



Inadequate Water Rates Now Risk Municipal Finances and Increase Water Rates More Later

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Nationally, water systems need hundreds of billions of dollars of investment in coming years. Locally, delaying infrastructure investment presents a tempting shortcut compared to raising water rates. However, municipal leaders must recognize that shortcuts now will increase infrastructure costs, debt burdens, and water rates in coming decades. Two metrics, operating margin and cash levels, can warn municipal leaders of financial danger. Simple solutions, such as modest proactive rate increases and sensible cash reserve policies, can maintain financial health. These steps will position municipalities to meet unavoidable water and wastewater infrastructure investment challenges.

Water Infrastructure Needs

The American Water Works Association's *Buried No Longer: Confronting America's Water Infrastructure Challenge* report estimates that Midwestern drinking water systems need to invest \$172 billion in water mains from 2011 through 2035. *Buried No Longer* draws the following conclusions:

- Water bills will increase
- Water systems need investment year after year for decades, and delaying investment makes the problem worse
- Investment needs will fall most heavily on small water systems
- Slow or negative population growth complicates investment for some Midwestern water systems

Meeting this need will require thoughtful planning and the willingness and foresight to invest now in our future infrastructure.

Water Systems Are Municipal Enterprise Funds

Although mostly owned by municipalities, Wisconsin water systems operate like businesses.

They provide a service and charge fees to meet expenses. In accounting, they are called enterprise funds.

Enterprise funds don't require tax dollars, and Wisconsin property tax limits don't apply. In Wisconsin, most water

systems make payments to the municipality's general fund, lowering property taxes.

How Water Systems Fund Water Infrastructure

Water rates do not provide enough money for infrastructure replacement, even under ideal circumstances. The Wisconsin Public Service Commission (PSC) regulates municipal water systems in Wisconsin. Water systems need careful management and planning to meet infrastructure investment needs within PSC regulatory constraints.

Example: Suppose a water system built a mile of water main in 1943 at a cost of \$50,000. The PSC allows the water system to recover the original cost of the main equally over its expected 77-year service life, or \$650 per year. The PSC also allows the system a return on its net investment. In the first year, the net investment is \$50,000. Halfway through the expected service life, the system has recovered \$25,000 and still has \$25,000 invested. Assuming the water system keeps raising its rates to maintain a six percent return on investment, it earns a return of \$115,500 over the life of the water main.

The water system needs to relay the water main in 2020 at a cost of \$490,000, assuming three percent inflation. If the water system charged the maximum allowed rates and set aside all the capital costs the PSC allowed it to recover, it has \$165,500, a third of the replacement cost. Many water systems will not have set aside these funds. They'll likely need to borrow for the project, falling further behind on capital cost recovery and infrastructure investment.

The PSC allows water systems to recover costs only after infrastructure is built. Water systems cannot recover the cost to replace water infrastructure, only the cost to originally build it. In many cases, water systems are recovering capital costs based on 1950s prices. Systems must maintain cash reserves and borrowing capacity if they're going to fund infrastructure replacements.

Once water systems replace infrastructure, water rates don't recover costs as quickly as water systems must pay them. The PSC makes water systems wait 30 to 75 years to fully recover

the cost of many types of infrastructure. Municipalities often repay borrowed money within 20 years. Between water rates not reflecting the replacement cost of infrastructure and revenue not matching debt service, water systems can quickly end up with inadequate resources and significant debt.

Water Finances: Operating Margin

In 2017, 22 Wisconsin water systems reported total revenue less than their operation and maintenance expenses. These water systems earned no money in 2017 for debt service or infrastructure replacements. The financial situation for these systems is critical.

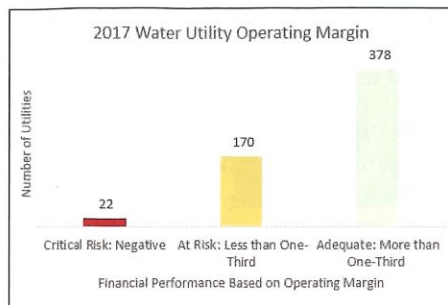
Operating margin is revenue minus operation and maintenance expenses, divided by revenue. Water systems need revenue that exceeds operation and maintenance expenses to pay debt service and build reserves for future capital projects.

Another 170 water systems had operating margins below one-third. This indicates that operation and maintenance expenses took up more than two-thirds of total revenue. Together with payments in lieu of tax and debt service, the financial ability of these municipalities to maintain adequate drinking water infrastructure is at risk.

Water Finances: Cash Reserves

Water systems can reduce financial risk by maintaining cash reserves to weather temporary revenue shortfalls and meet unexpected costs. However, water systems cannot use cash to keep rates below the cost of providing water for long. Cash reserves will run out without revenue to sustain them. Water systems with inadequate rates and inadequate cash reserves double down on their financial risk.

In Wisconsin, 60 water systems reported end-of-2017 cash reserves of less than one-twelfth of their 2017 operations



and maintenance expenses and taxes. These systems would run out of cash after less than a one-month interruption of revenue, representing a critical financial risk.¹

Another 259 water systems reported end-of-2017 cash of less than their 2017 operation and maintenance

expenses and taxes. Without continuous revenue, these systems could not fund their operations for a year, let alone pay debt service. Since PSC approval of water rate increases takes at least six months, water systems with less than a year of reserves are in financial risk. The severity of the risk depends on revenue variability, the level of funds reserved for specific purposes, and other system-specific factors.

Affordability and Inadequate Water Rates

Knee-jerk opposition to water-rate increases harms long-term water affordability. Municipal leaders should focus on long-term affordability over short-term affordability. Water bills mainly burden low-income Wisconsin households. For middle and high-income households, drinking water is affordable and a good value.² Opposition to raising water rates creates financial risk and delays crucial infrastructure

► p.6



In March 2017, the City of Mondovi discovered both that its Waste Water Treatment plant's Wis. Dept. of Natural Resources (WDNR) permit expired in June 2018, and that the utility rates were being kept artificially low. The city was not prepared to create a facility plan, submit for funding opportunities, design the plant, secure the land, construct the plant, and open a new plant by July 1, 2018 as required by the WDNR. Therefore, the City's Common Council elected to pursue a Multi-Discharge Variance (MDV) permit application, which eventually was approved by WDNR. In order to obtain the permit, the city had to increase its Waste Water rates 10 percent in 2017 and again 10 percent in 2018 to reach the minimum rate of 1 percent of the Low to Moderate Income (LMI) level according to the United States Department of Agriculture. Through these two rate increases, the 2019 annual increase, and the planned annual increases in the city's 2019 Capital Improvement Plan, the city's Waste Water Utility serving approximately 1,200 customers is on track to financial stability.

- Bradley J. Hanson, City Administrator/Clerk, City of Mondovi

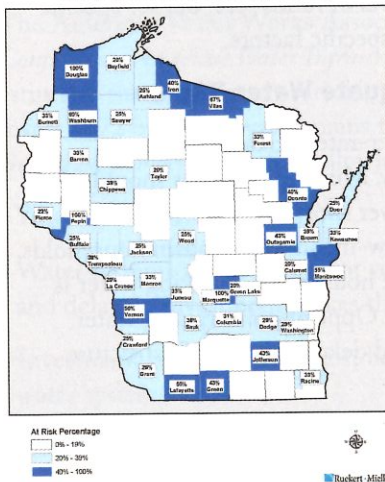
investment. Delaying investment increases costs for maintenance and repairs and the risk of catastrophic failure.

Deferring maintenance and investment to minimize short-term water rates increases water lost to leaks and inaccurate metering, reducing revenue and increasing long-run costs. Water systems that hold the line on rates now will have less money for pay-as-you-go investment, incurring higher costs to borrow for future projects. Water systems end up being penny-wise and pound-foolish.

Opposing higher water rates now increases long-run water rates by promoting inefficient water-use decisions. Customers that expect low future water rates make plans without considering water costs. Artificially low water rates attract water-intensive businesses and residential developments to water-scarce areas.

Municipalities spend money developing water supplies, wasting past water-supply investment in water-rich parts of Wisconsin. Water rates increase for both growing and existing systems, reducing consumption and under-using the expensive water infrastructure.

At Risk Water Systems by County



Water affordability should focus on low-income water users.³ A two-pronged approach to affordability can improve short-term affordability while reducing long-term rates for everyone. First, raise water rates for high and median-income water users to invest in infrastructure. Second, improve water efficiency and reduce water rates for low-income users to

improve affordability. More affordable low-income water bills may increase bill payments, offsetting some or all the cost. Enabling targeted affordability programs may require action from the Wisconsin legislature and the PSC.

Where Are Water Systems at Risk?

The map above shows the share of water systems in each county that are in financial risk, meaning they're at risk for both operating margin and cash reserves or critically at risk for at least one metric. More than 40 percent of water systems

in dark blue counties are at risk. Light blue indicates that between 20 and 40 percent of water systems are at risk.

The map suggests that many at-risk water systems are in lower-population parts of the state. If lower-population areas of Wisconsin draw from smaller pools of financial and managerial expertise, water systems may have a tougher time addressing financial risks.

Next Steps

Putting water systems on a sustainable financial path requires action by many stakeholders. Each group can make a positive impact.

Municipal Decision Makers

- First, check if your water system is eligible for a small water rate increase through the simplified rate increase process on the PSC website (<http://apps.psc.wi.gov/vs2017/src/default.aspx>). The process is quick and painless. If you're eligible, it's a slam dunk of slightly increased revenue.
- Second, support your water system's investment in water infrastructure. Communicate that clean drinking water drives economic development and supports the municipal general fund. Affordability is a significant challenge, but it requires more than knee-jerk opposition to rate increases.
- Third, approve a written cash-reserve goal and policy. In the future, comparing actual cash reserves to the goal will quickly assess a water system's financial health.

Water Systems

Increase revenue by reducing non-revenue water. Set cash-reserve targets to justify and defend cash reserves. Educate elected officials about the importance of adequate water rates and cash reserves to the financial, economic, and physical well-being of the community. Be proud of your vital work!

About the Authors:

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1. This includes cash, working funds, and temporary cash investments.
 2. EPA pricing and affordability; water is mostly underpriced <https://www.epa.gov/sustainable-water-infrastructure/pricing-and-affordability-water-services>
 3. ASCE Drinking Water Infrastructure Report Card, <https://www.infrastructurereportcard.org/wp-content/uploads/2017/01/Drinking-Water-Final.pdf>