SEPTEMBER 2026

# THE CRISIS BENEATH US

## THE URGENT NEED TO INVEST IN MICHIGAN'S WATER INFRASTRUCTURE

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# FOREWORD

The message of this report is simple: for the majority in our state, drinking water has reliably arrived at their homes and businesses for over a century. And the wastewater they have generated seems to magically return to the water bodies it originally came from without harming fish or fowl. We have taken for granted that the nearly invisible pipes, pumps and plants that provide service today will operate just as reliably tomorrow. Unfortunately, that is not the case. For too long, there has not been sufficient reinvestment in the water and wastewater infrastructure that was built by our parents, grandparents, and great grandparents in the early and mid-20th century. The purpose of this report is to responsibly and transparently convey the condition of infrastructure in our state—and to drive action—so that we, our children, grandchildren, and future generations can count on life-essential water that supports Michigan's quality of life and economic vitality.

This project began in January 2026, when the Great Lakes Water Authority (GLWA) convened a Water Funding Task Force (WFTF) to identify Michigan's funding gap for water infrastructure and to understand how other states approach this topic in order to propose a long-term funding solution for Michigan.

The task force included experienced water sector representatives from a wide range of expertise, including financial advisory firm PFM Financial Advisors LLC, construction consultants PMA Consultants, the law firms of Dykema and Dickinson Wright, investment banking firm Siebert Williams Shank & Company, and the Great Lakes Water Authority. Public Sector Consultants staffed the task force and provided content expertise; project support was provided by Bridgeport Consulting LLC with additional research and analysis provided by the Citizens Research Council.

Over six months, the WFTF met with dozens of water utilities across Michigan and the country to understand their funding needs and gaps. It reviewed public opinion polling and nearly 100 reports and peer studies on water utilities, and it brought its

own expertise on utility funding and financing to bear. Utilities from every region of the state, serving communities large and small, described the same funding gaps and the same aging systems. That work is reflected throughout this report.

The scope of this report is focused on those water services which are most commonly borne by residents and businesses that pay a fee, rate, or charge for water or wastewater service by a municipal entity. Collectively, we refer to this as water infrastructure.

This report seeks to give policymakers factual information about Michigan's water infrastructure funding gap. Though GLWA convened the task force, the funding gap documented here is not confined to GLWA's service area or to any single utility. It explains how the state got here; lays out the challenges facing water utilities, local and state government, and interested stakeholders; and presents options for addressing them. The report makes the case that the state must provide additional funding for Michigan's aging and failing water infrastructure to prevent unaffordable charge increases for ratepayers or risk increasingly widespread system failures.

# INTRODUCTION: THE CRISIS BENEATH US

Ten million residents. Millions of visitors. Businesses of every size, in every county, statewide. All of them depend, every hour of every day, on tens of thousands of miles of water and sewer pipes buried long ago beneath Michigan streets—a system almost no one sees and hardly anyone thinks about. People assume that when they turn on the tap, clean water will flow, and when they flush the toilet, wastewater will disappear and be treated before it reaches a lake or stream. Access to safe, reliable water is vital for Michigan residents and businesses, yet our out-of-sight infrastructure is facing critical deterioration because of funding gaps. Rising costs, more extreme weather, deferred investments, and aging pipes have created an unsustainable challenge for Michigan's water utilities and unacceptable risks for Michiganders.

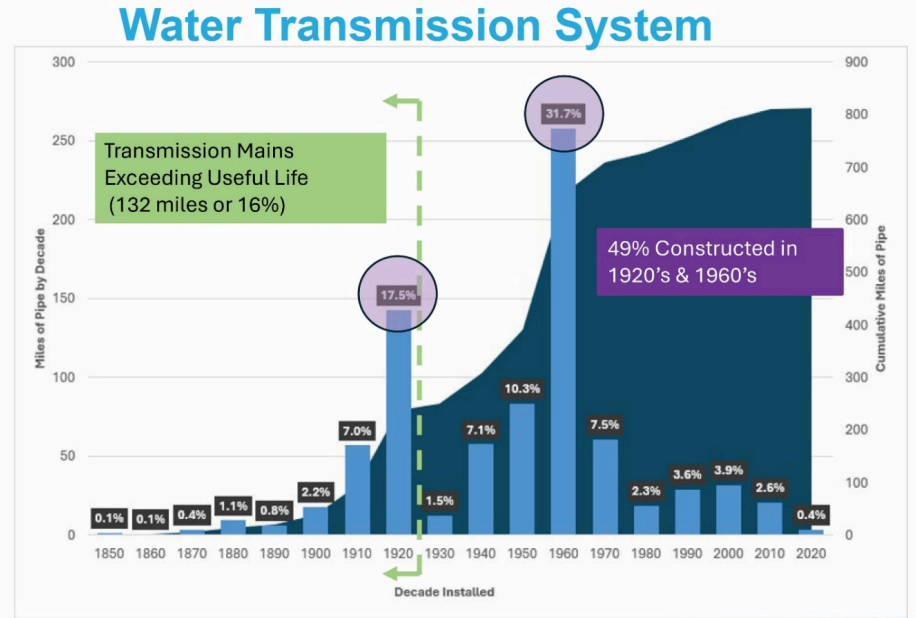
When water and wastewater systems fail, that failure is not abstract. Water infrastructure failure causes immediate health, safety, and environmental emergencies. Residents evacuate their homes. Businesses shut their doors. Property is destroyed. Public health is put on the line. But the high-profile failures that make headlines are only the visible fraction of a much larger crisis—one built underground, out of sight, and relating to infrastructure put in place the better part of a century ago. Michigan is facing a crisis beneath us, one that is bubbling up to the surface with every break and failure, and that is becoming increasingly more expensive to ignore.

Our water infrastructure crisis exists for many reasons and affects many communities. Michigan laid the bulk of its water and sewer pipes during two federal investment booms, the 1920s and the years after World War II (Sane et al. 2024).

Additional federal investment followed the 1972 Clean Water Act, then steadily disappeared; today, federal spending on water utilities represents just 5 percent of total federal spending on transportation and water infrastructure (Congressional Budget Office 2025).

EXHIBIT 1

## INSTALLATION TIMELINE OF GLWA WATER TRANSMISSION SYSTEM



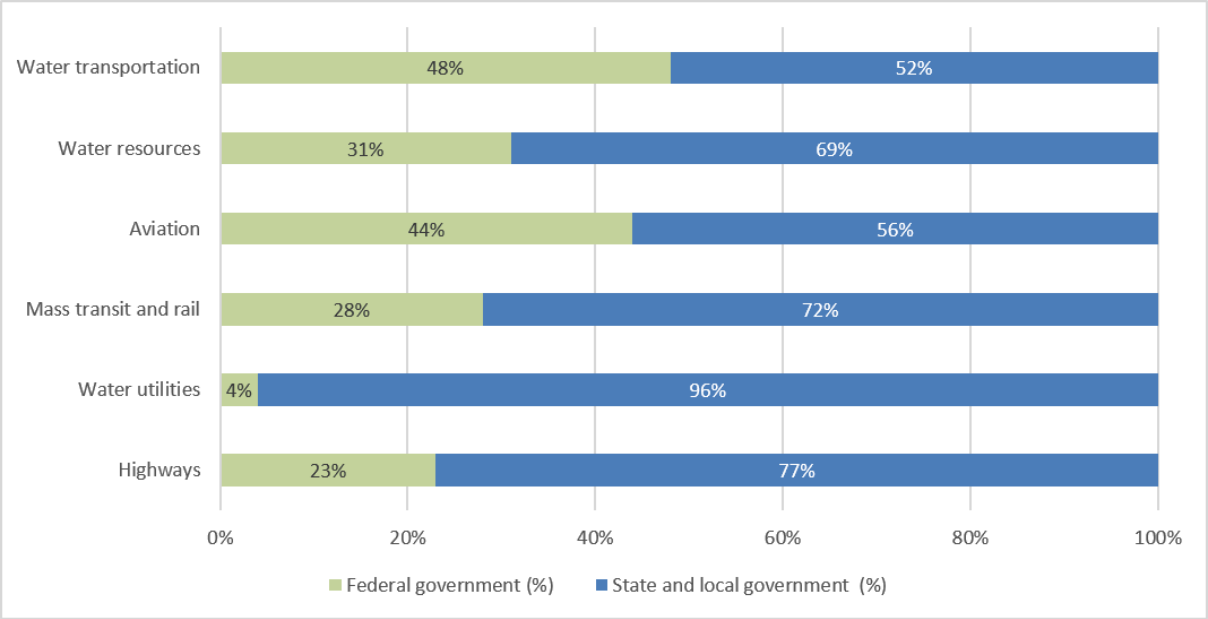

Source: GLWA calculations

Unlike transportation infrastructure, which has dedicated state and federal revenue sources from transportation fuel taxes that support local, state, and federal roads, Michigan has relied heavily on local communities to fund the upkeep and maintenance of its water infrastructure. Michigan's 2027 fiscal year budget includes just over $200 million in non-federal dollars for water infrastructure, much of this dedicated to state revolving fund loans, representing one-half of one percent of state resources appropriated in the overall state budget. By contrast, the state's fiscal year 2027 budget has more than $5 billion in state funds for roads which is roughly 11 percent of all state funding in the budget. Despite the critical nature of water-sector infrastructure, for every dollar of state road funding, water infrastructure gets about four cents.

The last significant non-COVID-related investment from the state was a voter-approved statewide infrastructure bond in 2002, which provided $1 billion to water infrastructure projects over 20 years. More than two decades and a billion dollars later, that investment has done little to close the growing gap in water infrastructure funding needs.

EXHIBIT 2

## SHARES OF SPENDING ON TRANSPORTATION AND WATER INFRASTRUCTURE BY LEVEL OF GOVERNMENT AND TYPE OF INFRASTRUCTURE, 2023




Source: Congressional Budget Office, using data from the Office of Management and Budget and the Census Bureau (CBO Publication 60874).

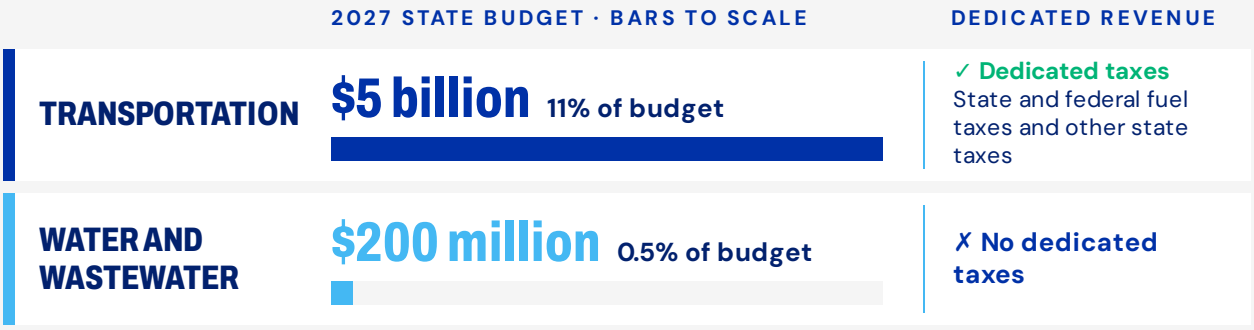
Note: Total values in billions are estimated based on visual representation and CBO totals ($626B total). Water utilities include water supply and wastewater treatment facilities. Water resources include water containment systems (dams, levees, reservoirs, and watersheds) and sources of fresh water (lakes and rivers). Water transportation includes outlays for navigation by the Army Corps of Engineers.

Reports from the past decade have highlighted the growing water infrastructure funding gap in Michigan. That gap is the difference between the estimated funding need and what we are on track to spend from non-state resources. In 2016, the state's 21st Century Infrastructure Commission put the funding gap at $16 billion over 20 years (Michigan 21st Century Infrastructure Commission 2016). In the decade following that report, numerous other institutions have continued to research

Michigan's infrastructure investment needs. More recently, a technical report from the Graham Sustainability Institute at the University of Michigan estimates a funding need of $19.8 billion, after accounting for planned spending (Read et al. 2022). Despite significant federal investment through the Infrastructure Investment and Jobs Act over the past five years, the gap continues to grow.

EXHIBIT 3

## STATE BUDGET: TRANSPORTATION COMPARED TO WATER, 2027




The pressures on water utilities and the need for significant investment are playing out visibly in real time across the entire state. The following examples show how age, condition, and other factors contribute to the breaks in large transmission mains that deliver water to communities. Additionally, they provide impactful illustration of how residents and businesses are impacted—sometimes for days, weeks, and months.

In 2022, the largest water main break in GLWA's history occurred on the regional system's 120-inch water transmission main. This is the system's largest water main which distributes finished drinking water from its Lake Huron Water Treatment Plant to communities in the northern part of GLWA's service area. Initially the break impacted 23 communities covering approximately 935,000 people. Within 24 hours the number of people impacted was reduced to 133,000 and seven communities. Within a week all communities were restored to the same level of service. In this instance the regional system was operating under normal conditions. It appears the break was caused by damage over time to the exterior mortar coating that protects the prestressed concrete cylinder pipe. While the exact cause is not determinable, changes in the geographic area of the of the underground assets are another risk utilities face as these assets age.

In February 2025, a nearly 100-year-old cast-iron main located in Southwest Detroit burst in the early morning hours of a frigid winter day. Although field service crews were quickly on site, the temperatures greatly hindered their response. As the sun rose the water began to freeze in place, trapping cars where they were parked and forcing the evacuation of parents and children by boat. As repairs were performed it became clear that the cause of this break, a defective weld on a single pipe segment constructed and installed years ago was not something previously seen by water professionals. The extensive property damage resulted in residents being displaced from their homes for as long as three months while furnaces, hot water tanks, and other restoration efforts were underway.

### SOUTHWEST DETROIT WATER MAIN BREAK

A February 2025 rupture of a 54-inch pressurized steel water transmission main in Southwest Detroit quickly flooded a full square mile of a neighborhood, displaced hundreds of residents, and caused more than $12 million in property damages (ABC News Detroit 2026)

In May 2026, a 50-year-old pressurized 42-inch transmission main began to leak and within a few short days entirely gave way in Auburn Hills, decades short of its hundred-year design life, cutting off water to roughly 200,000 residents across five Oakland County communities and leading Governor Gretchen Whitmer to declare a state of emergency (Office of Governor Gretchen Whitmer 2026). The impact of the failure didn't end when crews closed the valves. Residents in the affected communities were under boil-water advisories for more than a week while GLWA confirmed the system was safe again, a precaution that becomes more common, not less, the longer major investment is delayed. As is commonly the case, the human and business impacts were enormous. There were hundreds of nursing home residents relocated, businesses and schools closed, and countless people scrambling to find necessary water for sanitation and cooking. The Auburn Hills break was not the first failure in recent years. In Kalamazoo, more than 70 water mains broke in the first two months of 2025, all cast-iron pipe at least 60 years old (WWMT 2025; WWMT 2026). In Grand Rapids, a main blew a 12-foot hole in its wall in June 2024, and a second break hit the very next day (WZZM-13 2024).

It should be noted that investment in clean drinking water infrastructure is not the only concern. We are in an era where our aging wastewater systems are faced with increased demand with increasing impacts on residents and businesses. The most profound example is from late June 2021, when Southeast Michigan experienced one of the most significant rainfall events in its history. More than eight inches of rain fell in less than 24 hours in some locations, overwhelming drainage systems, flooding neighborhoods and disrupting communities across the region. Several rainfall gauges recorded precipitation levels associated with a 100-year storm, while others registered what meteorologists classified as a 1,000-year storm.

The scale of the storm placed extraordinary demands on local and regional infrastructure. Pump stations, combined sewer systems, and local drainage networks were pushed beyond capacity as communities worked to respond to widespread flooding and basement backups. Ultimately, this event was declared as a Federal Emergency Management Agency (FEMA) disaster recovery event. FEMA paid claims totaling $240 million including over 56,000 individual assistance applications approved.

Just as importantly, the storm revealed broader challenges facing communities across the region. As discussions continued in the months that followed, **a growing recognition emerged that the level of service historically provided by wastewater and environmental protection systems may differ from the level of protection communities increasingly expect from flood control infrastructure.** The event accelerated important conversations about climate preparedness, infrastructure investment, and regional coordination.

These significant public health and safety events bear out the American Society of Civil Engineers 2023 Michigan Infrastructure Report Card, which gave the state's drinking water systems a D+ and its wastewater systems a slightly better C (American Society of Civil Engineers, Michigan Section 2023). That report card noted that less than one percent of the state's water mains are replaced each year, even though most of that infrastructure is already more than 50 years old. Across the state, water main breaks, sinkholes, boil-water advisories, and flooded roadways and freeways are symptoms of the same underlying condition. Water assets are expected to continue

functioning without the reinvestment their age requires. Deferred maintenance compounds over time, asset failures grow more frequent and more severe, and the eventual cost of replacement only increases the longer investment is delayed.


## SOUTHEAST MICHIGAN FLOOD MITIGATION STUDY

In 2024, GLWA launched the **Southeast Michigan Flood Mitigation Study** in partnership with the **U.S. Army Corps of Engineers**. The multiyear study is designed to evaluate flooding challenges across Wayne, Oakland and Macomb Counties while identifying opportunities to reduce future impacts through coordinated regional solutions. Congress approved initial funding for the study in early 2024, allowing work to begin in partnership with federal, state, and local stakeholders to better understand long-term risks and identify strategies that can improve preparedness for future generations. The ultimate outcome of the study is likely to be a series of recommendations that could easily exceed $500 million to fund. While there may be federal funding opportunities, it is possible that a large portion of resulting recommendations may fall back to the sewer rates to fund those needs.

*GLWA, U.S. Army Corps of Engineers leadership, as well as local, state and federal elected officials, come together for the signing of the formal agreement moving the Southeast Michigan Flood Mitigation Study forward.*

Michigan spent the first half of the 20th century building its water infrastructure and the second half asking communities to bear the responsibility of maintaining the system. Now as many parts of that infrastructure system approaches the end of its expected life, communities are being asked to replace it through substantial increase on the rates and charges borne by users. The size and scale of the required investment is more than what municipal budgets can fund. The needs have ballooned in the two decades since Michigan last made a meaningful state investment in water infrastructure, and the failure to invest is no longer a hypothetical risk—the impact is happening now, in Macomb County, in Kalamazoo, in Oakland County, beneath Detroit's freeways, in every region of the state. The crisis is beneath us, literally, and every year it stays buried is a year it gets more expensive to fix.

Closing that gap will take more than rate increases, and more revenue than any single utility or region can raise on its own. It will take a coordinated state investment, sized to the scale of the problem and paired with a thorough understanding of the condition and infrastructure needs of the assets to focus the expenditures on the appropriate areas. This report lays out what that investment requires, and what Michigan risks by continuing to wait.

## THE HUMAN AND ECONOMIC TOLL OF SYSTEM FAILURES—MOTHER'S DAY DISRUPTION

On May 10, 2026, a 42-inch water main broke in Orion Township. The break interrupted water service to Orion Township and village and parts of Auburn Hills, Oakland Township, and Rochester Hills. Engineers discovered a leaking pipe on May 6th, but it burst before it could be replaced. However, the early discovery helped mitigate the damage, since contractors and equipment had already been secured significantly reducing the recovery time (WaterVerge 2026).

The immediate costs to GLWA to respond to and address the main break was over $1 million, but there were significant additional costs to the community beyond these repair costs. Governor Whitmer declared a state of emergency and activated the state's Emergency Operations Center. Stellantis closed their headquarters in Auburn Hills and asked employees to work remotely. Lake Orion Schools closed. Nursing home and assisted living residents were moved out of the community and bottled water distribution sites were set up (Johnson 2026).

May 10th was also Mother's Day, and the leak caused restaurants to close on their busiest day of the year. One restaurant on Lake Orion noted they had 65 reservations in place along with a special Mother's Day Brunch menu when they were forced to close, costing the restaurant an estimated $10,000 to $12,000 in revenue (CBS Detroit n.d.a.). As the owner of another restaurant forced to close put it, "A lot of the employees that work down here are going to be hurting and not getting their paychecks, possibly this week, and the tips they would have received, especially on Mother's Day" (CBS Detroit n.d.a.).

In addition to the monetary costs, the system outage caused significant stress to business owners and employees, parents with school-aged children, residents and staff of nursing homes, and government officials who worked to coordinate the emergency response.

# UNDERSTANDING THE WATER UTILITY LANDSCAPE IN MICHIGAN

Understanding Michigan's infrastructure crisis requires understanding how the state's water systems operate and fund themselves. Approximately 1,400 community water suppliers operate across Michigan, alongside thousands of separate wastewater and stormwater systems (Michigan Department of Environment, Great Lakes, and Energy, n.d.a.). Nearly all of these are owned and governed locally or regionally, by a city council, a township board, a county drain commission, or through an authority created for that purpose.

## The Enterprise Fund Approach Is Broken

Local control shapes how Michigan utilities are financed. Water and sewer systems operate as enterprise funds, meaning they are supported by the rates customers pay rather than general tax revenue. Michigan's Revenue Bond Act of 1933 established the legal framework most utilities still use to finance major projects, allowing a local government to issue bonds secured by the net revenue of its water or sewer system without the requirement for a pledge of a local government's full faith and credit and ad valorem taxing power of the local entity. To establish those rates correctly, utilities calculate a revenue requirement consisting of the amount needed each year to cover operations and maintenance, debt service, and contributions to capital reserves, and then allocate that amount across customer classes based on how much each customer class draws on the system. This cost-of-service approach, laid out in the M1 manual from the American Water Works Association (AWWA), remains the guidance most utilities use in practice. While the M1 manual lays out a rational approach to

rate setting, few utilities are able to recover the true cost of providing service. Often the need to limit annual rate increases fosters deferral of proactive maintenance and replacement programs for aging assets. In short, long-term affordability and system resiliency are deferred to address immediate community and customer needs.

The cost burden supported by local rates has grown heavier. The outcome is placing greater priority on critical operating budget needs over aged asset replacement. Chemical costs for treating drinking water and wastewater have risen with broader industrial input prices and a national reduction in supplier base. Utilities are also competing for a shrinking pool of licensed operators as longtime staff retire. Water capital projects can be nuanced and specialized, which generally shrinks the qualified contractor pool. This, combined with a stretched construction market, can limit bids and decrease competition, which can lead to higher construction costs. These pressures raise the baseline price of running a system before a single pipe gets replaced, and Michigan utilities are left to balance that baseline inside rate structures. The Citizens Research Council of Michigan reports that combined water and sewer rates across Michigan have already risen 24 percent in five years (Anderson 2026)—rate increases that are already happening and still are not enough to close the gap on their own. Utility customers are already absorbing rising costs for chemicals, energy, labor, and materials.

Exhibit 4 outlines the increase in cost for basic materials that are heavily relied upon by water utilities. Following the significant spike following the COVID-19 pandemic, when supply chains were disrupted, prices for basic inputs have remained well above pre-pandemic numbers.

## The Economics of Planned Investment

Utilities that can plan for replacement generally spend less than those that wait for a system to fail. It is not simply that addressing one emergency costs more than a planned project (although it frequently does due to complex emergency stabilization requirements); the cumulative effect of addressing multiple emergencies within a short period of time or location compounds the cost. The Environmental Protection Agency (EPA) asset management guidance for small water systems captures the arithmetic. For example, setting aside a modest reserve each year to replace a

storage tank on schedule costs far less than paying to replace the same tank after it fails (EPA 2022). Asset management planning, cataloging a system's pipes, plants, and equipment and scheduling their replacement by age and condition, lets a utility budget for that work years in advance instead of absorbing it as an emergency.

EXHIBIT 4

## PERCENT CHANGE OF MATERIALS PRICES BY YEAR

| MATERIAL | 10 YEARS | 5 YEARS | 1 YEAR |
|---|---|---|---|
| **Iron and steel pipes and tubes** | 101% | 12% | 9% |
| **Chlorine** | 56% | 34% | 1% |
| **Aggregates** | 85% | 55% | 6% |
| **Cement** | 52% | 32% | -1% |
| **Electrical switch gear/board** | 98% | 74% | 11% |
| **Electrical equipment** | 76% | 55% | 6% |

Source: GLWA Economic Outlook Task Force, September 2026

But complicating matters is the fact that a 100-year pipe does not always last a hundred years. Simply put, as assets age, they continue to deteriorate at a different pace for many reasons (see Exhibit 5). Since these assets are underground, deterioration can occur at very different rates than what today's best technology and modeling can predict.

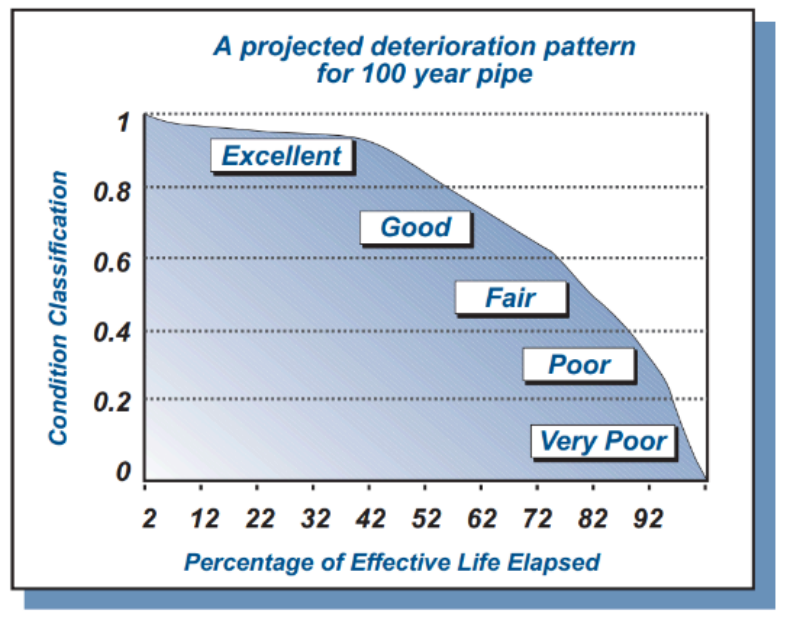
> Overlooking or postponing infrastructure renewal investments in the near term will only add to the scale of the challenge we face in the years to come.
>
> — AMERICAN WATER WORKS ASSOCIATION, 2012

## Great Lakes Water Authority: Michigan's Largest System

GLWA is the largest water and sewer system in Michigan and one of the largest water utilities in the country. It supplies drinking water to 115 communities that together hold nearly 40 percent of Michigan's population, and its wastewater treatment plant, the largest in the United States, serves an area of 952 square miles and approximately 30 percent of Michigan's population. GLWA does not currently bill any of these residents directly. Instead, it sells finished water and sewer treatment services to its customers, including cities, townships, counties, and standalone authorities and districts, which in turn operate their own local systems and set their own retail rates.

EXHIBIT 5

### A PROJECTED DETERIORATION PATTERN FOR 100-YEAR PIPE



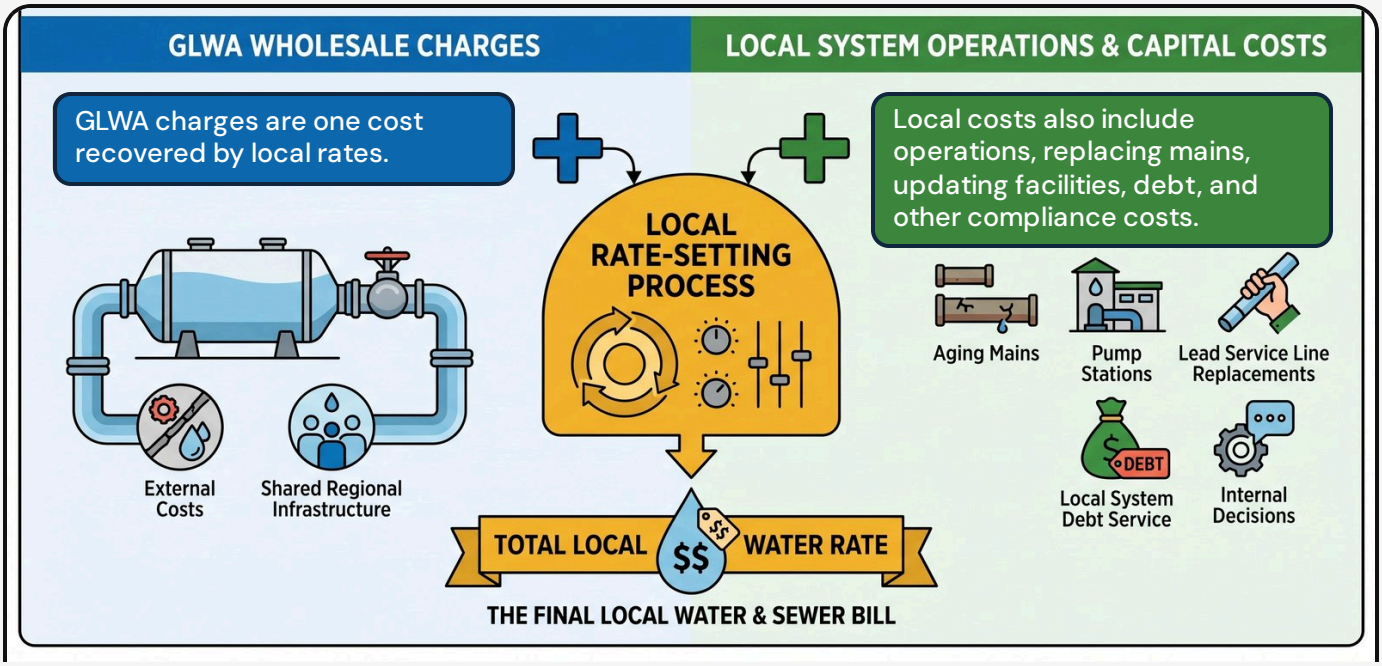

Source: EPA 2002

A wholesale system's stability impacts financial and operating decisions across many different governmental units within its service area. As such, predictable capital planning and financing by a regional wholesaler like GLWA allows customers to budget for a known, gradually rising wholesale cost rather than an unpredictable one. In this wholesale-retail utility structure, GLWA charges serve as just one cost that needs to be recovered through local rates and charges, but other local operating and capital costs

such as aging mains, pump stations, lead service line replacements, and local system debt service requirements are also incorporated into local rate setting decisions (outlined in Exhibit 6 below). While predictable budgeting may help control costs in the near term, the sheer scale of these replacement needs also continues to grow. If these mounting infrastructure demands are left unfunded, they could significantly impair a local utility's ability to pass through costs in a consistent and reliable manner in the future.

EXHIBIT 6

## UNDERSTANDING LOCAL WATER RATES




### NON-GLWA SYSTEMS

Most of Michigan's community water systems operate entirely outside GLWA's footprint, providing wholesale or retail service within a single utility, or, in some cases, as a retail utility purchasing wholesale water from a neighboring city. These systems face the same operational and financing pressures as GLWA's member partners, but they also can carry the full burden of source water development, treatment, distribution, and billing. A small city running its own treatment plant pays for the same

categories of infrastructure that GLWA maintains at a much larger scale, with a much smaller group of ratepayers among whom to share costs. This business model has become especially challenging in areas that have lost population yet need to maintain infrastructure sized for a customer base that no longer exists.

## Private Wells and Septic Systems

Not every Michigan household is served by a public utility. Nearly 1.12 million Michigan households rely on private wells for drinking water, and there are roughly 15,000 new wells drilled every year in the state (Michigan Department of Environment, Great Lakes, and Energy n.d.b.). EGLE also regulates about 10,000 noncommunity water supplies, systems that serve places such as schools, campgrounds, and restaurants rather than residential customers (Michigan Department of Environment, Great Lakes, and Energy n.d.b). These private systems, along with the septic systems that serve many of the same households for wastewater, fall outside the rate-based funding structure that is the focus of this report, but their owners face parallel repair and replacement costs with none of the shared infrastructure or borrowing capacity of a public utility.

# THE WEIGHT OF TODAY: HEADWINDS FACING MICHIGAN WATER UTILITIES

In May and June 2026, on behalf of GLWA, Public Sector Consultants convened seven focus groups with Michigan water and wastewater utilities and supplemented those conversations with broader research into the sector's current operating conditions. The same set of pressures surfaced again and again, regardless of a utility's size, region, or governance structure.

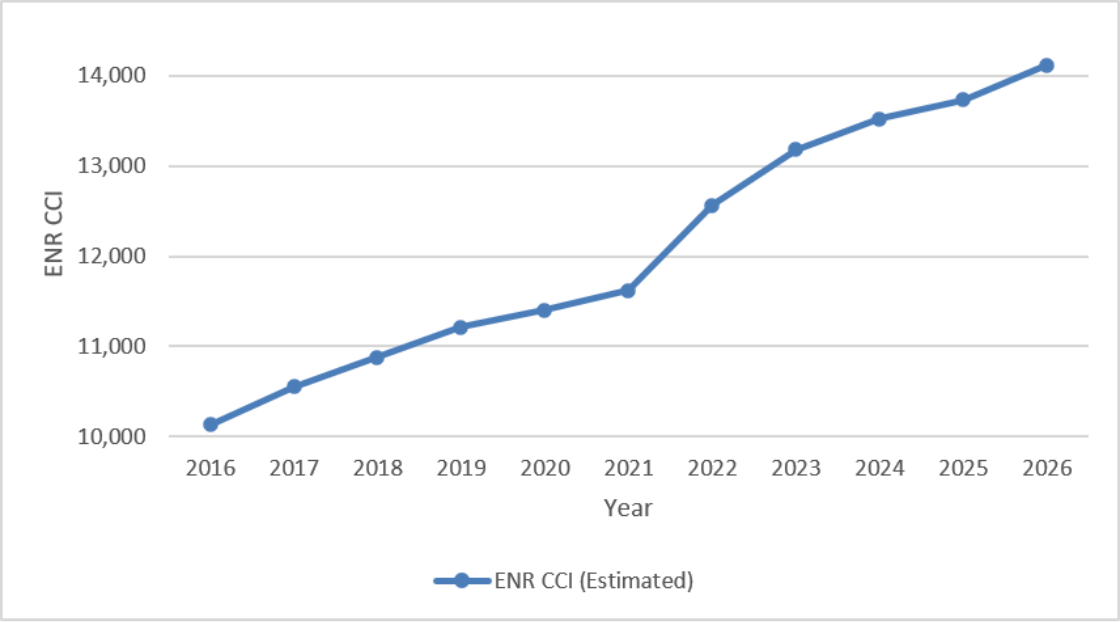
## Escalating Costs for Materials, Construction, and Labor

Today, utilities across Michigan operate in a materially different cost environment than the one reflected in many older capital plans. Construction, materials, labor, and equipment costs have risen to a higher baseline, while many multiyear capital replacement strategies were developed before the COVID-19 pandemic and before the current period of supply chain volatility, new government mandates, and other financial constraints. As a result, projects that appeared affordable when originally scoped are becoming harder to deliver near the original planned price, due partially to the escalation of contractor bids that exceed outdated prior assumptions. The persistent funding gaps for drinking water, wastewater, and stormwater systems, due to rising infrastructure costs and contractor availability, are creating additional pressure on local governments and utilities. Engineering News-Record's (ENR) Construction Cost Index history shown in Exhibit 7 on the following page highlights the significant rise in construction costs, especially following COVID starting in 2021.

There is also a challenge to have capital and maintenance plans accurately reflect the true cost of construction. There can be a tendency to underestimate cost escalation in many cases to keep rates lower, which leads to budgets that are lower than reality from the start.

EXHIBIT 7

## ENR CONSTRUCTION COST INDEX




Source: ENR August 2026 Note: Data values are estimated based on visual extraction from the ENR Construction Cost Index

These cost pressures are particularly acute for utilities managing older distribution and collection systems that not only need significant funds to deal with maintenance and unexpected repairs on an old system, but must also deal with finding funding for significant capital improvements. Legacy materials and difficult subsurface conditions common in established Michigan communities can increase break rates, infiltration and inflow, emergency repairs, and long-term maintenance costs. Even well-developed capital improvement plans (CIPs) may deliver less infrastructure than originally intended unless assumptions for escalation, current procurement timing, and contractor capacity are realistic before projects move into design and bidding.

## Procurement Challenges and Timeline Delays

Nothing affects the cost of construction more than time. Whether it's delays in getting the project planned, committed, started or completed—time is money. Procurement timing is now a fundamental schedule risk that can be difficult to predict. Even fully funded projects are taking longer to move from planning and design to construction.

Utilities describe procurement as a direct project constraint, with projects that are already planned and funded taking longer to reach the construction phase because of how long it can take to procure contractors, materials, and long-lead equipment. Because delayed work is often exposed to additional escalation before construction begins, procurement delays can compound the same cost pressures described above and reduce the amount of infrastructure that a fixed capital budget can ultimately deliver. One trend that has become apparent in the industry is owners issuing master service agreements (MSAs) that include the general terms for the relationship with the contractor. After the MSA is in place, the scope of the work for various projects and their costs are issued by a work order under the MSA, allowing work to proceed relatively quickly. The issuer of the MSA determines the size and number of work orders, as well as the MSA duration.

## Friction in the Funding Tools Meant to Help

Even where state and federal financing exists through the state revolving fund (SRF) program, utilities wrestle with the decision to take advantage of it because the SRF process can add cost, require additional resources, and ultimately add time to the project duration, effectively eliminating the economic benefit that these programs offer. Unfortunately, the tools built to help close the funding gap are, in practice, adding friction of their own.

Smaller communities in particular report that they lack the in-house capacity to navigate the SRF application process and must weigh spending tens of thousands of dollars on outside engineering consultants against no guarantee of ultimately receiving a loan. Communities of all sizes indicated that the federal compliance requirements attached to obtaining SRF financing, including domestic-sourcing rules, add administrative overhead, lengthen project timelines, and drive up construction bids, in some cases erasing much of the financial benefit of a below-market loan and even excluding otherwise qualified contractors from bidding on projects due to the need to meet federal requirements. Because approvals are bound to rigid state schedules, multiple communities can bid similar projects within the same narrow time frame, straining contractor availability and inflating regional construction costs for everyone bidding at the same time.

## Unfunded Regulatory Mandates

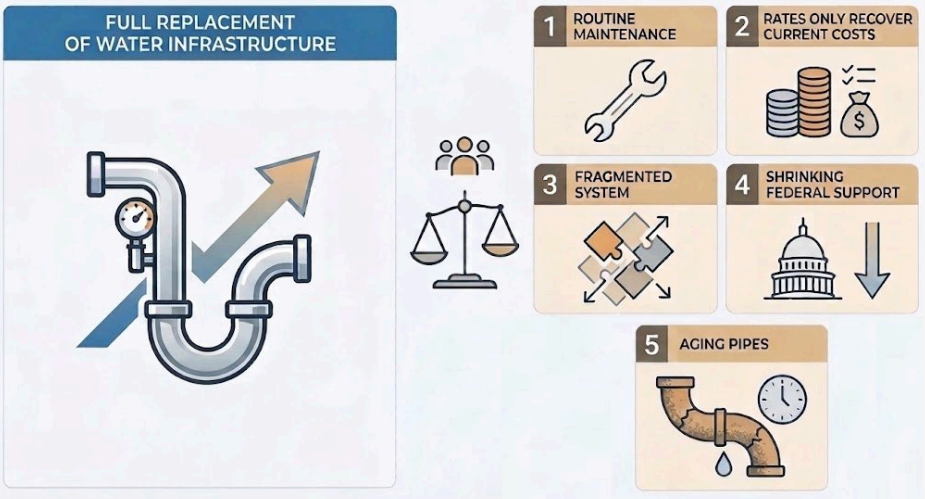
Federal and state requirements, chiefly the Lead and Copper Rule Improvements, are also landing on Michigan utilities regardless of their capacity to absorb them. Urgency varies by community. While newer communities with subdivisions and homes developed in the last 50 years carry minimal risk of lead exposure, older urban and inner-suburban water systems face steep financial pressure. Complying with the lead-reduction mandate consumes capital funds needed for routine maintenance—echoing the financial strain utilities absorbed decades ago from unfunded sewage-overflow regulations. Even utilities that have completed lead service line replacement describe regulatory requirements more broadly as a constant force that pushes out other capital priorities, and emerging contaminant rules are adding new costs that did not exist in these utilities' financial plans even a decade ago.

## Limited Budgets and the Rate Pressure Trap

Utilities describe a shift in priorities due to tight budgets rather than the lack of sound asset management practices. Long-term capital planning has moved from proactive asset management to a reactive stance, where capital dollars are deployed primarily to keep water main breaks at a so-called acceptable level rather than to execute systematic replacement.

EXHIBIT 8

### BALANCING COST AND PRIORITIES IN WATER INFRASTRUCTURE REPLACEMENT



Main breaks are never desirable or intended, but utilities are increasingly being faced with tough decisions to only fund assets in the worst possible condition and work from there (Exhibit 8 highlights this dilemma). Breaks and outages become the norm, and work is performed simply to lower their incidence instead of scheduling repairs in a consistent manner using asset management best practices such as AWWA/ANSI G410 for water systems and CMOM (capacity, management, operation, and maintenance) for sewer systems.

Utilities identify an additional debt-related constraint. Even where borrowing capacity technically exists, boards are often reluctant to issue new debt for infrastructure no one can see, especially when it is competing against more visible local priorities.

Even for utilities that understand the technical case for proactive replacement, enacting higher rates to accomplish this is difficult or impossible. Some describe going many years without a rate increase, with governing bodies choosing to keep rates low even as aging plants and distribution systems continued to deteriorate, below ground and unseen to the public eye. But now, recent multiyear catch-up increases have become unavoidable, in some cases approaching 20 percent or more in a single year to address urgent infrastructure upgrades.

## RURAL COMMUNITY SPOTLIGHT—AKRON

Akron, a village of 349 people in Michigan's Thumb region, shows what aging infrastructure looks like in a community with almost no capacity to absorb the cost. Its distribution system is 98 percent original to its late-1950s installation, built for a population that has shrunk by roughly a third since 1980. The village's water tower holds less than a full-day's supply, well short of the day and a half that utilities typically need to maintain pressure during a fire, and hydrant use for more than a short stretch can trigger a boil-water advisory. Akron once drew from five wells; only two remain in service, leaving little backup if either fails. A decade ago, the Michigan Rural Water Association recommended rate increases large enough to cover the system's needs, but Akron raised rates only modestly, since residents, whose median household income at the time was about $43,000, could not absorb the full increase. State testing requirements for lead and PFAS have added costs that fall on Akron just as they do on much larger utilities, without a larger customer base to spread them across. Staff with the village have cited the cost of hiring consultants to apply SRF loans as well as the competition for funds, as barriers for accessing the only available source of state funding (Graham 2022).

## Planning Around the Road, Not the Pipe

Interviews also revealed a reality that rarely shows up in a capital plan's headline numbers. Replacement decisions are often driven by what is happening above ground, not by the condition of the pipe below it. Several utilities described this pattern in direct terms, noting that significant portions of their capital budgets go toward moving or replacing mains to accommodate a road replacement schedule rather than their own asset management priorities. It is often the fiscally rational choice in the moment, since coordinating with a road project avoids paying to cut open and repave the same street twice.

Michigan's data gap makes this worse. Although the state mandates collecting infrastructure condition data, the rule is effectively voluntary because it provides no funding and enforces no penalties. Consequently, agencies lack the verified data needed to compete with established road maintenance schedules for project priority. Michigan's Dig Once project portal, MiDIG, administered through the Michigan Infrastructure Council (MIC), relies on voluntary disclosures about projects, making project coordination efforts inconsistent. Reactive, opportunistic replacement frequently becomes the rational near-term choice and the wrong long-term strategy.

## Diverging Growth Pressures Across the State

In the state's fastest growing communities, utilities are funding capital plans where most of the cost is tied to new expansion rather than maintenance of what already exists, with seasonal peak demand far outpacing average demand. Utilities that have benefited from growth in the customer base for decades, able to finance their increasing costs through that growth, are now finding that ratepayers are reluctant to accept required rate increases as growth slows and the revenue base stabilizes.

Legacy systems elsewhere in the state carry a different burden. Their treatment plants, many built a century ago, need hundreds of millions of dollars to continue functioning, and their distribution systems are aging alongside them. Emerging contaminant rules are now forcing utilities to make improvements to infrastructure that was never designed to handle these pollutants.

# UNDERSTANDING HOW WE GOT HERE

The current pressures facing Michigan's water infrastructure explain only in part how Michigan now faces billions of dollars in unfunded water infrastructure needs. But the funding gap did not appear all at once. It is the product of at least five forces that developed over the better part of a century that have now reinforced one another.

### The Five Compounding Forces

1. A Century-Old Buildout Is Failing All at Once
2. Federal Support Rose, Then Receded, and Michigan Never Replaced It
3. The System Is Fragmented and Lacks Sufficient Data on Asset Conditions
4. Local Rates Are Not Built to Fund Full Replacement
5. Raising Rates Has Been Politically Difficult

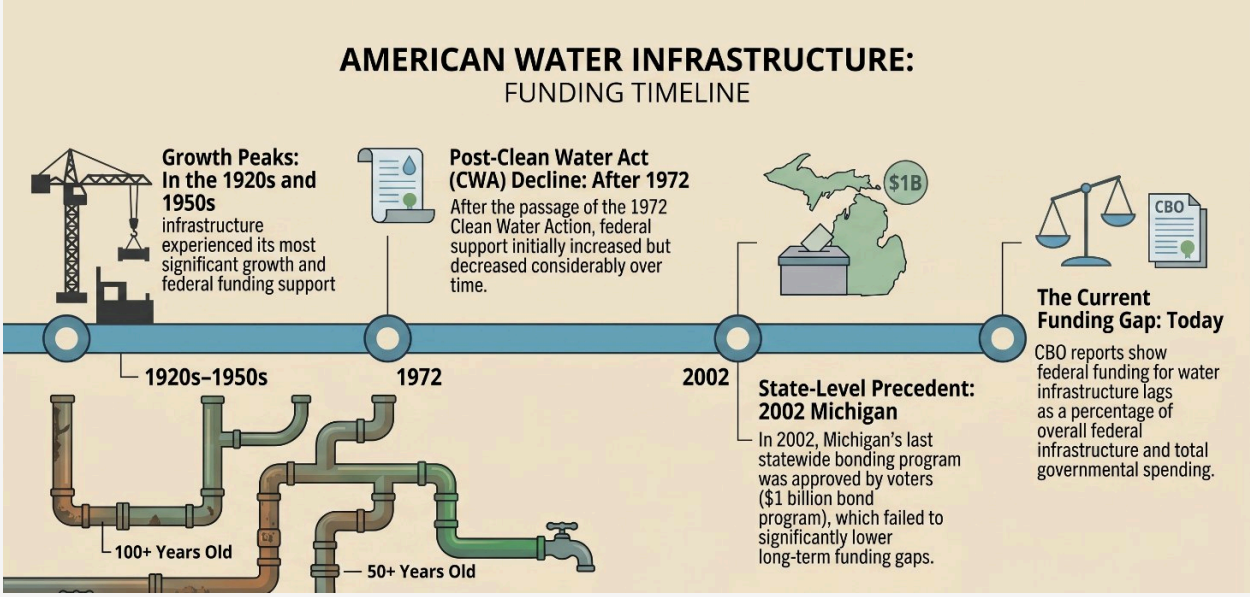
## A Century-Old Buildout Is Failing All at Once

Michigan laid the bulk of its water and sewer pipe during two periods of rapid growth: the 1920s and the years following World War II, when suburban development accelerated across the state (Sane et al. 2024). Pipe installed in those decades was built with an expected lifespan of 75 to 100 years, and much of it is now approaching or past that mark. Roughly one-third of all installed water main in the United States and Canada is now more than 50 years old, and for cast-iron pipe specifically, the material most common in systems of Michigan's vintage, the figure rises to 86 percent (Barfuss 2023). Age alone does not determine when a pipe fails; soil corrosivity, pipe diameter, installation quality, and material all affect how long a given segment lasts. But when a system was largely built out in tranches in the 1920s and 1960s, more of that original cohort reaches the end of its service life within the same narrow window, requiring significantly more investment than in previous decades (see Exhibit 9).

The American Society of Civil Engineers' most recent infrastructure report card grades of D+ and C in Michigan for drinking water and wastewater, respectively, reflect the consequence of that clustering, denoting infrastructure that is at risk of failure, showing signs of deterioration, and requiring increasingly frequent—and increasingly expensive—operation and maintenance. Even as early as 2012, AWWA was citing the fact that Michigan's existing network of pipe was laid down and paid for by earlier generations, and the inability to replace that aged infrastructure proactively has consistently led to the identification of large infrastructure gaps and poor infrastructure grades throughout the water sector.

EXHIBIT 9

## HISTORICAL INVESTMENT TIMELINE




Sources: Barfuss 2023; Congressional Budget Office 2025; Sane et al. 2024; Sedlak 2019

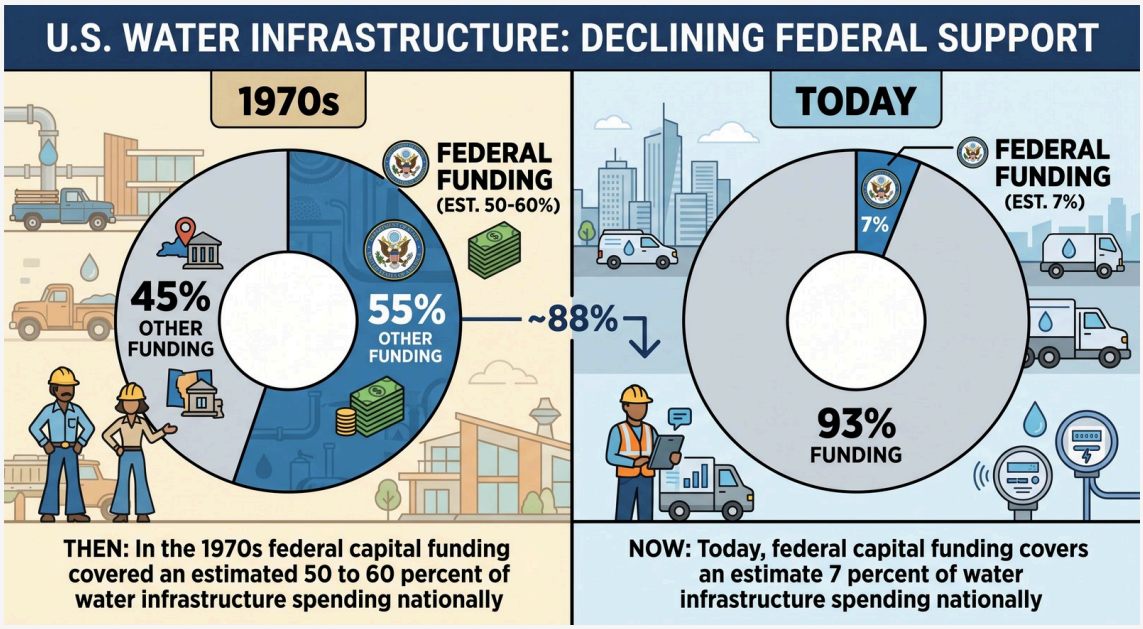
## Federal Support Rose, Then Receded, and Michigan Never Replaced It

Federal investment briefly transformed water infrastructure funding in the 1960s, supported by large investments from the federal government to build out America's infrastructure after World War II.

After the passage of the Clean Water Act in 1972, over the next 20 years more than $60 billion in wastewater infrastructure grants were distributed (Sedlak 2019). That federal support then fell steadily for the next four decades. The Congressional Budget Office reports that federal spending on water utilities made up roughly 6 percent of total government spending on the water and transportation sectors in 1970 and had fallen to under 4 percent by the late 2010s, a decline state and local governments were left to absorb largely through higher rates rather than replacement federal dollars (Congressional Budget Office 2025). As illustrated in Exhibit 10, the U.S. Water Alliance describes the same trend in starker terms: federal capital funding covered an estimated 50 to 60 percent of water infrastructure spending nationally in the late 1970s and covers roughly seven percent today (U.S. Water Alliance 2025). Michigan's challenges are mirrored across the country. A survey of local officials found that local investment is not meeting current needs as communities struggle to balance the costs of needed capital projects against the debt burden and affordability challenges created by those investments (Hansen and Mullin 2022).

EXHIBIT 10

## DECLINING FEDERAL SUPPORT FOR WATER INFRASTRUCTURE




Source: U.S. Water Alliance 2025

## The System Is Fragmented and Lacks Sufficient Data on Asset Conditions

Michigan operates approximately 1,400 separate community water systems, each maintaining its own rate structure, capital budget, staff, and planning capacity (Michigan Department of Environment, Great Lakes, and Energy n.d.a). The fragmentation of the system means 1,400 separate purchasers of pipes, treatment chemicals, and competition for contractors. It also means the state lacks a reliable, comprehensive picture of its own infrastructure condition.

Fragmentation is also an issue when examining Michigan's water and sewer systems condition and asset management data. While Michigan's Water Asset Management Council has a legislative mandate to collect infrastructure condition data from local systems, that collection currently relies on inconsistent, self-reported metrics rather than standardized, verified data, and compliance remains voluntary in practice, with no funding attached and no consequences for nonparticipation.

A pilot program launched in 2018 attempted to build a standardized, cross-jurisdictional asset management dataset, bringing together drinking water, wastewater, and stormwater condition data across two multicounty regions. The pilot reached 158 communities and produced a workable model for statewide data collection, but it never scaled past the pilot stage (Michigan Infrastructure Council 2018). Nearly a decade later, Michigan still cannot say with confidence how much of its own pipe is in poor condition, which systems are at greatest risk of near-term failure, or where a coordinated investment would provide the most compelling public good. Additional investment is needed to assess conditions and be able to maintain systems in a cost-effective way.

## Local Rates Are Not Built to Fund Full Replacement

Water and sewer rates in most Michigan communities are set to cover the cost of day-to-day operations: treatment, staffing, chemicals, and routine repairs. They are not, in most cases, set using full-cost pricing, the practice of building the reserves needed for ongoing asset replacement directly into the rate base before those assets fail, rather than treating replacement as a future problem to be solved when it arrives.

Full-cost pricing has been recognized as sound utility management for well over a decade. Its logic is straightforward: a rate structure that only covers today's costs guarantees that tomorrow's replacement costs will need to be either debt-financed at a steep, deferred-maintenance premium or absorbed as an emergency expense after a failure has already occurred. Compounding the problem, shrinking Michigan communities bear higher per capita water rates and infrastructure debt compared to stable or growing municipalities (Sane et al. 2024).

Michigan already struggles with rates that, in some cases, are becoming unaffordable. Water service requiring more than five percent of household income is defined as unaffordable by the United Nations, and 6.6 percent of Michiganders meet this definition. In other words, for many Michigan households, water is already unaffordable. A move to full-cost pricing could compound affordability challenges in the near term.

### THE INTERGENERATIONAL EQUITY TRAP

When utilities set rates that cover only current operations and immediate maintenance, rather than the true lifecycle cost of their assets, they create a financial time bomb for future generations.

**Why it happens.** Keeping rates low protects today's customers, especially low-income households. Elected officials and regulators face pressure to reject rate hikes. And depreciation is based on an asset's historical cost, while replacing it decades later costs far more (Nicholas Institute 2021).

**The consequences.** Emergency fixes can cost 3 to 10 times more than scheduled replacements, aging systems fail more often, and future customers face sudden rate spikes instead of gradual increases (Congressional Research Service 2024).

**Emerging solutions.** Asset management plans, dedicated infrastructure replacement riders, and long-term municipal bonds so the generations using the infrastructure help pay for it.

Exacerbating this issue is the continued focus on water conservation measures and population loss. While conservation issues are important to preserve water and ensure longevity of water supplies, they have resulted in less revenue generation from reduced water consumption. Population loss that some communities are facing also has put additional pressure on the remaining ratepayers. Since water utilities are largely fixed cost systems, these factors drive up the cost per unit of consumption.

## Raising Rates Has Been Politically Difficult

As noted earlier, there can often be a wide disconnect between the technical case for making informed, forward-looking rate increases to support a comprehensive infrastructure renewal strategy and the ability or willingness to implement those rate increases. While ratepayers will indeed feel the immediate impact of rate increases on their bills, typically there are lags between collecting the revenues up front and most improvements are underground with no visible change that these increases support.

The rate increase challenge exists across most utilities in Michigan. A mid-Michigan water utility held rates steady during the COVID-19 pandemic, but then was forced to implement nine percent increases in two consecutive years to ensure there were adequate resources to maintain the system. In the Great Lakes Bay Region, a wastewater utility went 15 years without a rate increase, even as their almost century-old treatment plant continued to age and need investment. Recently, the utility has had to implement a three-year 18 percent increase to fund wastewater treatment plant upgrades and other capital improvements.

Governing bodies choosing to defer rate increases may garner support in the short term, but it costs the system everything in the long term, compounding quietly until deferred maintenance becomes an emergency repair, and a modest annual adjustment becomes an unavoidable, steep correction.

### SUPPORT FOR WATER INFRASTRUCTURE INVESTMENT

National polling shows strong support for investment with 92 percent of voters see reliable water access as a very or extremely important issue (The Value of Water Campaign 2026). Nearly half of voters say national water infrastructure is of poor quality and two-thirds are concerned about the quality of drinking water in their community. Close to 80 percent of voters support increased state and local funding for water, while 61 percent still support it even if it requires a small tax increase. Affordability is a growing concern for voters as well. Nearly 26 percent of Americans think their water is unaffordable, among the highest levels The Value of Water Campaign has recorded in a decade of polling.

Closer to home, Michigan voters express similar sentiments. A recent survey commissioned by the Michigan chapter of The Nature Conservancy found that 85 percent of Michiganders are concerned about the condition of infrastructure in their community, with 34 percent very concerned. Many Michiganders (41 percent) consider Michigan's water infrastructure to be somewhat outdated. Eighty-seven percent of Michiganders think that failing to maintain Michigan's water systems and infrastructure now will cost taxpayers more in the future. **Eighty-four percent of Michiganders support increased state investment to protect natural resources and clean water** (Marketing Resource Group 2026).

National polling suggests the political calculation may be more favorable than many local officials assume. Statewide surveys on water infrastructure funding consistently find that a majority of voters are willing to pay more to improve water safety and reliability, and that voters tend to view elected officials who support infrastructure investment favorably rather than punishing them at the ballot box for doing so.

None of the forces that led to these crisis conditions operate in isolation. Michigan's aging pipes, shrinking federal support, the fragmented and data-poor system, and rate structures that recover only current costs and routine maintenance rather than full replacement compound the depth of the crisis year after year. Local officials have often voiced the need to price differently, but the political will to act has usually arrived only after a failure forced the decision.

### WHO BEARS THE TRUE COST OF UNDERINVESTMENT?

Financial models assessing capital plans look at the cost of capital, the price of materials and labor, and the present discounted value of investing in repairs now or waiting until later. These models generally view the costs to the utility and omit the broader societal costs of a water main break, underestimating the true costs of delaying investment.

Researchers modeling the impact of water main breaks have found that a surprisingly small share of the true costs are borne by water utilities (Piratla et al. 2015). These researchers examined 11 large-diameter water main breaks and modeled the costs across several parameters including repair and return to service costs, travel delay costs, and property damage. The analysis found that the direct costs to the utility operator from a water main break constituted only about 34 percent of the total costs on average while 66 percent of the costs are borne by the community. That financial impact affects businesses, schools, healthcare facilities, and residents, in the form of closed businesses, displaced residents, and emergency home repairs as well as the surrounding community.

## GAPS IN CURRENT FRAMEWORKS

Michigan's water infrastructure needs massive investment over the coming years. The EPA's most recent drinking water needs survey using data from 2021 puts Michigan's 20-year need at $16.3 billion, up from $13.8 billion when the same survey was conducted in 2011 (EPA 2013; EPA 2023). Its companion wastewater survey shows an even sharper increase, from $2.6 billion in 2012 to $15.1 billion in 2022 (EPA 2016; EPA 2024) (Exhibit 11).

The US Water Alliance's 2025 *Tapping Potential* report finds an even bigger need. The Alliance takes the EPA data and supplements it with estimates for lead service line replacement, stormwater upgrades, PFAS-related costs, and operations and maintenance expenses.

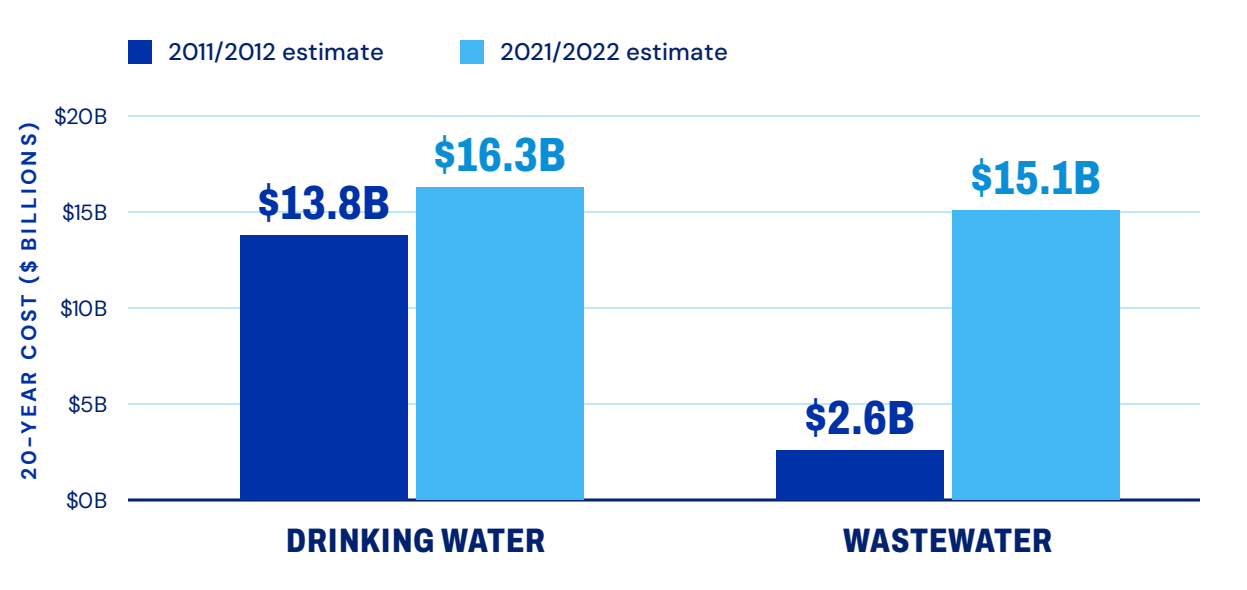
### DEFINING THE NEED—US WATER ALLIANCE REPORT

The report finds Michigan's estimated combined 20-year water and wastewater need at $85 billion—$41 billion for water infrastructure and $44 billion for wastewater—and found that rural communities require more than double the per capita investment of Michigan's cities (US Water Alliance, Stantec, and One Water Econ 2025).

Michigan's current funding system does not meet its needs. The water infrastructure gap has been studied repeatedly over the past decade, and each new study has confirmed rather than narrowed the scale of the problem first identified in 2016. The 21st Century Infrastructure Commission's 2016 report was the state's first comprehensive attempt to quantify the gap, putting the annual water and sewer capital need at $800 million. The Citizens Research Council of Michigan's 2023

EXHIBIT 11

## MICHIGAN WATER INFRASTRUCTURE 20-YEAR NEED ESTIMATES




Sources: EPA 2013; EPA 2016; EPA 2023; EPA 2024

assessment put the state's broader water infrastructure funding gap at between $1 billion and $5 billion annually (Citizens Research Council of Michigan 2023). The University of Michigan's Graham Sustainability Institute calculated a $19.8 billion 20-year need after accounting for already planned capital spending (Read et al. 2024). Each new assessment has grown the size of the need rather than shrunk it.

## Limitations of Michigan's Funding Framework

Michigan's legal framework places important constraints on funding for utilities. In 1998, the Michigan Supreme Court ruled in *Bolt v. City of Lansing* that a stormwater service charge levied by the City of Lansing was a tax. The Lansing service charge was based on parcel size and the amount of the parcel covered by impervious surfaces. Residential parcels under two acres were charged a flat fee that was billed separately from water utility or property tax bills.

The distinction between a service charge or user fee and a tax is important because of a provision in the state's constitution that was added as part of the Headlee amendments in 1978. Under Headlee, imposing a new tax or increasing an existing tax requires the approval of local voters. Local governments are also restricted from levying taxes that are not explicitly authorized by state statute.

Importantly, *Bolt* does not outlaw user fees; it just puts in place important criteria that the fees must meet. In addition, the court noted that the three criteria are not to be considered in isolation, and subsequent courts have ruled that these criteria should be considered in their totality, and a weakness in one area does require finding that a charge is a tax and not a fee (Nettleton 2015).

The court imposed three criteria for determining whether a charge is a user fee or a tax. To qualify as a user fee:

1. The fee must serve a regulatory purpose rather than a revenue-raising purpose
2. The fee must be proportionate to the necessary costs of the service and correspond to any benefit conferred by the service
3. The fee must be for a commodity or service voluntarily used

# NATIONAL PEER UTILITIES COMPARISONS: TRANSFORMING OUT-OF-STATE LESSONS INTO IN-STATE ACTION

To complement findings on Michigan's utility crisis, the task force interviewed 14 water utilities nationwide to learn how they fund capital plans, address aging infrastructure, and navigate rate changes. Interview participants were selected based on population sizes served (focusing on larger utilities), infrastructure age or challenges, and location and/or proximity to natural water sources. A complete list of water utilities interviewed and the interview findings are outlined in Exhibit 12 below.

EXHIBIT 12

## PEER UTILITIES INTERVIEWED BY THE TASK FORCE

In addition to the above individual interviews, the research team met with a focus group representing 33 of the largest utilities in the country. The engagement with that focus group closely aligned with the outcomes of the individual interviews, identifying the common challenges of financial pressures, regulatory burdens, and aging infrastructure. Although no single strategy for revenue diversification beyond rates and charges was identified, ongoing efforts to seek alternative revenue sources was a consistent theme.

# SHARED SYSTEMIC HEADWINDS: FINANCIAL AND OPERATIONAL PRESSURES

Water utilities across the United States face a converging set of financial and operational pressures, proving that Michigan's local challenges mirror a broader national crisis. Michigan may be unique, but we are not alone—the major urban utilities interviewed all report that their capital and operational portfolios are constrained by aging assets, shifting climate patterns, hyperinflation of material and construction costs, and labor deficiencies.

## Operating Cost Inflation of Material Supplies

In a parallel to Michigan utilities, out-of-state utilities are facing a baseline shift in materials and other procurement costs; every utility cited major cost increases and price volatility in energy, steel, diesel, and chemical costs. Notably, water treatment chemical costs are at a historic high, having increased by 57 percent in the Philadelphia service area. MMSD, NEORSD, and SAWS all shared that broader capital construction project bid prices are coming in 20 percent to 30 percent higher than historical cost models.

### THE TRUE COST OF UNDERINVESTING—A WATER MAIN BREAK IN ATLANTA

Underinvesting in infrastructure can lead to costly failures. While emergency repairs are expensive, the true cost of a system failure is far higher than just the cost of the materials and overtime for the workers. Water disruption hurts families and businesses. An Atlanta pipe failure in 2024 illustrates the pain a community can feel. After water main breaks left much of Atlanta without running water, the mayor had to declare a state of emergency. Emory University Hospital Midtown had to reschedule outpatient appointments and divert ambulances (Sainato 2024). The hospital also had to bring in 58,000 gallons of water through six tanker trucks (Musa et al. 2024) The Georgia Aquarium and Atlanta Zoo closed and major concerts were canceled. Many small businesses estimated losses of $4,000 to $5,000 a day. The City of Atlanta enacted a $7.5 million recovery fund with grants of up to $10,000 for small businesses.

On top of these costs was the stress created in the community. Workers at impacted businesses had to worry about being paid. People had to reschedule important medical procedures. Small business owners had to worry about how they were going to pay their bills. Parents had to contend with the closure of child care facilities and worry about how to get clean water for their families. When a pipe fails, it's not just the utility that feels the pain. A water disruption impacts hospitals, child care centers, small businesses, and the community's peace of mind.

## Contracting and Labor Strains

Across the country, as in Michigan, operating cost pressures are exacerbated by a shrinking labor pool, weak talent pipeline, and private sector competition. Several urban utilities shared that their primary constraint is engineering capacity rather than funding, with skilled municipal employees retiring at a rapid rate and insufficient vocational enrollment to support a robust talent pipeline. Additionally, many utilities are facing intense resource competition when appealing megaprojects draw specialized labor and heavy equipment away from public utility bidding pools.

## Procurement and Lead-Time Lags

Similar to what Michigan utilities shared, out-of-state utilities are facing long procurement pipelines and equipment shortages that delay critical utility work, directly increasing project risk profiles. Denver reports that vital high-voltage

electrical components lead times require the utility to place equipment orders a minimum of two full years in advance. MMSD shared that infrastructure assets damaged during major storm events remained unaddressed for nearly a year because specialized replacement components were unavailable in the market. In general, these compounding supply delays force long-term project schedules to shift and potentially require rebidding, leading to secondary inflationary costs.

## Regulatory Requirements: Lead Service Line Replacement

Finalization of federal Lead and Copper Rule Improvements has transformed what was historically considered a private-side homeowner issue into a multi-billion-dollar public utility obligation. Several large urban utilities shared that they are mandated to replace tens of thousands of lead service lines, generating annual capital obligations that cannot be absorbed by their current rate structures. These estimated costs range from $400 million to nearly $550 million for each urban utility, significant enough that some utilities have had to insert a dedicated lead line replacement program into its long-term strategy as an unbudgeted priority.

## Sewer and Stormwater Consent Decrees

Parallel to drinking water regulations, clean water utilities are legally bound to court-ordered environmental consent decrees that mandate immediate system expansions or treatment upgrades. NEORSD and DC Water both navigate consent decrees representing around $3 billion each, consuming a significant percentage of the utilities' total CIP and restricting the dollars available for standard treatment plant renewal and replacement. These large consent decrees mandate that the utilities systematically prioritize centralized "tunnels and tanks" over all other localized sewer needs.

# STRATEGIES TO ADDRESS CHALLENGES

Many of the utilities interviewed have responded to these challenges by extending project planning horizons, reforming their procurement and contracting processes, and instituting creative funding approaches, such as multi-year rate approvals, property tax support, and use of sales taxes to support water infrastructure. However, one common theme among these national peers is the lack of comprehensive funding alternatives that are not recovered from ratepayers. Even with widespread use of the federal SRF program, the loan repayments associated with that program must ultimately be recovered from ratepayers.

## Extending Planning Horizons

To cushion compounding rate hikes and manage backlogs, utilities nationwide are extending planning timelines to spread out infrastructure costs. Philadelphia, for example, expanded its master utility plan timeline from 25 to over 40 years. This extension helps mitigate rate shock—a critical adjustment given the city's history of steep, recurring rate increases and heavy funding demands under a consent order and agreement. MWRA, Tualatin Valley, BWRWA, NEORSD, and Denver Water all utilize 20- to 30-year financial planning horizons.

## Navigating Rate Adjustments

Rates are often the first topic discussed when considering how a water utility may earn revenue. A key difference among national utilities was how they managed rate adjustments. Three main avenues arose from the national utility interviews, outlined below.

### PREDICTABLE AND INCREMENTAL RATE INCREASES

Several utilities (e.g., MWRA, Minneapolis, and Chicago) maintain a deliberate policy of annual rate increases of less than 5 percent. Those utilities specifically shared that their customers anticipate and accept these rate increases and have built ratepayer

trust in the necessity of a rate increase because of the steady and consistent manner in which the increases have been implemented. Both Minneapolis and Chicago utilize automatic rate increases, organized several years at a time, to avoid potentially politically charged resistance. MWRA's longstanding strategy of structuring a 2 to 4 percent annual increase has built trust between them and local bodies they serve, shifting the narrative to define affordability as staying within a 2 to 4 percent annual rate increase range.

### DEFERRED CAPITAL EXPENDITURES

Both Louisville and SAWS identified needs that would have necessitated double-digit rate increases—politically unviable at the time—forcing them to delay capital expenditures. Notably, SAWS froze rates from 2020 to 2025 and now could be facing cumulative rate increases of 30 percent to support its ten-year CIP (Sundeen 2026).

### EXPANDING SYSTEM RESILIENCY NEEDS

Tualatin Valley tripled its rates over 12 years to fund a $1.6 billion project to build its own resilient water supply system and disconnect from Portland. This strategic shift by local leaders also incorporated seismic considerations to withstand a 9.0 earthquake with limited interruption time.

## Revenue Generation Structures

Large metropolitan utilities function almost exclusively as enterprise funds with no support from other governmental transfers or property tax support and must generate revenue through distinct user-based frameworks. To ensure that revenues keep pace with budget requirements, many utilities (SAWS, Washington DC, and Chicago) conduct formal cost-of-service studies every five years to support equitable cost recovery across residential, commercial, and industrial customer classes that are sufficient to cover all costs. When periodic updates to cost-of-service are coupled with multiyear rate approval, utilities can better predict future revenues in the short term and maintain a feedback loop to periodically reassess whether their revenues are appropriately aligned with their cost structure.

MMSD also has been able to leverage treatment byproducts into alternative revenue offsets by processing its residual wastewater solids into a commercially bagged fertilizer product called Milorganite, generating $11 million to $12 million annually in non-rate revenue to directly support operational expenses.

# FUNDING FLEXIBILITY AND ALTERNATIVES

## Use of Federal Programs

Many of the peer utilities interviewed also borrow from the state revolving funds (SRFs). The Clean Water State Revolving Fund is a federal program that provides funding to states for financing water quality infrastructure including municipal wastewater facilities and nonpoint pollution control. The Drinking Water State Revolving Fund supports SRFs that help local utilities improve drinking water treatment, repair and upgrade deteriorating infrastructure, or improve the source of water supply.

Although these programs require compliance with federal rules like Build America, Buy America, their subsidized interest rates can outweigh the added compliance costs, particularly when programs are able to provide additional streamlining and flexible services. In Ohio for instance, loans from the state's Water Pollution Control Loan Fund (WPCLF) represented nearly $1 billion of the Northeast Ohio Regional Sewer District's (NEORSD's) total outstanding debt at the end of FY 2025—representing over 50 percent of its total debt (NEORSD 2026). The WPCLF offers flexible 30-year loan terms, five-year zero-interest planning and design loans, and on-demand loan disbursement. The Ohio Water Development Authority (OWDA), who pursues funding on behalf of the WPCLF, also has a flexible debt management policy that allows OWDA to finance the WPCLF through various fixed- and variable-rate debt instruments.

In addition to SRFs, the federal government also provides financing directly to water utilities through the Water Infrastructure Finance and Innovation Act (WIFIA). WIFIA was stood up in 2014 as a way provide more funding directly to water utilities to improve drinking water and wastewater utilities. It has generally been regarded as a useful program for utilities given the significant flexibility with its repayment terms.

## Use of General Obligation Bonds and Property Taxes

Generally most bonded debt issued for water infrastructure is in the form of revenue bonds—which means that the collateral for the debt is future rate revenues of the utility. However, for a few, general obligation (GO) debt is an option. With GO debt, the entity's full faith and credit is pledged for repayment, which can include property taxes as well. Because the security for GO debt is more broad than a revenue pledge, it often carries with it the ability to achieve stronger credit ratings and lower interest costs. Several utilities interviewed leverage the ability to issue GO debt to finance their needs, including MWRA, MMSD, and WSSC Water.

Additional flexibility to levy property taxes to support operations can help support lower utility bills. MMSD uses a tax levy to cover debt costs, and wastewater treatment services within the Chicago region are supported by property taxes levied by the Metropolitan Water Reclamation District (MWRD) of Greater Chicago.

In addition to issuing GO debt, MWRA maintains revenue stability through a three-part protection model. First, member communities pay a set rate regardless of how much water they use, protecting MWRA from revenue drops during low-usage periods. Second, these payments are general obligations, meaning local municipalities must draw from any available city or town funds to make their payments to MWRA. Finally, if a community fails to pay, MWRA can directly intercept local aid to cover the outstanding balance.

## Use of Sales Taxes

In 2025, Texas lawmakers passed legislation dedicating $1 billion annually in sales tax revenue to the Texas Water Fund. Over the next 20 years, $20 billion will be used for water supply projects and upgrades to water systems. This large-scale investment was identified as a key economic development need as Texas continues to grow and the need to protect the state from prolonged drought. Along with the dedicated sales tax revenue, Texas also implemented a package of legislative reforms to promote regionalization, establish long-term planning goals, and ensure flexibility in the funding and financing tools associated with the new revenue.

EXHIBIT 13

### INVESTING IN TEXAS' WATER FUTURE


Source: Texas 2036

# A CALL TO ACTION: PAYING FOR WATER INFRASTRUCTURE

Meaningfully narrowing Michigan's water infrastructure gap is impossible using revenue from local rates and charges alone. It requires a coordinated, well-funded, statewide strategy and now is the time for action. Postponing critical water investment only increases the ultimate cost to the residents of Michigan, both in increased system failures and rising construction costs outpacing general inflation.

This report has laid out the depth of need for water infrastructure funding in Michigan and described the limitations of the tools available to meet those needs—namely rates—which fund both operating costs and debt payments. It also presented the best information available from across the country in how utilities are facing similar challenges. Aside from Texas, with the passage of Proposition 4, no other state has tackled the governmental support of water infrastructure at this size and scale using a statewide revenue source.

As Michigan's recent history has shown, when presented with the problem, the public has supported investment in clean, safe, reliable water. But solutions to big problems are never easy. Every policy option has both pluses and minuses—wise policy requires weighing these tradeoffs to find a solution that has the greatest benefit to all Michigan residents.

## A BROAD FRAMEWORK

As we discuss a funding framework, several questions need to be at the forefront:

- Do we fund the required investment with new state-level debt or do we establish an annual pay-as-you go funding model?

- Do we generate new revenue for investment, redirect existing revenue, or some combination of both?
- Are there additional state policies or initiatives that could help target these investments to the infrastructure that is in most critical need?

Below are several options being considered (in no particular order of importance or consideration).

# OPTION ONE: ISSUING NEW STATE DEBT

Issuing new debt to fund long-term state assets like water infrastructure is a sound and well-established financing principle. Bonds allow the cost of infrastructure that will serve residents for decades to be spread across the generations that will benefit from it, rather than concentrated on current ratepayers. Generally, the state has carried relatively low levels of outstanding debt and maintained a high credit rating. Total state debt stood at $3.6 billion at the end of last year but only $600 million of GO bonds. The remaining $3 billion was revenue dedicated bonds for transportation (Michigan Department of Treasury 2026).[1] In a 50-state comparison, S&P Global (2024) found Michigan's net direct state debt to be below the national average. Michigan's direct debt per capita was $880 while the state median was $1,067. Michigan direct debt as a percent of personal income was close to the state median (1.6 percent) at 1.5 percent, and Michigan debt service as a percent of general spending totaled 2.3 percent compared to a state median of 2.9 percent.

This debt profile reflects a state with meaningful remaining borrowing capacity.

## General Obligation State Debt

The Michigan Constitution (Article IX, section 15) details the issuance of general obligation debt. GO debt is backed by the full faith and credit of the state. In practice, this means that each year the dedication of the first tax dollar is used to pay debt service. The debt is usually issued with a 20- or 30-year maturity.

Michigan also has approximately $23 billion in special authority debt. This debt represents obligations of the individual authorities and not a general obligation of the state.

### PROS

- Can generate the large dollars needed to address large problems. The only constraint is the bonding capacity of the state. Conservatively, additional GO debt could reach several billion dollars.
- Can be flexible—once approved by voters, it can be issued in small amounts as needed each year.
- Can be especially useful if the new spending needed is front-loaded in early years.

### CONS

- High procedural bar. To issue new GO debt, a supermajority (2/3) of the legislature is needed to place the proposal on the ballot for approval at the next general election
- Bonding creates a new obligation for the state budget. The state will need to appropriate funding annually to pay the debt service on the bonds. A $1.5 billion bond would require approximately $100 million in annual debt service for 20 years, which approximates to less than one percent of the state general fund general purpose revenue.

Michigan voters supported environment and water related GO debt in both 2002 ($1 billion) and 1998 ($675 million). In both cases, the new debt was issued without an identified funding source, leaving that obligation to future legislators to determine as part of the annual appropriations process.

## Revenue Bonds

Another bonding option is for the state to issue revenue bonds. Revenue bonds represent debt not backed by the state's full faith and credit. The bonds are instead backed by a specific revenue source. Revenue bond amounts tend to be smaller than GO bonds and they require the state to identify a dedicated revenue source up front. But approval is simpler and revenue bonds have a long history in this state (including the Clean and Drinking Water State Revolving Fund programs).

# OPTION TWO: ANNUAL PAY-AS-YOU-GO FUNDING

An alternative to issuing new debt is to identify a new or existing state revenue source to provide annual investment support on a pay-as-you-go basis. In principle, the long-term cost of the two approaches can be similar, even when accounting for additional debt service costs that are avoided with pay-as-you-go funding.

Pay-as-you-go funding is limited by what a single year's revenue can support and therefore deploys capital investments more slowly than up-front borrowing. Construction cost inflation is a cost that should be compared against the alternative of paying interest on borrowed amounts. As inflation compounds over a longer build period, the same physical scope costs more in aggregate, and the perceived savings from avoided debt service may be more than offset by higher nominal construction costs. A bonding program would accelerate these future expenditures, locking in current prices. Whether pay-as-you-go or bonding produces the lower total cost depends on today's borrowing rates compared with the level of future construction cost escalation. In high-inflation environments, up-front bonding can be the most cost-effective path.

# OPTION THREE: DEDICATED REVENUE SOURCES

**If we truly are going to tackle the $85 billion in infrastructure needs, finding dedicated revenue requires finding a solution large enough to match the size of the problem.** The largest single source of funding would be capturing an increase in the state's sales tax. A half-cent increase in the sales/use tax would annually generate roughly $1 billion per year and would require voter approval. As an alternative to fund infrastructure more regionally, a new regional property specific tax could be levied.

In the three-county metro region, an additional mill could generate up to $100 million each year. A new tax on property would have to be approved both by the legislature and the local communities.

Finally, any new revenue source could be supported by diversion of existing revenue, perhaps limiting the diversion to future growth. In the end, none of these options are politically easy: each has its pros and cons. A final solution may involve choosing more than one option. But we know that without leadership and vision, the state's water crisis will only continue compounding for future generations.

Outlined below are options for revenue and how much each potential option could generate, sorted by order of magnitude of potential revenue generation to meet the hefty needs identified.

## State Sales Tax Base Expansion

FUNDING POTENTIAL

Up to $1 billion; annual funding

Michigan could raise additional revenues by adding currently exempt services to the sales tax base. Michigan taxes relatively few services compared to other states. A survey by the Federation of Tax Administrators (2005) found that Michigan taxes 26 services, while the median across the states is 47 services. Michigan also taxes the fewest services among several Great Lakes states including Minnesota (67), Ohio (68), and Wisconsin (74).

Examples of services Michigan could add to its tax base include admissions to professional sporting events, bowling, and arcade games, and personal services such as barber shops and beauty salons, health clubs, and dry cleaning. The amount raised depends on the number of services added to the base. Expanding the sales tax to broadly include arts, entertainment, and recreation could raise $230 million per year, while taxing a broad set of nonbusiness services such as personal care, repair fees, and dry cleaning could raise $475 million per year.

## Rainy Day Fund Withdrawal

FUNDING POTENTIAL
$700 million; one-time funding

Money from Michigan's rainy-day fund could be utilized to establish a new state water trust fund. Initially funded with a one-time deposit, the trust would make low or no interest loans to communities to support water investments. Loan repayments would then be recycled to make new loans. The actual loan requirements could be flexible including, in some cases, forgivable loans (grants). At the end of FY 2025, Michigan had $2.2 billion in its rainy-day fund (known as the Counter-Cyclical Budget and Economic Stabilization Fund). Using one-third of the current fund balance would generate $733 million for water infrastructure.

Texas capitalized its State Water Implementation Fund (SWIFT) with $2 billion transferred from the state's rainy-day fund. The SWIFT program identifies and funds projects to meet state water infrastructure objectives as well as provides communities with low-interest financing, extended repayment terms, deferred repayments, and incremental repurchase terms. Additionally, SWIFT does not have any mandatory federal requirements since it is a program entirely funded with state dollars. At the time Texas made the transfer, its rainy-day fund had a balance of approximately $6 billion.

## Water Extraction Charge

FUNDING POTENTIAL
$300 million; annual funding

Michigan could charge a fee for extracting water. A recent example is Senate Bill (SB) 950 and SB 951, which would impose an annual 25-cent per gallon royalty to be paid by bottled water companies using Michigan water. Proponents of this legislation estimate it would generate $300 million per year. There is a risk that levying a charge this high would dramatically reduce the amount of water bottled in Michigan, potentially significantly reducing the revenue that is raised from this fee and potential constitutionality issues with this approach that would need to be worked out.

## Regional Property Tax or Specific Tax on Property

FUNDING POTENTIAL

Up to hundreds of millions of dollars, depending on the mills levied and the region's taxable value; annual funding

The legislature could explore allowing regional water authorities to levy a property tax. While a detailed calculation by covered community would need to be completed to accurately estimate the revenue potential, a one-mill levy in Wayne, Oakland, and Macomb Counties would raise over $185 million for the Great Lakes Water Authority. Enacting a regional property tax would not be simple and would likely require state enabling legislation, changes to governing documents, and approval by local voters.

## Earmark of an Existing Tax

FUNDING POTENTIAL

Tens to hundreds of millions of dollars; annual funding

While not new revenue for the state, creating an earmark of an existing tax can be a way to secure funding for water. As noted earlier in the report, in November 2025, Texas amended its constitution to allocate up to $1 billion in sales tax revenues per year for water projects, including replacing deteriorating infrastructure. A recent example in Michigan is the income tax allocation to the Renew Michigan Fund. Starting in FY 2019, this fund receives $69 million each year for environmental cleanup, recycling, and waste management.

Earmarking one cent of Michigan's six-cent use tax to water would allocate more than $450 million each year to water. The state could also earmark a portion of the individual or corporate income taxes since both have large unrestricted portions. As noted, this would not represent new revenue and would require reallocating portions of the state's budget.

## Tax Expenditure Repeal

FUNDING POTENTIAL

Tens of millions of dollars; annual funding

Tax expenditures are the tax revenue forgone due to preferential tax provisions such as credits, deductions, exemptions, deferrals, exclusions, or lower tax rates on specific items or activities. The Michigan Department of Treasury estimates that Michigan had over $32 billion in tax expenditures in FY 2023. However, many of these tax expenditures would be difficult to repeal or would not make sense to repeal. For example, the sales tax exemption for healthcare services represents a significant portion of the total. However, there are several tax expenditures relating to the sales tax that could be repealed. Examples:

- Aircraft parts—$14 million
- Bad debts—$13 million
- Investment coins—$7 million
- Sales tax collection fee—$40 million
- Vended foods—$13 million

Repealing these five tax expenditures would generate approximately $87 million per year.

## Tobacco Settlement Trust Fund Dollars

FUNDING POTENTIAL

Up to $75 million; annual funding

Michigan receives over $250 million every year in annual payments from the Tobacco Master Settlement agreement. Much of Michigan's annual payment is dedicated to debt service. However, for years, Michigan has annually been dedicating $75 million to the state's 21st Century Jobs Fund. This earmark is ending at the end of FY 2026 and the funding will instead go to the state's general fund. This funding could be redirected to water infrastructure.

## Bottled Water Tax/Bottled Water Deposit

FUNDING POTENTIAL

$36 million to $150 million; annual funding

Michiganders consume roughly 1.5 billion bottles of water annually. Applying the 10-cent bottle deposit to bottled water would produce $150 million in bottle deposits annually. Approximately 24 percent of bottle deposits go unclaimed, which would leave approximately $36 million available to invest in water infrastructure each year. Alternatively, instead of applying the bottle deposit, Michigan could levy a five- or ten-cent tax on bottled water. A five-cent tax would generate approximately $75 million per year, while a ten-cent tax would generate approximately $150 million per year that could be used to support water infrastructure.

## Summary of Options

The funding options presented above are summarized in Exhibit 14 below.

EXHIBIT 14

### SELECT FUNDING OPTIONS

| FUNDING SOURCE | FREQUENCY | AMOUNT | NOTES |
|---|---|---|---|
| **State GO Bond** | One-time | Billions of dollars | Bonds could be issued over time |
| **Sales tax base expansion** | Annually | Up to $1 billion | Presumes an expansion to untaxed services |
| **Rainy day fund withdrawal** | One-time | Up to $700 million | Could establish a new Trust Fund with the deposit |
| **Expand sales tax to broad base of nonbusiness personal services** | Annually | $475 million | This is a subset of the sales tax base expansion |
| **Expand sales tax to broad set of admissions and amusements** | Annually | $230 million | This is a subset of the sales tax base expansion |
| **Water extraction charge—25 cents per gallon** | Annually | $300 million | |
| **Regional property tax or specific tax on property** | Annually | Up to hundreds of millions | |
| **Earmark of existing tax(es)** | Annually | Tens to hundreds of millions of dollars | |
| **Tobacco settlement trust fund dollars** | Annually | Up to $75 million | |
| **Expansion of bottle bill or tax on bottled water** | Annually | $38-150 million | |
| **Tax expenditure repeal** | Annually | Tens of millions of dollars | |
| **State Revenue Bond** | One-time | Depends on supporting revenue source | Bonds could be issued over time |
| **State Trust Fund** | Ongoing | TBD | Available funding would depend on the design of the trust fund |

# ADDITIONAL POLICY RECOMMENDATIONS

In addition to strictly addressing additional revenue, there are changes that policymakers could pursue that would help direct those revenues into impactful projects that target the state's most critical asset needs.

## Asset Management and Technical Assistance

A statewide water and sewer technical assistance program would help communities proactively identify critical infrastructure needs—not just those at or near failure. This would help direct state and local funds more effectively and proactively. It would also address a significant gap in Michigan since currently the state does not have the data to accurately assess the condition of its water infrastructure.

To fully bridge this data gap, a parallel asset management program requiring standardized asset management data collection for all utilities would create a feedback loop that helps policymakers and regulators understand the linkage between asset condition and additional water infrastructure funding.

For decades, policymakers in the state have been stressing the importance of better data to help understand the state's water infrastructure needs. Linking technical assistance and data collection to eligibility for state infrastructure funding would create a strong framework to make informed and forward-looking policy decisions that make the best use of taxpayer dollars.

## Formalized Dig-Once Program

While Dig Once is a reality in Michigan and is incorporated into SRF loan scoring criteria, full leverage of the Michigan Infrastructure Council's MiDIG portal would help direct water infrastructure spending in an even more targeted way. If all utilities and municipalities were utilizing the platform, this would help align immediate shovel-ready priorities with long-range capital planning. Utilization of the platform could become ubiquitous if it is also embedded into permitting and procurement requirements. The points awarded for utilization of Dig Once in SRF loan scoring criteria could be easily redirected to projects related to proactive infrastructure renewal and emerging contaminants.

## SRF Reform/Streamlining

Communities in Michigan and across the nation are hesitant to utilize SRF financing due to cost disadvantages and administrative overhead, despite interest rate savings that can be achieved. The hesitation is compounded in Michigan for applicants that may not be eligible for overburdened or significantly overburdened status, since this eligibility can impact up to 25 percent of eligibility scoring, with median annual household income the sole tiebreaker between different projects with the same scoring. Modifying the SRF affordability criteria to assess household affordability more directly would be an important first step to help assess overburdened status with data that more accurately represents household burdens.

First, taxable value figures used to assess overburdened status should originate solely from residential properties. Second, for systems serving multiple municipalities, the data used to calculate blended median household income and taxable value per capita should include only residential inputs. This way, the SRF's goals of supporting overburdened communities remain a priority but distortions due to the amount of nonresidential inputs and property values are eliminated. To complement the scoring criteria changes, the SRF should provide access to a wide slate of financing tools, like variable-rate bonds and short-term debt, which could help align funding with real-time project cash-flow needs. Combined with reimbursement schedules that are flexible based on each project's unique cash flows, compelling efficiencies could be achieved.

# CONCLUSION

Resolving Michigan's water infrastructure crisis demands urgent, unified state funding and asset management accountability. This is not an isolated urban or rural issue and relying solely on local water rates to fix Michigan's failing and aging infrastructure is a mathematical impossibility. The significant public health and safety events in recent history highlight the low grades that Michigan received on its infrastructure report card. What is clear is that the breadth and depth of the problem mean traditional utility ratemaking is inadequate for funding both current operating costs and this generational infrastructure investment.

Investing in our water systems today is a statewide economic imperative, and 84 percent of Michiganders support increased state investment to protect natural resources and clean water. Committing to the improvement of our water infrastructure will increase long-term reliability, yield massive savings by preventing emergency repairs, and protect the health of Michigan's communities and businesses for generations to come.

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