



WATER SERVICE AFFORDABILITY IN MICHIGAN: A STATEWIDE ASSESSMENT

All Michiganders need available and affordable, safe and sustainable drinking water and sanitation services.

Water infrastructure is essential for meeting and managing basic human needs. Public health begins and ends with clean and available water. People must have access to safe drinking water to survive and access to sanitation to prevent disease. Excess water from flooding can cause extensive direct and indirect harms.

OVERVIEW OF TECHNICAL REPORT

This assessment examines the current state of affordability of water services (drinking water, wastewater, and stormwater) across the state of Michigan. The report presents quantitative analyses that are drawn from public source data. These are complemented by perspectives, insights, and personal experiences with water rates, bills, and utility management, gleaned from conversations with frontline community groups, water utilities, and state agency personnel. We use this important contextual information to offer key considerations for policymakers developing solutions to the identified challenges.

Source: Integrated Public Use Microdata Series from the American Community Survey and Census of Household Expenditures

In many communities, inability to pay means the utility shuts off water service at individual homes, resulting in a lack of drinking water and basic sanitation at the household level. If an entire community struggles to afford water infrastructure maintenance and renewal, the community may never receive the quality, reliable water service—for delivery and collection—that it needs to thrive.

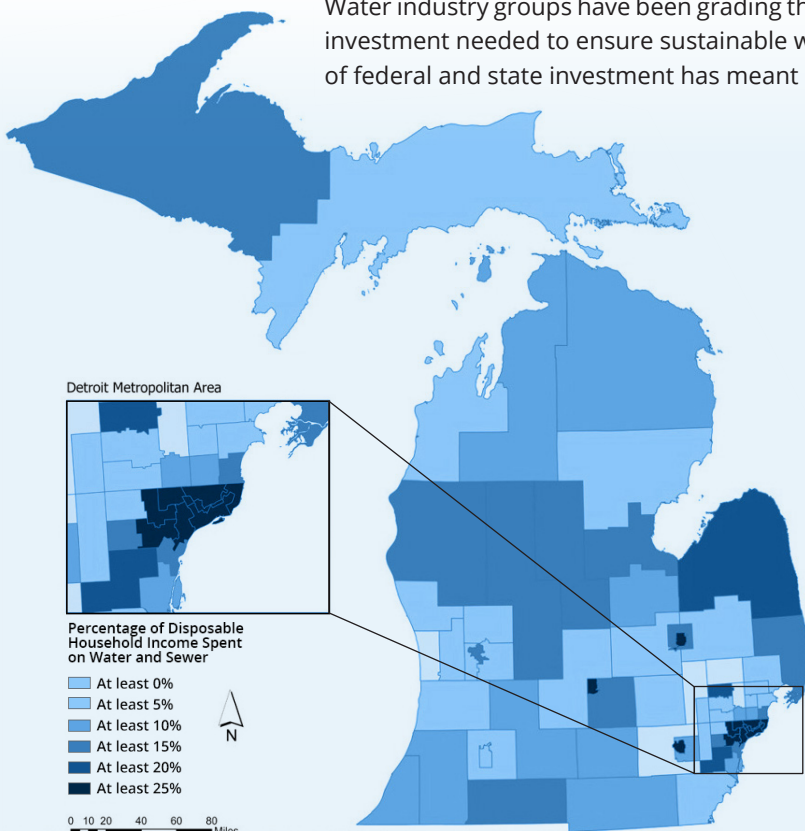
Water industry groups have been grading the condition of water infrastructure and quantifying the investment needed to ensure sustainable water systems for some time, noting that the reduction of federal and state investment has meant significant increases to water rates.

Policy discussions on water infrastructure funding often occur separately from discussions about affordability, with disparate outcomes. The COVID-19 pandemic and federal infrastructure funding present a new urgency and opportunity to address these issues holistically.

Affordability Ratio for the Most Vulnerable 10% of Households

This map of Michigan shows Public Use Microdata Areas (PUMAs), which are geographies of 100,000 people. The colors on the map represent the affordability ratio (percentage of household disposable income spent on water and sewer services) for each PUMA.

As the map shows, challenges with water/sewer service affordability affect people throughout Michigan, across geography and demographics. The challenges affect households statewide—whether residents live in cities, suburbs, or rural areas—and the magnitude of the affordability problem has been increasing.



DEFINITIONS

To make progress on water affordability, it is important to have a shared definition of what **affordability** means. We use the term *affordability* to consider the issue at two key levels:

Household-level affordability refers to a household's ability to pay for its water and sewer services **without undue economic hardship**, such as sacrificing other essential goods and services, e.g., health care, food, insurance, for access to water.

Community-level affordability relates to the community's ability to afford water and sewer utility facilities and their operation and maintenance costs so that it delivers **consistent and reliable water services** compliant with applicable health and environment laws and regulations.

Access to water means there is enough **clean and safe water for household use**, that the home has the necessary infrastructure to both receive fresh water and remove wastewater to protect human life and the environment.

Sources: Raucher et al., 2019; Center for Water Security and Cooperation, 2021

MICHIGAN'S INDIGENOUS PEOPLE AND WATER SERVICE

In Michigan, over 130,000 people identify as American Indian or Alaska Native fully or in combination with another race (2018 Census).

Many Native Americans in Michigan find water service costs equally challenging to afford as their non-native neighbors. Although many Tribal members receive affordable or free water service from their Tribes, Tribal members who live within reservation boundaries but receive water service from a non-Tribal community water supply are fully responsible for paying their own water service bill. Other Native Americans, whether belonging to a federally recognized Tribe or not, who live in communities across the state and receive water from a municipal water supply, or who live in homes where water comes from a private well and waste flows to a private septic system, are also responsible for their own water costs. In these cases, similar to non-natives in this report, the socioeconomic status of the household is a strong indicator of the ability to afford the water bill.

ASSESSMENT OVERVIEW

All stakeholders interviewed agreed on the following concepts:

All Michiganders need available and affordable, safe and sustainable drinking water and sanitation services.

Economic stability is a necessity, and it requires appropriate supplementation from state and federal entities.

- At the household level, economic stability provides for health, family stability, and human dignity.
- At the water-utility level, economic stability provides for technical, managerial, and financial capacity.

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, family, and dignity), the water utility (operational costs and unreliable revenue), and society (public health and collective well-being).

The way forward requires negotiating multiple, competing, and often divisive narratives that are deeply rooted in the lived experience of various communities.

In understanding that poverty, race, politics, and local finance present challenges that have evolved differently in each community, great care will be necessary to ensure that these unique challenges do not divert attention from attaining the collective needs identified above.

The variety of challenges cannot be used as an excuse to delay or avoid a policy response to this emergency.

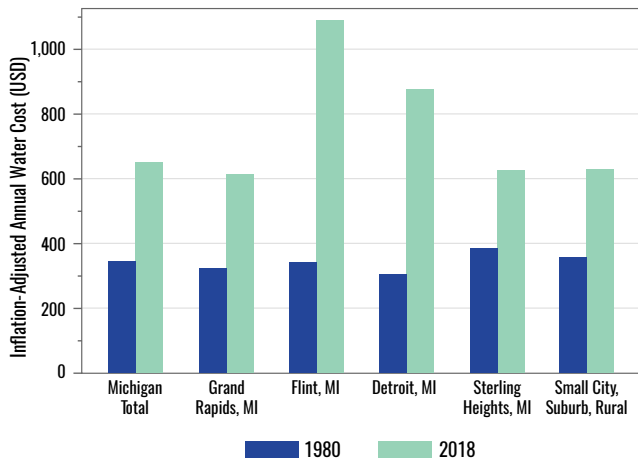
2015–2035 Estimated Shortfall in Michigan Utility Infrastructure Funding (Billions of USD)

The EPA and AWWA have completed extensive needs assessments in the last decade. The shortfall listed here sums these assessments, less the capital infrastructure spending in the Census of Governments. This estimated shortfall may be low, as utilities often do not know their 20-year needs when responding to surveys.

NEED	
EPA: Drinking Water Treatment	\$4.702B
AWWA: Distribution	\$22.116B
EPA: Clean Water	\$2.144B
Michigan Lead Service Line Replacement Costs	\$1.732B
SPENDING	
COG Data	\$10.856B
20-YEAR SHORTFALL	\$19.838B

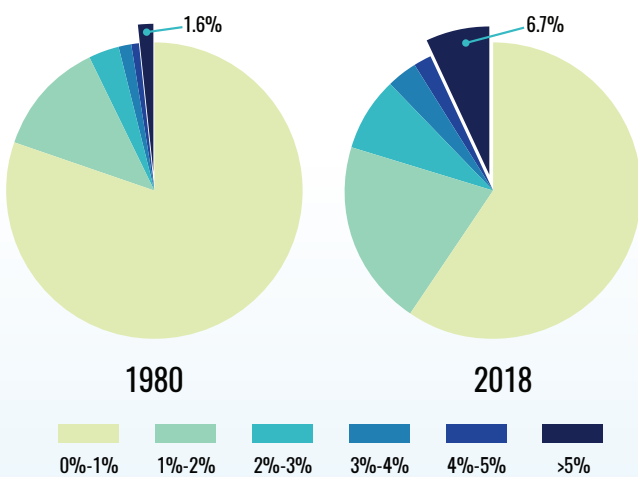
Inflation-Adjusted Annual Water Bills in 1980 and 2018

Average inflation-adjusted water costs have roughly doubled for the state as a whole since 1980. As the graph below shows, small cities, suburbs, and rural areas follow that average, while large urban areas (Detroit, Flint, etc.) have seen a much sharper rise. So, while water costs have increased across the state, the issue is exacerbated in urban areas.



Percentage of Income Directed to Water and Sewer Costs in 1980 and 2018

The graph below shows that inflation-adjusted water cost burdens were much higher in 2018 than they were in 1980. The percentage of consumers paying more than 5% of their income for water and sewer services has risen from 1.6% to 6.7%—more than a four-fold increase. That trend continues across all remaining categories except for those paying less than 1% of their income on water services, showing that rising costs have negatively impacted a substantial portion of Michigan’s population.



RECOMMENDATIONS

There is no one-size-fits-all or one-time fix to Michigan’s water affordability challenges. A successful solution package that can effectively and sustainably address water and sewer affordability must be sensitive to community history and community-lived experience because poverty, race, politics, and local finance present challenges that have evolved differently in each community.

We encourage policymakers, state legislators, water utilities, and community members to work together to develop a solution package that will do the following:

1. Address household capacity to pay for water and sewer services in each of the following scenarios.
 - Households with water service arrearages
 - » Consider one-time debt forgiveness
 - Households in long-term poverty
 - » Consider discounted or income-based water and sewer services
 - Households with short-term economic challenges
 - » Consider emergency funds
 - Households with private wells and septic systems
 - » Consider low-cost loans or grants to support major private well and septic repairs
 - Households in economically vulnerable communities
 - » Consider tailored programs for these stakeholders
2. Prohibit water shutoffs for economically vulnerable households.
3. Address gaps in utility technical, managerial, engagement, and financial capacity statewide. In addition, provide mechanisms that direct funding, expertise, and capacity to the utilities and communities with the least financial stability.
4. Address the lack of comparable utility-level financial data (e.g., arrearages, utility debt), infrastructure data (e.g., asset management plans, inventories), and maintenance data (e.g., water shutoffs, water main repairs) statewide.
5. Require water utilities to implement meaningful and significant community engagement in water and sewer system planning and decision-making, including data transparency, full participation, mutual understanding, inclusive solutions, and shared responsibility for engagement.
6. Embrace a state role with adequate authority and resources for oversight that ensures public health protection, water quality regulation (existing and future), and appropriate water rates and provides technical, managerial, and financial support for water utilities.

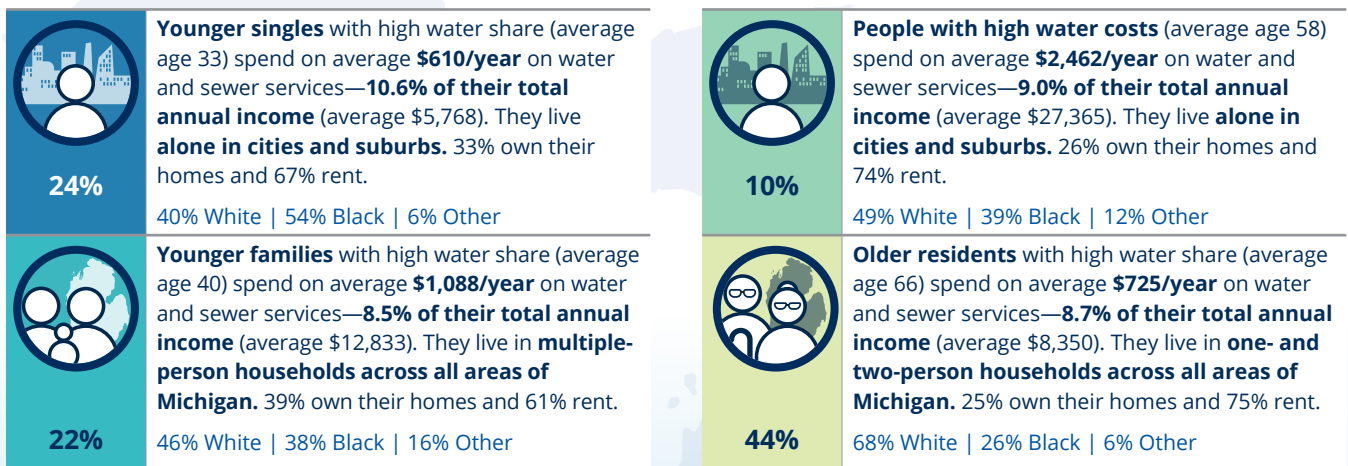
AFFORDABILITY BENCHMARKS AND COSTS

It is difficult to select a specific price point, or water rate, above which water is considered unaffordable. However, there are several benchmarks that researchers or organizations consider unaffordable. The United Nations Department of Economic and Social Affairs defined unaffordable water service as requiring 5% or more of household income. The Philadelphia Water Department's Income-Based Water Assistance Program (IWRAP) determines water affordability by water bill, income, and poverty. The affordability ratio (AR) calculates a water share (ratio of cost of water to household income) that subtracts essential expenses from household income. We use an affordability benchmark of 10%.

Threshold	Percentage of Households	Annual Cost of Subsidizing
United Nations 5% Benchmark	6.59%	\$78.3 million
Income-Based Water Assistance Program (IWRAP)	10.28%	\$95.5 million
Affordability Ratio (AR) 10% Benchmark	10.75%	\$145.99 million

FACES OF AFFORDABILITY

Almost all households struggling with water costs share two common characteristics: they fall below the poverty line and their water costs are above average. This infographic categorizes the four household types that bear the burden of high water share in Michigan. These are the households called out above.



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For more information on the project and to download the technical report, please visit the website at <https://myumi.ch/miH2O>.

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