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American Exceptionalism

Why it Hinges on Leadership in
Water, Wastewater and Sewer Systems



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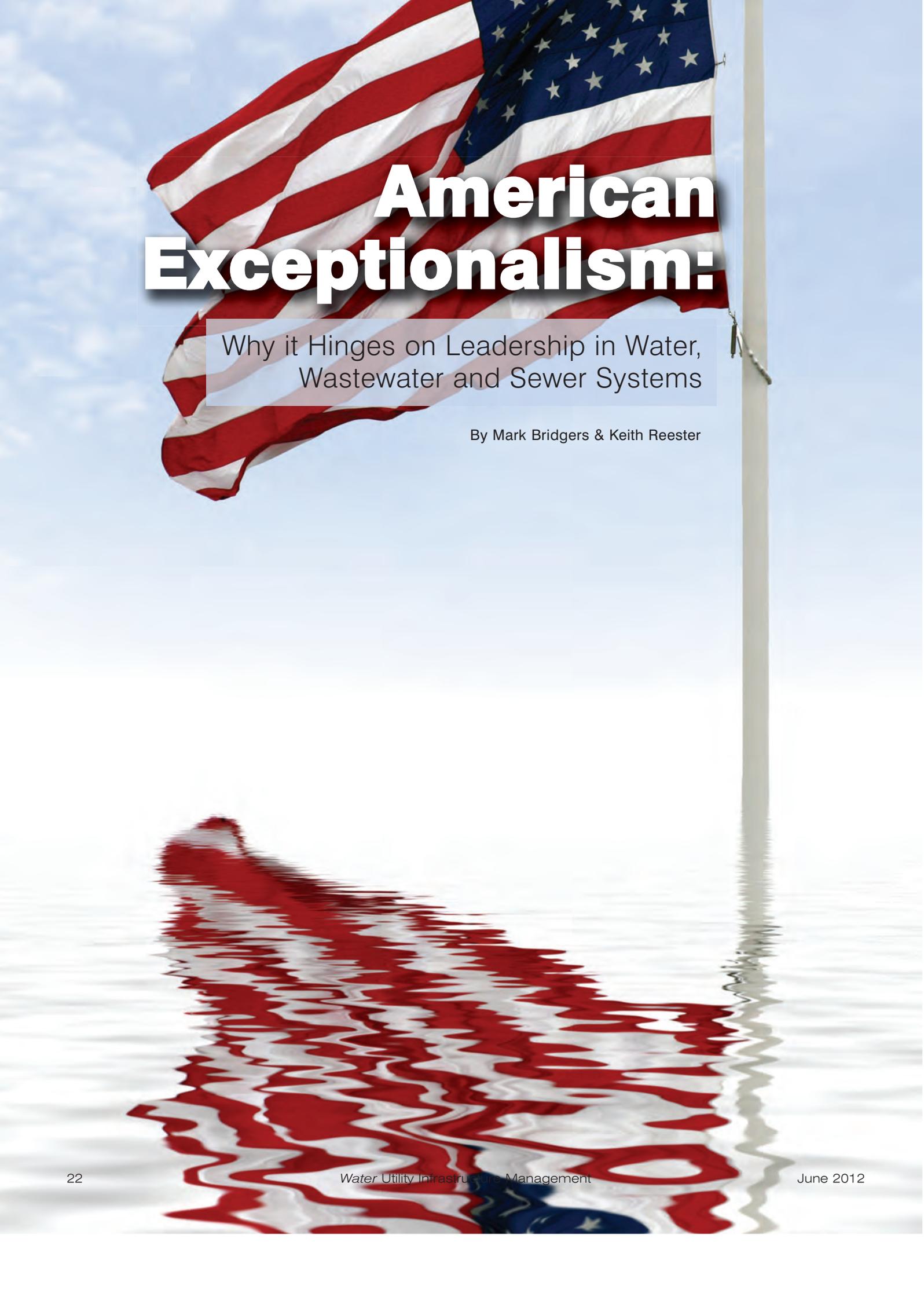
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An American flag is shown waving in the wind against a clear blue sky. The flag is positioned in the upper half of the frame. Below the flag, the water surface is calm, creating a clear reflection of the flag's colors and stripes. The reflection is slightly distorted by the ripples on the water. The overall composition is clean and patriotic.

American Exceptionalism:

Why it Hinges on Leadership in Water,
Wastewater and Sewer Systems

By Mark Bridgers & Keith Reester

The next era of “American Exceptionalism” hinges upon clean water access and effective wastewater management. America’s prosperity is based in part upon the leadership demonstrated by forward thinking capital asset owners, American entrepreneurs and farsighted government leaders in the water, wastewater and sewer markets. Will we enter the next generation of “American Exceptionalism” or fall behind competing nations?

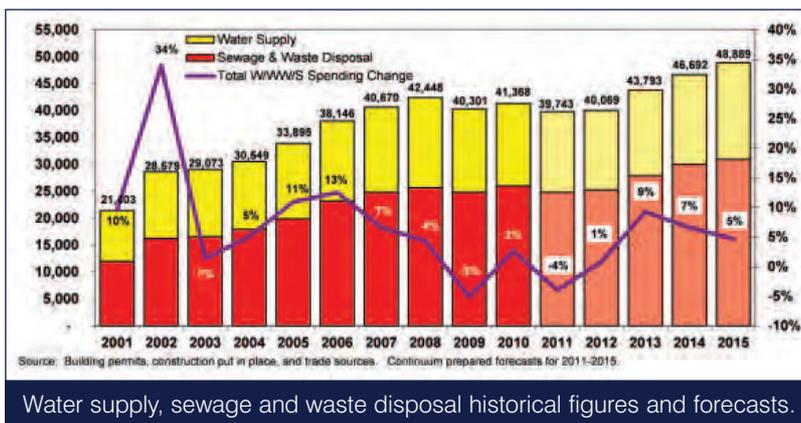
Elected officials and senior staff at public agencies can meet the leadership challenges taking a proactive versus a reactive stance in three critical areas: strategic planning mechanisms, financing mechanisms and stakeholder collaboration. Their leadership will not only deliver clean water and effective management of wastewater, it will result in the next era of “American Exceptionalism.”

Overview

Clean water access and wastewater management are a source of American competitive advantage. The lack of spending on maintenance and upgrades over the previous 40 years eroded this advantage. Looking forward, many capital constrained water, wastewater and sewage systems face empty municipal and state coffers, tight bond markets and low rates or fees. In addition, a long running conflict between who writes and pays for regulations continues. Richard Anderson, representing the U.S. Conference of Mayors, said, “The Federal government, (Congress and the relevant Federal Agencies) has performed one of the most sophisticated acts of avoiding responsibility for the policies it has imposed on the nation’s cities...the Federal government has abdicated its role as ‘partner’ in this effort...Congress has taken the position that achieving the goals of the water laws is not a federal responsibility.”

There is no short-term fix for the operational and funding weaknesses facing water, wastewater and sewer systems that doesn’t include higher rates and use fees. This weakness is demonstrated in a dramatic reduction in water supply capital construction spending since 2008, with limited prospects for improvement until 2013 (Figure 1). Sewage and waste disposal demonstrates a less severe spending reduction since 2008 as well as faster recovery, due in part to mandated work. Growth in spending is not sustainable beyond 2013 without faster economic growth that is not expected until after 2015. This market cannot resolve its organizational, financial and structural challenges without a paradigm and leadership change.

In the early 1900s, political and agency leaders as well as entrepreneurs across the U.S. faced a different challenge. Economic and industrial growth requires a healthy workforce and robust education system, both of which are impossible without clean water and sanitation. Prior to 1930, widespread cholera and disease outbreaks often laid waste to communities, impeding growth and prosperity. U.S. history is replete with cholera outbreaks annually until the 1920s, by which point the disease was largely eradicated in the continental U.S. A similar need for farsighted and economic leadership faces the U.S.



Water supply, sewage and waste disposal historical figures and forecasts.

today and while the challenges are different, they are no less critical. American prosperity is again at stake.

One example of this challenge comes from Manchester, N.H. According to Guy Chabot, distribution engineer at Manchester Water Works, “a cap blew off the back of a cross on the water main, before water gushed up on the left side of the subcompact, trapping it on a live gas main. The 110-year-old main broke due to fatigue.”

This example is all too frequent in mid-western and northeastern cities where infrastructure is oldest. While dated, Figure 2 demonstrates that 60 to 80 percent of all sanitary sewer lines were installed prior to 1980. With a design life of 30 to 50 years, nearly all of this infrastructure is at the end of its useful life. The magnitude of the leadership and financial challenges are significant.

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In the case of Manchester, at the current replacement schedule, the city will not have removed the oldest and most likely to fail pipe until 2050.

American competitiveness includes protecting and invigorating our infrastructure. It is no easy task, and the underlying role of individual and community leadership is essential. The changing role of leadership, both locally and nationally, to address basic infrastructure in lieu of “quality of life” expenditures is at the heart of the challenge.

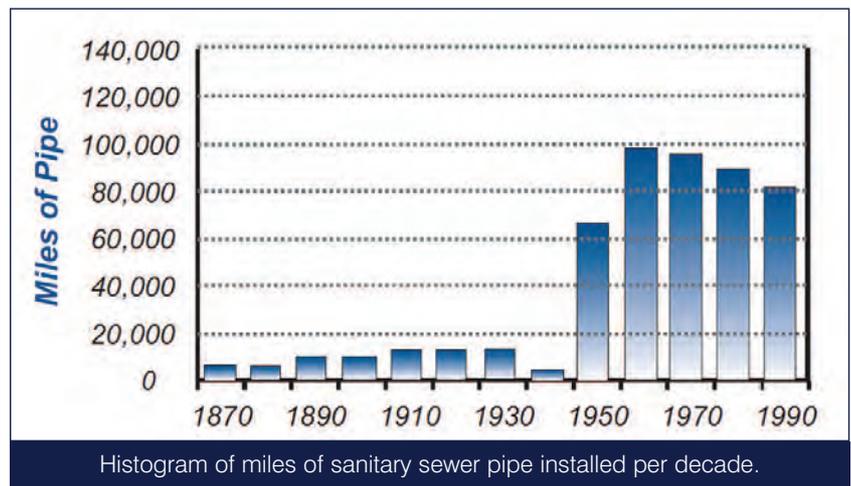
Frequently, underperforming infrastructure systems are caused by deferred maintenance, underinvestment and lack of long-term leadership. National research and our collective experiences demonstrate that three essential aspects of proactive and visionary leadership are necessary.

Strategic Planning Mechanisms

Water and sanitation infrastructure is unseen unless sewage backs up into a basement or a road bubbles with a line leak. Nearly every citizen and business takes for granted that the showerhead will come on and the other end will flow somewhere out of sight. This perception leads to a laissez-faire attitude about long-term strategic planning for these communities. In the last ten years, industry advances in assessing infrastructure quality with digital scanning, remote inspection, accurate mapping and ability to locate all of a utility’s assets is truly a dramatic advance. Many utilities have failed to use these tools for critical strategic planning for both maintenance and system upgrades.

The solution to this position is to layout both short and long-term plans with a fiscally unconstrained baseline plan for evaluation of options. Leaders, either elected or appointed, often shy away from plans showing massive dollar investment. It’s much easier to reactively manage and leave the big questions for some future official. Owning the leadership opportunity is key to moving ahead. Laying the groundwork with an unconstrained baseline plan with an overlay of a constrained plan based on existing rate structures is necessary. This provides the framework to discuss essential life-safety work and other priorities as well as opening the door to financing the future.

In Jefferson County, Ala., the utility has spent over \$3.2 billion since 1994 seeking to overhaul its aging sewer infrastructure. The plan was originally forced on the county after local interests sued over sewer overflows into local waterways. In response, the county sought to develop a plan to address the issues with only \$1 billion going into the ground for pipes. Today, after that investment, the county still stands at the doorstep of Environmental Protection Agency (EPA) sanctions for continuing sewer overflows, including a 280,000 gallon spill in late 2011. Failure to develop plans to address infrastructure and inadequate rates has led to an agency trying to undertake planning and financing at the point



of a bayonet. Owning the success of the system through strategic planning can put utilities in a solid position to tackle the challenges ahead.

Financing Mechanisms

Paying for infrastructure is tough and no one wants higher rates, especially if they have been artificially managed down by deferring maintenance. In Loveland, Colo., the storm water system faces such a challenge. Like many growing communities in the 1980s, the city came under the regulatory framework of the National Pollutant Discharge Elimination Systems (NPDES) regulations of the EPA. With this change, the community stepped up analysis, planning, education and enforcement of storm water management for both its own operation and the private sector. The resultant effort created a storm water utility and strategic plan, formally adopted in 1986. Although the agency has continued to provide award winning service, projects and flood mitigation, flat rates since 2002 are due to a lack of political will. The effect is an unattainable master plan, with the current timeline for completion of the elements of the original 1986 plan now stretched to 2060. Many of the identified but unaddressed improvements are life-safety issues for the protection of people and property. The best laid plans can run afoul without proper funding.

The solution lies in a national commitment to infrastructure support and maintenance. Between 1910 and 1930, a widespread investment in water and sewer systems in the United States took place (Figure 2). This effort was typically 80 percent funded by federal government grants. The federal government played an appropriate role of supporting local communities by building competitive advantage that served the nation as a whole. Today the burden of water and wastewater investment falls mostly to local governments and rate payers. Just as in 1920, many of these communities are ill equipped to find quality loan products and the political willpower to fund strategic investments. States and federal agencies must assist through mechanisms like infrastructure banks that can help local utilities make quality improvements. One frequent paradigm today is the regulatory and penal intervention state and federal

agencies tend to take with communities versus investment in strategic efforts.

Collaboration Among Stakeholders

Quality infrastructure underlies every job in America. Every elected community leader seeks to create jobs and economic development for their citizens, but the investment in quality infrastructure often plays second fiddle to incentives for business attraction. Talk with any business leader seeking to site a new facility and they will identify three essential features:

1. Access to markets (roads, rail, water or air).
2. Quality workforce.
3. Quality utilities and reasonable costs (water, power, wastewater and communications).

Communities providing essential infrastructure are poised to attract and retain jobs and out-compete those that do not. Often communities get a hint of a potential employer seeking a site and the crux of the discussion comes down to what can be done to improve infrastructure. This is an area the utilities have been sorely lacking in understanding. Very often utilities are disconnected from the communities they serve, worrying about their needs and often missing the big picture of community goals for growth and quality of life.

A 2011 citizen-based initiative in Boulder, Colo., sought to abandon Xcel energy as their community utility because citizens and businesses saw Xcel as unresponsive to community interests of an expanded "green portfolio." Xcel spent in excess of \$1 million to fight the initiative, while estimates put the cost of Boulder actually buying Xcel's assets and forming a utility at between \$200 million and \$1 billion. The initiative passed removing Xcel, including a rate increase to pay for the investigation of the change.

Collaboration with communities is essential to utility success. Very often rate payers, and thus political leaders, act surprised by necessary rate increases to make key investments. This is not surprising and is typically the way of community decision making in America. Progressive utilities will seek to assess their community value and partner with communities they serve. Planning with local economic development leaders on the role a utility plays in attracting and retaining jobs is essential to community growth and underlies a utility's ability to charge appropriate rates and manage their system. Don't wait for communities to come calling. Be a leader in bridging the collaboration gap.

Conclusion

Clean water access and effective wastewater management serve as a pivot through which the next age of "American Exceptionalism" will originate. This segment is also where the greatest leadership challenges lie.

In his speech on Sept. 12, 1962, at Rice University in Houston, Texas, President John F. Kennedy articulated, "We choose to go to the moon in this decade and do the other things, not because they are easy, but because

they are hard, because that goal will serve to organize and measure the best of our energies and skills, because that challenge is one that we are willing to accept, one we are unwilling to postpone, and one which we intend to win."

This level of challenge, vision and leadership is necessary in the water, wastewater and sewer markets in the U.S. Not because it is easy, but because it is hard. A new generation of farsighted elected officials and senior public agency staff are required in the water, wastewater and sewer sector to meet these leadership challenges. America has met this type of challenge before and can do so again by applying effective Strategic Planning Mechanisms, Financing Mechanisms and Stakeholder Collaboration.

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