Not Everything Is Broken: A “More Nuanced and Challenging” View of US Infrastructure
G. Tracy Mehan III

A review of Not Everything is Broken: The Future of US Transportation and Water Infrastructure Funding and Finance
Debra Knopman, Martin Wachs, Benjamin M. Miller, Scott G. Davis, and Katherine Pfrommer

The authors of this RAND Corporation report on America’s infrastructure take a divergent, if not outright contrarian, view of the water industry’s current situation, dissenting from the common view that it is “crumbling” before our very eyes. Full disclosure: this writer was a “critical reviewer” of this “self-initiated research,” part of the RAND Infrastructure Resilience and Environmental Policy Program.

RAND is a global policy think tank created in 1948 by Douglas Aircraft Company to offer research and analysis to the United States Armed Forces. Today it is financed by the federal government, a private endowment, corporations, universities, and private individuals. It is known for its problem-solving capabilities in a variety of public policy areas.

“In fact, not all transportation and water infrastructure in the United States is falling apart—far from it,” write Debra Knopman, Martin Wachs, Benjamin M. Miller, Scott G. Davis, and Katherine Pfrommer in Not Everything Is Broken. “While highway, bridge, and water system maintenance backlogs exist in many places, the data do not support a picture of precipitous decline in total national [as opposed to ‘federal’] spending or in the condition of the assets. Rather, the U.S. infrastructure story is far more nuanced and challenging.” Indeed, “the perception that U.S. infrastructure needs are not being met, which animates so much of the debate over spending, requires examination.”

The RAND authors observe that “Total public spending on transportation and water infrastructure in constant dollars as a share of the U.S. GDP has been remarkably stable since 1956. Private funding in these areas of infrastructure is less than 3% of the total, nearly all of which is for rail.” Nevertheless, “When federal spending has declined, state and local governments often have picked up the slack.”

As the RAND report notes, “By the end of 2016, municipal bond issues were at the highest levels ever, more than double levels in 1996. . . . Capital spending by water and wastewater utilities declined after the 2008 financial crisis but has been rising since.”

According to the Congressional Budget Office, state and local governments have picked up the majority of the burden, and this spending “has risen steadily since at least 1956.” In 2014 it accounted for 62% of capital expenditures and 88% of operations and maintenance (O&M) spending for transportation and water infrastructure.

Federal spending patterns have changed little in six decades, even while the US economy and population has “nearly doubled,” according to the authors. “Federal spending on water utilities . . . peaked in the mid-to-late 1970s when it required local governments to build more advanced wastewater treatment plants to reduce pollution into the nation’s waterways in compliance with the Clean Water Act.” Of course, that spending was accelerated by a robust grants program, long gone, that was never available to the drinking water sector.

The authors claim that, to the extent that demand for more and better-maintained infrastructure is “outstripping” supply, “we hypothesize that this is a symptom of pricing and other policies in need of change, as well as local economic conditions.” While they acknowledge the need to provide for low-income households, water systems “cannot afford to run in the red and defer maintenance and repairs.” They cite the case of Chicago, Ill., which doubled its water rates between 2010 and 2015 to speed up pipe replacement. By June 2017, water in the Windy City cost $3.88/1,000 gal, less than half a penny per...
gallon. A gallon of bottled water costs about $2.10—500 times more than water at the tap. “The average monthly water bill for a family of four in major U.S. cities ranges between $25 and $150,” state the RAND authors.

Knopman et al. report that industry analysts project spending in the water and wastewater sector alone will exceed $532 billion over the next 10 years, a 28% increase over the previous decades. “If this new spending materializes at a rate of around 2.5% annually above inflation, spending shortfalls in the water sector projected by the American Society of Civil Engineers (2013) and others will largely disappear.” ASCE estimated that there exists a $2.1 trillion gap between spending and “need” for transportation infrastructure and a $2.57 trillion gap for water infrastructure for 2016 through 2025. Readers of this journal will recall that AWWA’s Buried No Longer report (AWWA WUC 2012) posited a trillion-dollar need for “buried drinking water infrastructure,” alone, over the subsequent 25 years. So this claim may need qualification. Basically, the RAND authors are unimpressed by most need assessments, for methodological reasons regardless of whether developed by the US Environmental Protection Agency, the ASCE, or AWWA.

State and local governments account for 96% of spending on water utilities. While the federal government was responsible for 40% of capital spending for both transportation and water infrastructure in 2014, it only covered 12% of O&M. By conscious policy, the federal government has always emphasized capital expenditures and remains unconcerned with lifecycle O&M costs, a condition the RAND authors want to change.

The essential point is that “Local governments pay for over 95% of drinking water, sewer, and stormwater infrastructure, with states making up most of the difference.” This local spending is largely in the form of tax-exempt bonds. The authors, not unlike the US Treasury Department, display skepticism toward this common funding mechanism, not found in most other countries. They view it as inefficient, a disincentive to private investment, and favoring high-income investors. They do, however, recommend keeping it in place for another 10 years to allow experimentation with more creative financing mechanisms, including a reintroduction of Build America bonds. These bonds are subsidized in such a way as to induce public pension funds, for instance, to shift investments from overseas; as tax-exempt institutions themselves, they do not benefit from tax-exempt investments or bonds. This may be the part of Not Everything Is Broken that could affect AWWA members most, given that municipal bonds are the instrument of choice for most public utilities.

Knopman and her co-authors offer numerous other recommendations to deal with the kinds of infrastructure challenges of the day and “support the mature and urban-centered economy that the United States has now—rather than the economy it had decades ago, when most of the current federal engagement was set.”

The authors urge mileage-based fees to support the flagging Highway Trust Fund. They counsel against using “shovel-ready” as the metric for prioritizing federal investments. This is not strategic and distorts actual priorities over time. They also argue for the federal government conditioning all future infrastructure investments by requiring life-cycle cost analysis and sustainability with necessary pricing and cost-recovery components. Moreover, federal investment in federal facilities and installations needs to be prioritized and systematically funded. Congress should require that each agency report on its estimate of funding needs over the next 25 years to sustain the infrastructure under its jurisdiction.

The federal government should also make resilience to natural disasters and adaptation a condition of any capital spending—e.g., to protect against rising sea levels and flooding. Permitting, especially multi-agency permitting, should be streamlined. In addition, the US Army Corps of Engineers and the US Bureau of Reclamation should be consolidated into an integrated national water agency. Also, Congress should support state and local governments in developing common standards for structuring public-private partnerships. Finally, “Congress should place some big bets on research, development, and deployment of new technologies to support infrastructure construction and maintenance.”

Not Everything Is Broken is a treasure trove of useful data, penetrating insight, and recommendations, many of them challenging to the transportation and water sectors. It is well worth the reader’s time to engage its impressive analysis and policy prescriptions for enhancing the nation’s critical infrastructure.

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