas is the annual cost divided by twelve
Source: U.S. Energy Information Administration, American Gas Association, Bluefield Research

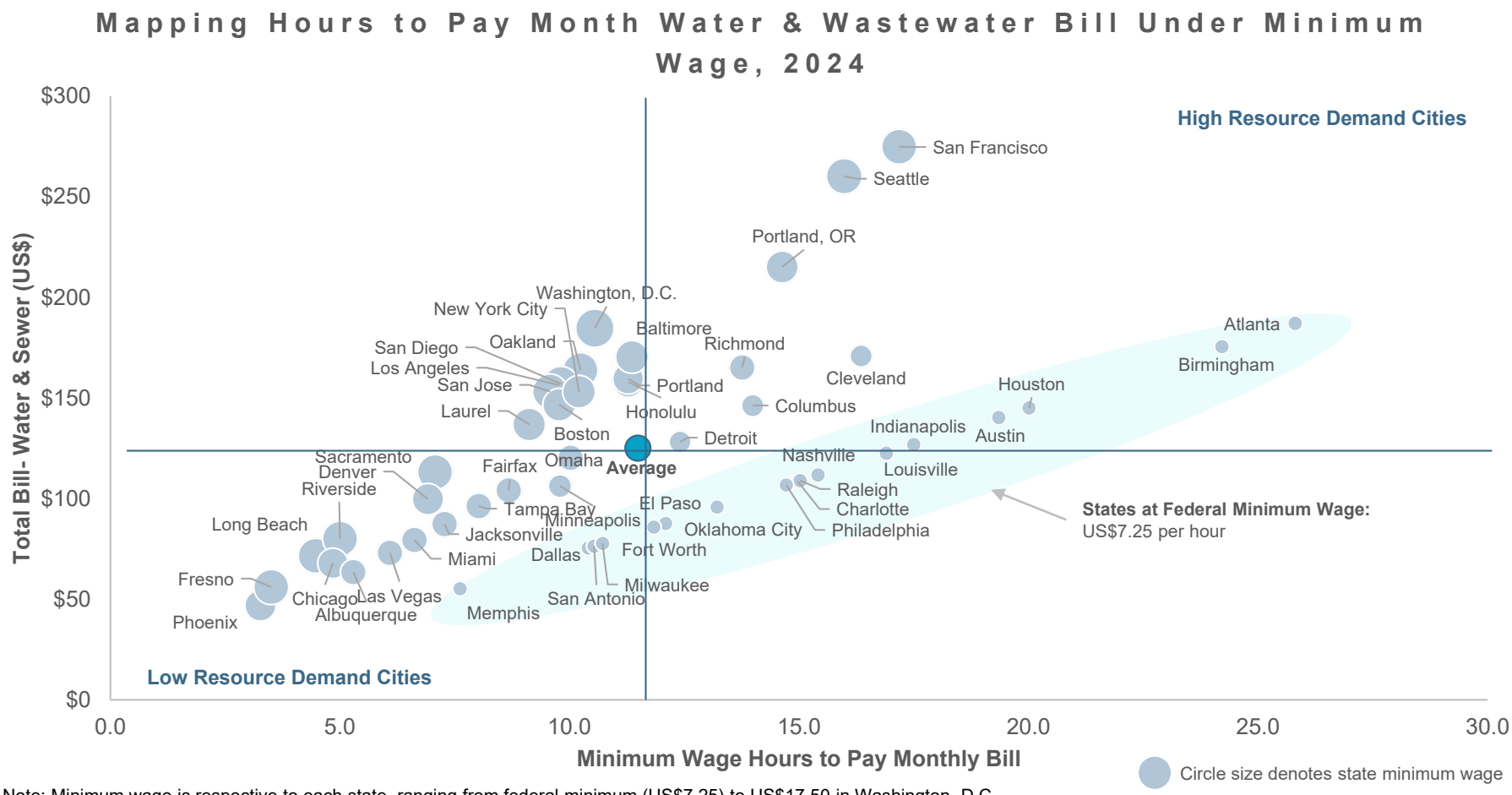
Analysis

The inelastic nature of water demand underscores its critical role in daily life and municipal services.

- While water utilities are indirectly impacted by energy prices (e.g., pumping, treatment, and distribution costs tied to electricity and natural gas), water's unique role as a "human right" underpins more stable pricing compared to energy utilities. Over the past decade (2012–2023), water and sewer bills across select cities have risen by 53.4%, a steadier trajectory than natural gas (+53.5%) from 2012–2022 and with far less volatility.
- Water utility bills are insulated from acute, external forces that drive energy market swings, such as the Russian invasion of Ukraine, which spiked natural gas prices. In contrast, water pricing is governed by infrastructure investments, regulatory mandates, and localized supply constraints, allowing for long-term rate planning without abrupt consumer cost surges.

Intersection of Utility Bill Affordability with Wages

Affordability of water and wastewater services varies widely, with total bills ranging from US$50 to nearly US$300 per month. Residents in federal minimum wage cities, like Birmingham and Atlanta, may require over 20 hours at US$7.25/hr. minimum wage—compared to a national average of over 11 hours—to pay their monthly bill.



Note: Minimum wage is respective to each state, ranging from federal minimum (US$7.25) to US$17.50 in Washington, D.C.
Source: U.S. Department of Labor, Bluefield Research

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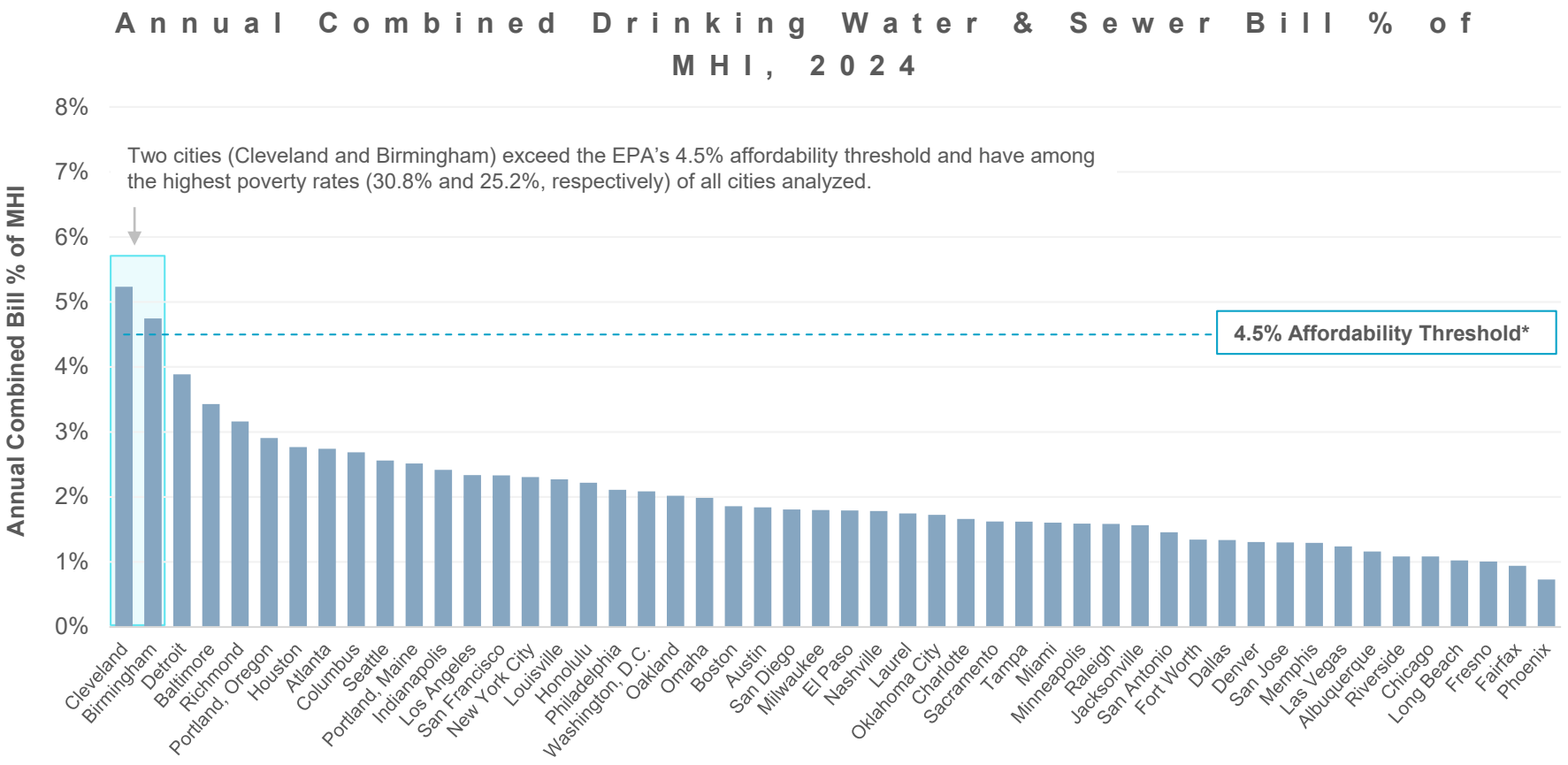
Residential Water and Wastewater Rate Affordability

The average combined drinking water and sewer bill accounts for approximately 2.0% of an area's annual median household income (MHI), which is well below the U.S. Environmental Protection Agency's recommended affordability threshold of 4.5%.

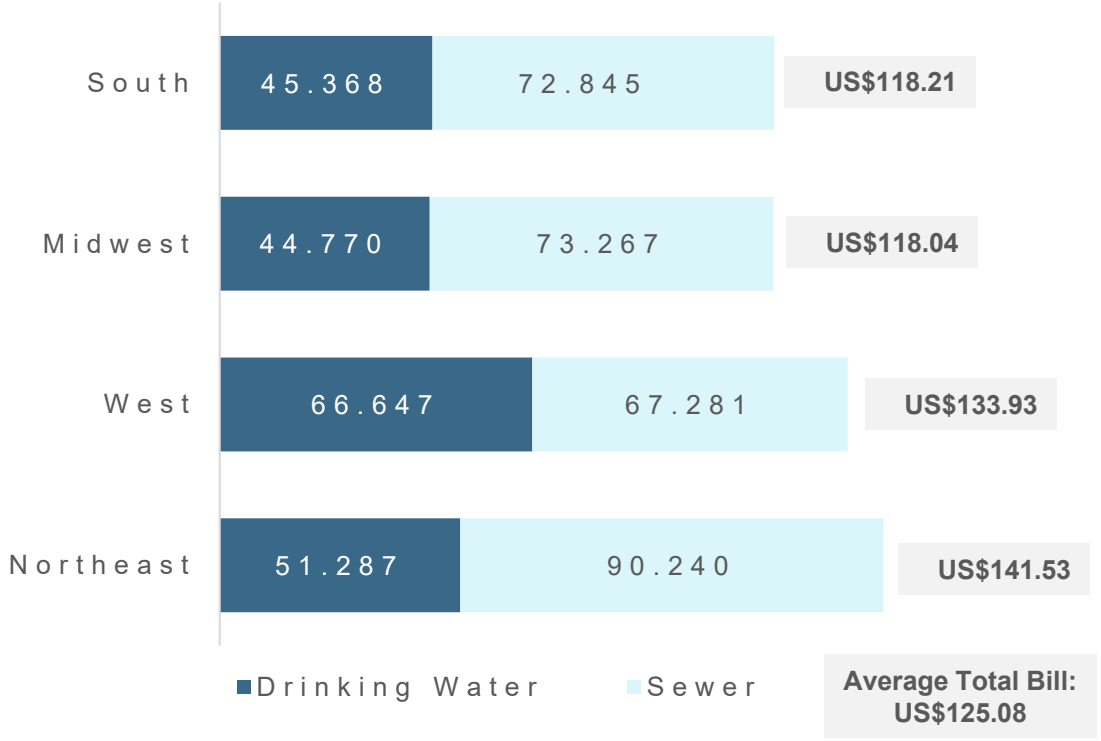


Note: *The EPA's national unaffordability threshold is crossed when a combined water and sewer bill surpasses 4.5% of an area's median household income. Annual combined water and sewer bill is monthly combined bill multiplied by twelve. MHI is in 2023 U.S. dollars, 2019–2023.
Source: Environmental Protection Agency, U.S. Census Bureau, Bluefield Research

Regional Rate Comparison for Residential Drinking Water & Sewer Bills

Regional disparities in water and sewer rates illustrate the unique water management challenges faced by cities across the U.S, including resiliency, aging infrastructure, and affordability measures.

Average Residential Monthly Drinking Water & Sewer Bills by Region, 2024



Note: Values based on variable regional consumption rates
Source: Bluefield Research

Analysis

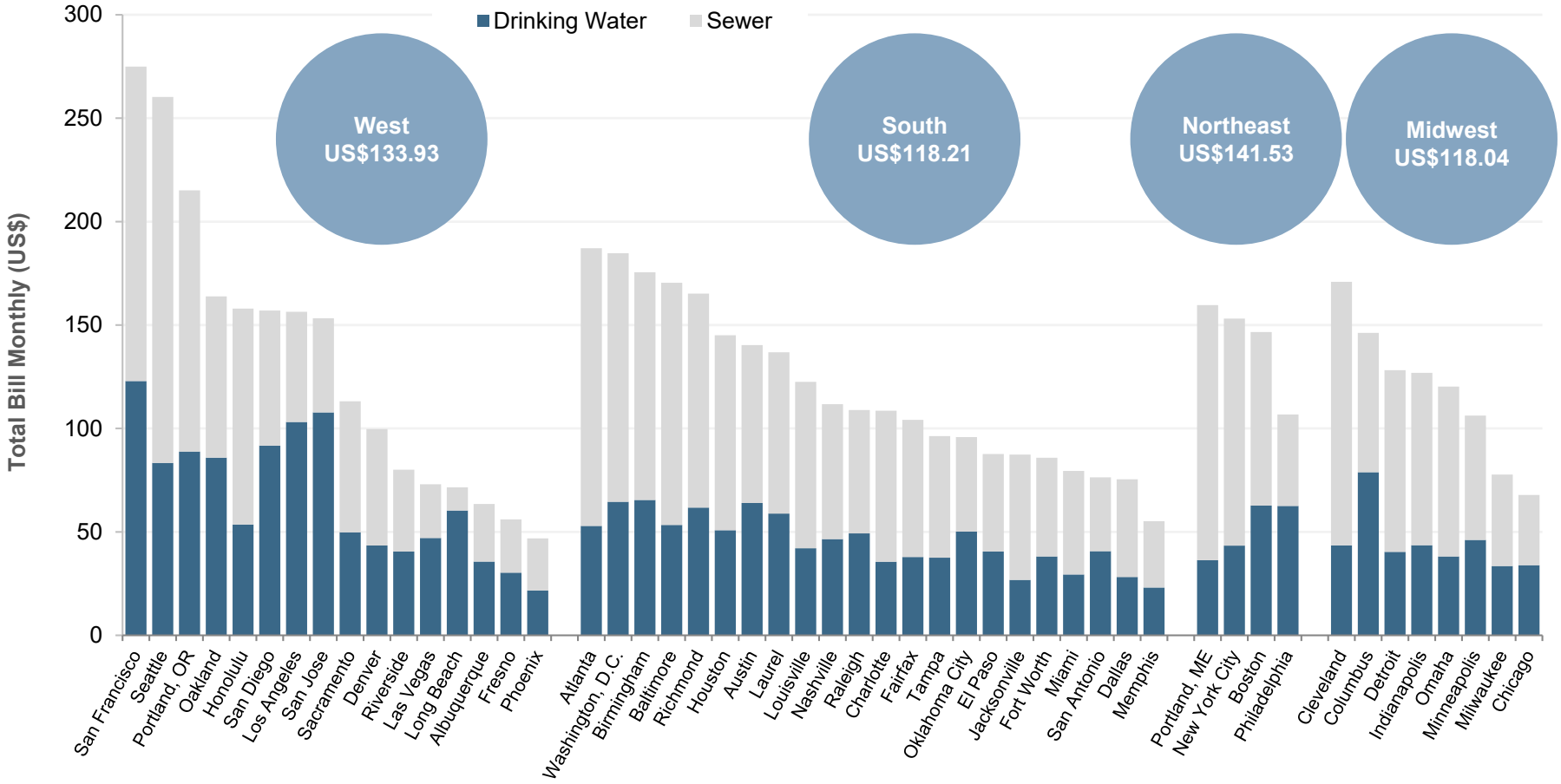
U.S. water and sewer bills reveal regional disparities.

- Northeast households face the highest combined bills in 2024, averaging US$141.53 per month, driven by operational costs and infrastructure needs.
- Utilities in the Northeast and West experience higher bills due to complex operations, rising treatment costs, and aging infrastructure.
- Seasonal rate structures in the western U.S., like in Los Angeles and Phoenix, encourage conservation and revenue stability.
- Six utilities apply volumetric surcharges, funding water quality improvements, drinking water systems, and watershed protection.
- Monthly water bills range from US$21.76 in Phoenix, AZ, to US$122.94 in San Francisco, CA, while sewer bills range from US$11.24 in Long Beach, CA, to US$176.88 in Seattle, WA.
- To combat affordability challenges, utilities are introducing low-income assistance programs while also addressing leak-prone on-site infrastructure upgrades.

City Pricing Index for Drinking Water & Sewer

The average combined water and sewer bill for a typical U.S. household across the 50 municipalities is US$125.08 per month.

Residential Utility Drinking Water and Sewer Bills for 50 U.S. Cities, 2024



Note: Based on national average consumption benchmark of 27.37m^3 per month
Source: Bluefield Research

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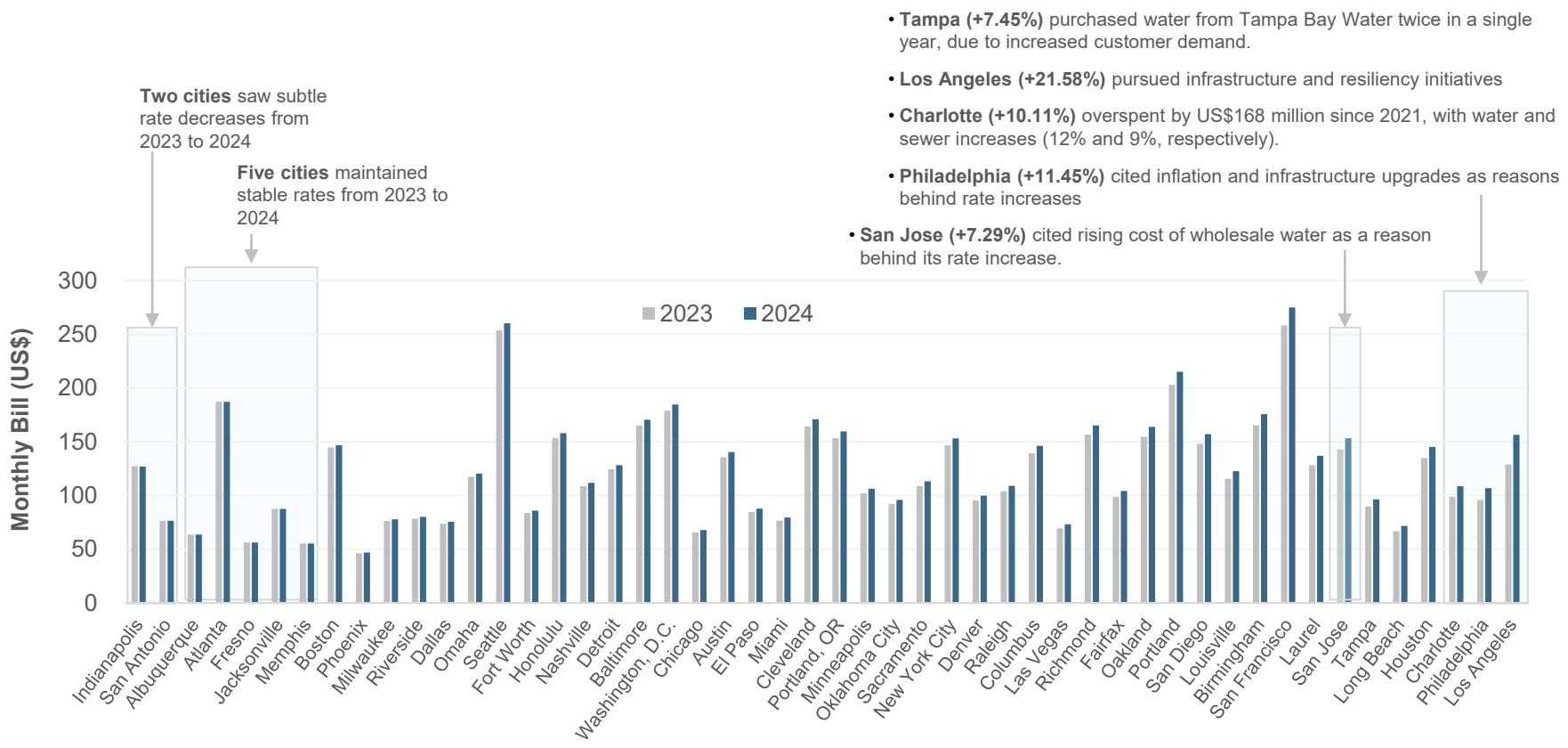
Changes in Household Drinking Water & Sewer Bills, 2023–2024

In 2024, 43 U.S. cities, out of the 50 cities analyzed, increased water and sewer rates, while five cities held rates flat, and two cities decreased. Notably, three cities—Charlotte, Philadelphia, and Los Angeles—reported an increase over 10%.

Drinking Water & Sewer Combined Bill Changes from 2023 to 2024



Note: Based on the national average consumption of 27.37m^3 per month; sorted by percent increase in combined bill
Source: Bluefield Research

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Implementing Residential Municipal Water and Sewer Rate Increases

Whether addressing capital improvements or responding to increased costs associated with water treatment and distribution, utilities may implement a range of tools to price water and sewer for residential customers.

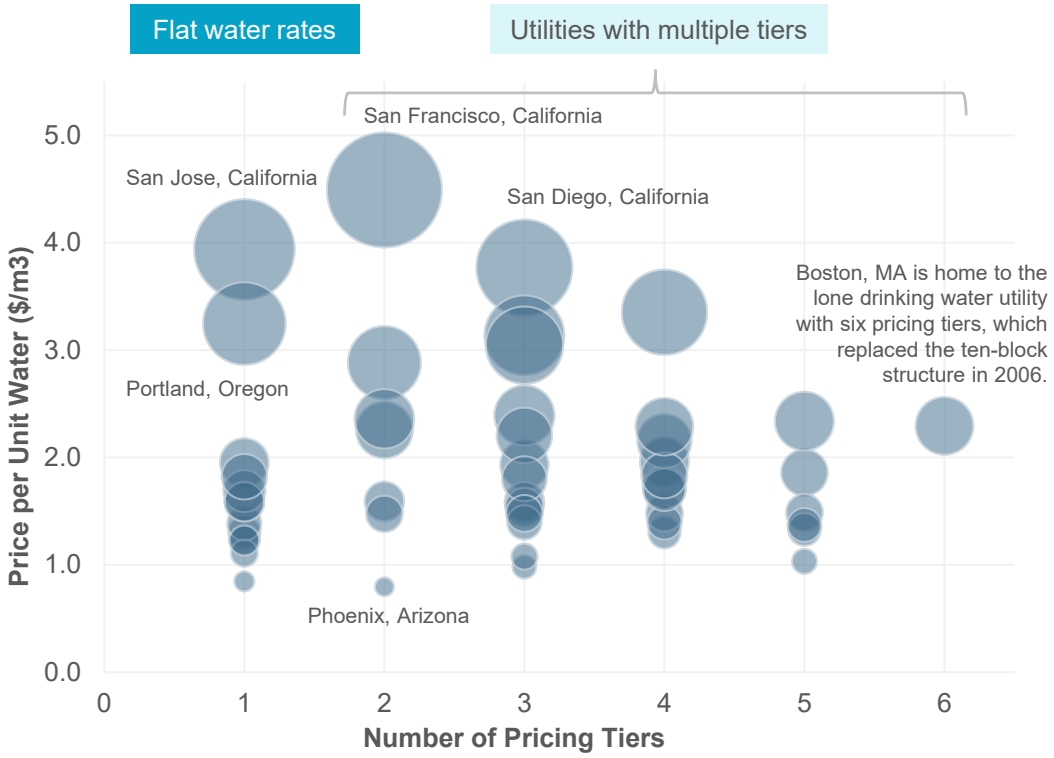
Mechanism	Description
Volumetric Charges	• Customers pay an amount proportional to water usage and wastewater. Volumetric charges can be uniform across all amounts of water consumed or they can be tied to an increasing or decreasing block tariff structure. • Volumetric charges range from US$0 to US$10 per centum cubic feet (CCF) within the first block tariff for water and between US$0 to US$18 per CCF within the first block tariff for wastewater. • Other volumetric surcharges may be charged to customers based on water usage or wastewater and are used to offset environmental impacts through environmental protection fees or may be used to fund community assistance and affordability programs. • Six cities—Austin, Las Vegas, Philadelphia, Raleigh, San Antonio, and Washington, DC—have volumetric surcharges of less than US$1 per CCF or per 1,000 gallons.
Fixed Fees	• Monthly charges paid by customers irrespective of water and wastewater volumes. • Often include the costs associated with maintaining water and sewer infrastructure. In some states, the fixed fee also includes a monthly minimum charge for water usage. • Range from US$0 to US$63 for water and US$0 to US$77 for sewer. • Boston, Chicago, Los Angeles, Memphis, and New York City do not have a fixed fee for water and sewer use.
Startup Service Fees	• Startup service fees are paid one time when customers establish an account with the water or wastewater utility. • These fees are often associated with administrative costs (such as billing fees) and initial water meter readings. • Startup service fees are not the same as connection fees, which are paid when new construction is integrated into an existing water utility's network.

Source: Bluefield Research

Utilities' Price Structure Complexity and Bill Size

U.S. water utilities employ diverse pricing strategies—predominantly multitiered structures to encourage conservation and ensure equity, with some exceptions like declining rates in Philadelphia and Portland—while balancing regional cost disparities, revenue stability through fixed allowances, and simpler sewer pricing models focused on cost recovery.

Utilities' Price of Water by Volume, 2024



Number of Utilities	13	7	13	10	6	1

Source: Bluefield Research

Circle size denotes Price per Unit Water (US$)

Analysis

Utilities across the U.S. tailor their pricing structure to their unique regional context.

- Almost all utilities use multitiered pricing to promote conservation while keeping essential indoor water use affordable. Boston, MA's unique, six-tier system allows for adjusting for household size and type.
- Philadelphia, PA, and Portland, ME, are exceptions with declining rate structures that lower costs for increased usage, potentially conflicting with conservation goals.
- Fixed volumetric allowances, such as those in Nashville, TN, (2 CCF) and Phoenix, AZ, (seasonal thresholds) help stabilize utility revenues while accommodating seasonal and efficiency-driven demand changes.
- Regional disparities highlight the water industry's fragmented nature. Western utilities charge the highest rates ($2.51/m³) due to wholesale costs and infrastructure needs, while the Northeast utilities emphasize tiered structures for equity.
- Sewer pricing is simpler, using fixed and flat volumetric rates, reflecting utilities' focus on conservation for water and cost recovery for sewer systems.

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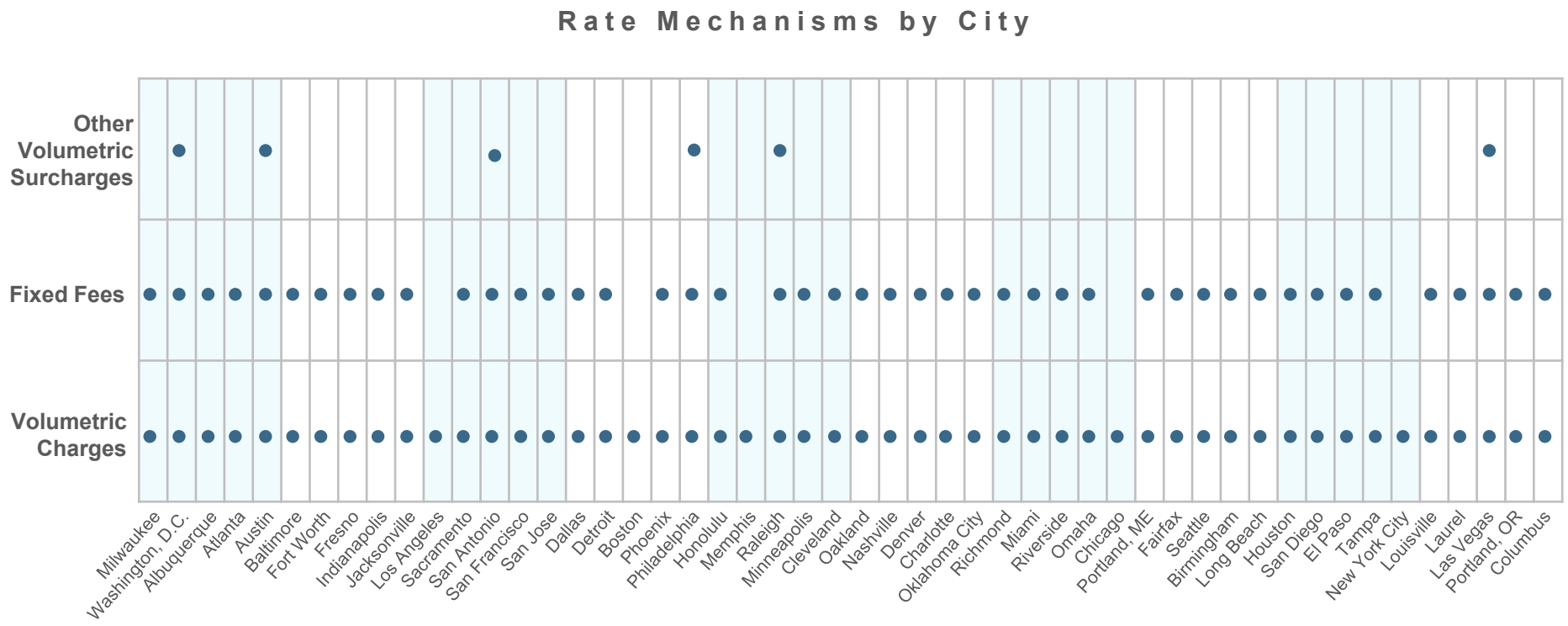
Water Rate Mechanisms by State

Of the 50 cities analyzed, most employ two-to-three pricing mechanisms for water and sewer. Fixed fees and volumetric charges are the most significant drivers of monthly bill changes.



Source: Bluefield Research

Water and Wastewater Utility by City (1)

City	Region	State	Water Utility	Wastewater Utility	Average Water Consumption (m^3 per month)
Albuquerque	West	New Mexico	Albuquerque Bernalillo County Water Utility Authority		**26.37**
Atlanta	South	Georgia	City of Atlanta, Department of Watershed Management		**23.15**
Austin	South	Texas	Austin Water		**26.96**
Baltimore	South	Maryland	Baltimore City Department of Public Works		**30.18**
Birmingham	South	Alabama	Birmingham Water Works	Jefferson County Environmental Services	**22.27**
Boston	Northeast	Massachusetts	Boston Water and Sewer Commission		**19.04**
Charlotte	South	North Carolina	Charlotte Water		**20.51**
Chicago	Midwest	Illinois	City of Chicago, Department of Water Management		**23.44**
Cleveland	Midwest	Ohio	City of Cleveland, Division of Water	Northeast Ohio Regional Sewer District	**19.34**
Columbus	Midwest	Ohio	City of Columbus, Department of Public Utilities		**19.34**
Dallas	South	Texas	Dallas Water Utilities		**26.96**
Denver	West	Colorado	Denver Water	City of Denver, Wastewater Management Division	**32.52**
Detroit	Midwest	Michigan	City of Detroit, Water and Sewerage Department		**23.15**
El Paso	South	Texas	El Paso Water Utilities		**26.96**
Fairfax	South	Virginia	Fairfax Water		**21.97**
Fort Worth	South	Texas	City of Fort Worth, Water Department		**26.96**
Fresno	West	California	City of Fresno, Department of Public Utilities		**31.64**
Honolulu	West	Hawaii	City of Honolulu, Board of Water Supply	City of Honolulu, Department of Environmental Services	**42.19**
Houston	South	Texas	City of Houston, Public Works and Engineering Department		**26.96**
Indianapolis	Midwest	Indiana	Citizens Energy Group		**22.27**
Jacksonville	South	Florida	Jacksonville Electric Authority		**25.49**
Las Vegas	West	Nevada	Las Vegas Valley Water District		**39.26**
Laurel	South	Maryland	Washington Suburban Sanitary Commission		**30.18**
Long Beach	West	California	Long Beach Utilities		**31.64**
Los Angeles	West	California	Los Angeles Department of Water and Power	LA Sanitation and Environment	**31.64**

Water and Wastewater Utility by City (2)

City	Region	State	Water Utility	Wastewater Utility	Average Water Consumption (m^3 per month)
Louisville	South	Kentucky	Louisville Water Company	Louisville & Jefferson County Metropolitan Sewer District	**19.63**
Memphis	South	Tennessee	Memphis Light, Gas & Water	City of Memphis Public Works	**23.44**
Miami	South	Florida	Miami—Dade Water and Sewer Department		**25.49**
Milwaukee	Midwest	Wisconsin	Milwaukee Water Works	Milwaukee Metropolitan Sewer District	**14.94**
Minneapolis	Midwest	Minnesota	Minneapolis Water Treatment and Distribution		**18.17**
Nashville	South	Tennessee	Metropolitan Government of Nashville & Davidson County		**23.44**
New York City	Northeast	New York	New York City Water Board		**23.15**
Oakland	West	California	East Bay Municipal Utility District		**31.64**
Oklahoma City	South	Oklahoma	Oklahoma City Department of Utilities		**24.90**
Omaha	Midwest	Nebraska	Metropolitan Utilities District of Omaha	City of Omaha Public Works Department Services	**27.83**
Philadelphia	Northeast	Pennsylvania	Philadelphia Water Department		**17.29**
Phoenix	West	Arizona	City of Phoenix Water Services Department		**43.07**
Portland	Northeast	Maine	Portland Water District		**16.11**
Portland	West	Oregon	Portland Water Bureau		**33.11**
Raleigh	South	North Carolina	Raleigh Public Utilities Department		**20.51**
Richmond	South	Virginia	City of Richmond Department of Public Utilities		**21.97**
Riverside	West	California	City of Riverside, Public Utilities		**31.64**
Sacramento	West	California	City of Sacramento, Department of Utilities	Sacramento Area Sewer District	**31.64**
San Antonio	South	Texas	San Antonio Water System		**26.96**
San Diego	West	California	City of San Diego Public Utilities Department		**31.64**
San Francisco	West	California	San Francisco Public Utilities Commission		**31.64**
San Jose	West	California	San Jose Municipal Water System	San José—Santa Clara Regional Wastewater Facility	**31.64**
Seattle	West	Washington	Seattle Public Utilities		**32.52**
Tampa	South	Florida	Tampa Water Department		**25.49**
Washington, DC	Northeast	--	DC Water and Sewer Authority		**21.97**

Data Navigator – Related Municipal Water Data

Data underpins Bluefield's breadth of insight reports and analysis. Our Data Navigator platform supports corporate subscription clients with direct access to a range of municipal water data through an interactive, flexible platform.

Sample Municipal Water Data Dashboards

U.S. and Canada Municipal Utility Capital Improvement Plans

Dashboard Widgets:

- Country Share of Identified Budgets, US$
- State/Province Share of Identified Budgets, US$
- Year-over-Year Expenditure by Water Type
- Capital Expenditure by Water Type
- Capital Expenditure by Category
- Top 25 Capital Expenditure Subcategories by Water Type
- Utilities Ranked by Capital Expenditure, US$

U. S. Drinking Water and Sewer Utility Rate Index

Dashboard Widgets:

- Total Bill Growth, Water Bill Growth, Sewer Bill Growth (2023–2024)
- Combined Bill per 1,000 Gallons, Water Rate and Sewer Rate per 1,000 Gallons (US$)
- Monthly Billing in U.S. Cities Mapped
- Average Combined Bill by Region, US$
- Cities Ranked by Average Combined Rate
- Average Rate Over Time
- Average Bill Over Time

Other Municipal Water Data Dashboards

- Trenchless Pipe Forecast, 2022–2023
- U.S. Water & Sewer Pipe Network Infrastructure Forecast, 2020–2030
- PFAS Drinking Water Remediation Forecast, 2023–2030
- Infrastructure Investment and Jobs Act Water Funding
- U.S. State Revolving Funds
- Water Infrastructure Finance and Innovation Act Funding
- Material & Equipment Price Indices

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Global companies across the value chain are developing strategies to capitalize on greenfield opportunities in water − new build, new business models, and private investment. Bluefield Research supports a growing roster of companies across key technology segments and industry verticals addressing risks and opportunities in the new water landscape.

Companies are turning to Bluefield for in-depth, actionable intelligence into the water sector and the sector's impacts on key industries. The insights draw on primary research from the water, energy, power, mining, agriculture, financial sectors and their respective supply chains.

Bluefield works with key decision makers at utilities, project development companies, independent water and power providers, EPC companies, technology suppliers, manufacturers, and investment firms, giving them tools to define and execute strategies.

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