

Special Report

Investing in America's Public Water Systems — Making Public-private Partnerships Work



INTRODUCTION



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The U.S. public water system needs a massive, long-deferred investment if it is to meet the needs of a growing population. Neither the public nor the private sector alone is up to the challenge, but a growing number of public-private partnerships is providing a template for how government and business together can help build, renovate and maintain the water infrastructure America desperately needs.

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Aging pipes are crumbling unseen beneath our feet, but all too often the public and the officials they elect are more interested in quick fixes that keep rates low than in long-term solutions that can be extremely costly in the short run. Over the years, well-intended funding schemes have made matters worse by creating misguided incentives. And partly as a result of infrastructure neglect, an estimated \$1 trillion will be needed over the next 25 years simply to ensure that everyone in the U.S. continues to have access to clean, fresh water.

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Confronted with ballooning debt, consent decrees and the huge cost of updating and maintaining aging infrastructure, a growing number of municipalities are partnering with private companies to finance and manage needed improvements to their water systems. These public-private partnerships (P3s) take different forms, distinguished primarily by the duration of the partnership, the nature of the financing and the sources of revenue. All parties can benefit when key elements are addressed.

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Bayonne, N.J.: Already struggling before Hurricane Sandy hit, the city of Bayonne entered a joint venture partnership with Kohlberg Kravis Roberts and United Water soon after the storm. While the city maintains ownership and the control of user rates, the agreement eliminates existing municipal debt and improves both the water authority's finances and Bayonne's credit rating.

Rialto, Calif.: Struggling to meet underfunded pension liabilities and ensure the health and longevity of its water system, Rialto entered into a 30-year public-private partnership agreement with Veolia Water as the operator and Ullico as the lead finance partner. The agreement settles the city's water-related debt, provides a significant cash infusion upfront and commits to major capital improvement projects.

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While few expect the U.S. to follow Canada's aggressive support of public-private partnerships (P3s), there are promising signs that the government is moving forward. The recently enacted Water Resources Reform & Development Act (WRRDA) features several measures intended to accelerate and streamline P3s, while also offering low-cost federal loans. A proposed new bond program would make P3s easier to organize, as would a new inter-agency water center focused on education and training.

SPONSORS

This Initiative for Global Environmental Leadership (IGEL) and Suez Environnement have partnered to create this special report.



America's Neglected Water Systems Face a Reckoning

CLEAN, SAFE DRINKING WATER has been available for so long in the U.S. that no one thinks twice about filling a glass of water at the kitchen sink or flushing a toilet. Indeed, for most people the shock would be if any of these conveniences failed to function. But the very longevity that has bred such faith in America's water systems now threatens its future. Vast networks of underground pipes, often dating back to the 19th century, are nearing or are already past the end of their useful lives. But unless a water main breaks or a street caves in, it is all too easy to ignore the invisible infrastructure slowly crumbling beneath our feet.

Such emergencies are growing increasingly frequent. The American Society of Civil Engineers' "2013 Report Card for America's Infrastructure," which gave the nation's water infrastructure a "D+" grade, reveals that there are an estimated 240,000 water main breaks per year in the U.S. The Center for Neighborhood Technology in Chicago estimates that approximately 6 billion gallons of water could be wasted in the U.S. every day.

Less obvious but at least as troubling, is that 7 billion gallons of water are leaking out of aging pipes every year, said Patrick Cairo, senior vice president for corporate development at Suez Environnement. Water-issues site Growing Blue lists U.S. cities with the worst leakage problems between 2000 and 2010: Atlanta came up on top, with 31.4% of water lost, followed by Cleveland at 28.7%, Philadelphia at 26.5%, Pittsburgh at 26%, Detroit at 15.9% and New York City at 14.2%.

"The bottom line is that we're not investing in our underground infrastructure," said Cairo. "Hundreds of billions in water and sewer improvements are not being made." As a result of this neglect, a million miles of underground pipes need to be replaced, according to a

2012 American Water Works Association (AWWA) report entitled "Buried No Longer: Confronting America's Water Infrastructure Challenge." The cost of repairing the existing damage and keeping up with ongoing maintenance is staggering. "Restoring existing water systems as they reach the end of their useful lives and expanding them to serve a growing population will cost at least \$1 trillion over the next 25 years," according to the AWWA report. Through 2050, the costs escalate to \$1.7 trillion, or \$30 billion annually. Looking at recent history, it is difficult to imagine municipalities shouldering this burden on their own.

"The bottom line is that we're not investing in our underground infrastructure."

— Patrick Cairo

HOW WE GOT INTO THIS MESS

"The people who wrote the Clean Water Act made some very good choices," said Richard Anderson, a senior advisor at the U.S. Conference of Mayors and managing director of the Mayors Water Council. One of the best aspects of the 1972 Act was that it "gave teeth to a federal agency to create a regulatory regime to force water quality improvements," he noted at a recent Wharton conference, "Investing in America's Public Water Systems — Making Public-Private Partnerships Work." But the Act was also flawed, Anderson said. "It focused all the investment on the capital side — it was all for construction. And the systems have to be operated, not just built." Anderson called this narrow focus "the single most important blunder" of the Clean Water Act, because "it created a mindset, which is

now a legacy impediment to considering other types of models.”

The problem was that within 10 years, the majority of money that local governments were spending on water infrastructure was going to operation and maintenance. As a result, the repair and replacement of pipes and facilities were neglected. “We have a balkanized network of 58,000 water systems and 1,600 water treatment plants with three million miles of pipe, and it’s expensive to run it,” Anderson said.

Compounding this problem was the fact that Congress switched from grants — which funded up to 75% of water infrastructure — to loans, specifically state revolving funds. The change meant that local communities were now responsible for 100% of projects costs because they are required to repay the loans. The result was that some cities and town spiraled toward a water crisis.

Federal agencies can be of some help to municipalities with water problems, said Patrick Sabol, a senior policy and research assistant with the Metropolitan Policy Program at the Brookings Institution. However, in the U.S. it is a local endeavor with far less federal involvement than in neighboring Canada. And localities, with other funding priorities and not enough political buy-in, are hard pressed to come up with the revenue streams necessary to both operate and maintain their water systems.

Many experts also believe that municipal water systems have been systematically underfunded, in part because raising rates is unpopular politically, and elected officials often serve short terms. The result is a water-consuming public not accustomed to shouldering the full cost of the resource. The absence of pay-ins from consumers and other users is one reason many municipalities have turned to public-private partnership (P3) agreements.

“People think that water should be free. My response is that if you’re in Washington, D.C., you can go down to the Potomac with your bucket, carry the water home, treat it, and when you’re done figure out a way to dispose of it,” said Janet Kavinsky, executive director of transportation and infrastructure at the U.S. Chamber of Commerce. “It’s hard to convince people that these things cost money, which is why it’s hard to get investment in water infrastructure.”

James Hagan, a former EPA official who is now a lecturer in the earth and environmental science department at the University of Pennsylvania, said at the Wharton conference that “nobody wants to pay for water — they see it as a basic human right. But as a cost-effective approach to public health, nothing beats water treatment.”

“The notion that there’s an inherent right to water makes investment challenging,” agreed Will Sarni, a director at Deloitte who had previously led the environmentally themed consulting company Domani.

Complicating all this is that municipal assets like the public water supply “have historically been defined along political lines, but political borders mean nothing in a global economy,” said Eric Orts, the director of Wharton’s Initiative for Global Environmental Leadership (IGEL) and a law professor at the University of Pennsylvania, at the conference. “With water, we have more than 50,000 separate municipal systems, and we need to look across these artificial borders created 200 years ago to make alliances. And that can mean redefining the intersection of the public and private sectors.”

To help fund the infrastructure upgrades now required, the AWWA report said that “the typical three-person family could see its drinking water bill increase as much as \$550 per year above current needs.” That could be a bit of a shock to a nation accustomed to low water bills — typically less than \$3.75 for every 1,000 gallons of delivered drinking water, AWWA said. The best way to avoid such shocks is to be proactive, Hagan said. As the deputy administrator for the District of Columbia Water Resources Management Administration in the early 1980s, Hagan said that taking a preventive maintenance approach to running water plants paid big dividends in the long term, with far fewer emergency main breaks. The more predictable approach was not popular with work crews that preferred the excitement and local press coverage that came from a “firefighter response” to sudden crises.

A PUBLIC TRUST

To be sure, municipal water management by private companies in the U.S. is not a recent endeavor. Many cities and towns eventually reach crisis points with their water infrastructure, and this is often when public private partnerships are adopted. According to Tim Carden, managing director of the PFM Group, the largest U.S. public finance advisory firm, “public officials have too much on their plates, and that contributes to the deplorable state of public infrastructure. It can be difficult to assign priorities when highways and water systems are competing for funding.”

Jim Kennedy, a consultant and former mayor of Rahway, N.J. who served from 1991 to 2010, said that when he took office the city was under a cease-and-desist order to shut down the malfunctioning water utility. “There were 22 polluters in the system,” he said, “11 permitted and 11 not permitted.”

Kennedy is clear about the cause of Rahway's infrastructure problem. "Water policy was in the hands of the City Council and the representatives couldn't muster the political fortitude to raise rates, which were among the lowest in New Jersey at that time," he said.

Rahway's decision to enter into a P3 with United Water, finalized in 1999, was unpopular with some locals and with advocacy groups such as Food & Water Watch, a national watchdog group, but Kennedy is convinced it was the right thing to do. "Without a doubt, I'm convinced of the value of public-private partnerships," he said. "It's been tremendous for the community, with more than \$1 million per year in savings. The operation is simply more efficient. At one point the municipal water system had 40 employees; now it has 16 with better service."

Critics say it isn't that simple. "Responsible public ownership is the best way to ensure safe and affordable water service," said Mary Grant, a researcher with Food & Water Watch. "Privatization is irresponsible, because it is abdicating control over a vital public resource." The group also charges that the involvement of P3s leads to higher rates for consumers.

To be sure, municipal water management by private companies in the U.S. is not a recent endeavor. "Private firms dominated U.S. water supply throughout most of the 19th century," wrote Scott Masten, a business professor at the University of Michigan in a 2011 paper for the *Journal of Law, Economics and Organization*. There were 16 waterworks operating in the U.S. in 1800, and only one was public. Masten reports that by 1970, 80% were publicly operated. "Frictions between cities and private companies over system extensions and improvements played a significant role in the shift to municipal ownership," he said.

The National Association of Water Companies reports that almost 73 million consumers — about a quarter of the U.S. population — are currently being served with help from a private company, so in some ways water is simply going back to its history. "Not every private provider has delivered on promises of reduced rates," *The Wall Street Journal* said in a 2012 story. "But to governments strapped for cash, the option is seen as increasingly attractive." ■



Making the Most of Public-private Partnerships

IT MAY NOT BE COMMON KNOWLEDGE, BUT PRIVATE COMPANIES HAVE BEEN HELPING CITIES MANAGE PUBLIC WATER SYSTEMS FOR SOME TIME. According to the National Environmental Services Center, a process known as design-bid-build is the traditional method employed by water utilities throughout the U.S. Under this process, a municipality hires an engineering firm to design a water project, puts the project out to bid and chooses a private contractor to build the plant. The local water authority may choose to run the plant itself or hire yet another private firm to operate and maintain it.

Private companies can “get you savings of 15% to 30% on operation and maintenance overnight.”

— Richard Anderson

But what typically happens in all these cases, is that the city “fragments the work, controls all of it and takes all the risk,” said Patrick Cairo, senior vice president for corporate development at Suez Environnement. So if any aspect of the work is faulty, the city has to pay to fix it, he added. Cities have traditionally taken on the financial risk as well, often by issuing tax-exempt municipal bonds.

Over the past 25 years, however, a new kind of partnership has developed in which the public and private sectors share the risks and rewards involved in building, maintaining and operating public water systems.

A HANDY TOOL

Public-private partnerships (P3s) have grown increasingly common in several countries, especially Canada and the U.K. In the U.S., the federal government has helped P3s play an important role in the transportation sector. But according to Cairo, the use of P3s is relatively new for water and sewer projects in the U.S.

Tim Carden, managing director of PFM Group, said that although there was “a lot of activity before 2008, few large deals were closing.” Mayors and other local officials didn’t know enough about P3s at that point and state legislatures had not yet created the necessary statutory framework. During the Great Recession, P3 deals started losing ground, he said. But as financial markets have recovered, so has interest in P3s. Indeed, Cairo estimates that today close to 50% of all water construction projects are design-build, a process in which one entity under a single contract designs and builds the project.

Richard Anderson, a senior advisor at the U.S. Conference of Mayors and managing director of the Mayors Water Council, offers two reasons for the growing interest. The first is the ballooning debt burden many cities are now facing. With more than \$1.7 trillion in long-term debt already on the books, and pension liabilities surging, cities are hard pressed to finance badly needed capital improvements for water systems. Private equity would not only help fund these projects, it could even help take existing debt off a city’s balance sheet, thereby strengthening the municipality’s credit rating and lowering its cost of capital for other vital services, he said. (For an example of this, see the accompanying case study of Bayonne, N.J.).

Regulatory compliance is the second driver, Anderson said. A private company or consortium can help a city complete the work demanded by a consent decree within the time specified, and it can also assume the risks involved by

guaranteeing that the work will be successfully completed for a fixed price.

Even without financial or regulatory crises, advocates of P3s cite the positive role private companies can play in long-term planning. The enormous cost of making up for deferred maintenance suggests that neither residents nor local politicians are disposed to think much about the future of water infrastructure. Private companies, on the other hand, routinely develop long-range plans and are accustomed to profiting from long-term investments.

Private companies can also achieve far greater efficiencies than municipalities. According to Anderson, private companies can “get you savings of 15% to 30% on operation and maintenance overnight.” In Nassau County, N.Y., the P3 contract required United Water to save the county a minimum of \$10 million a year. In its first year, the company delivered \$12 million in savings.

MANY MODELS OF P3s

The key distinctions of P3s are the duration of the partnership, the nature of the financing and the sources of revenue.

Design-Build (DB): A private entity can take full responsibility for the design and construction of a project based on the requirements of the public utility. In such design-build arrangements, the private sector assumes only the risks inherent in this first phase. Once the construction work is finished, the public sector assumes responsibility for operating and maintaining the system.

Operate and Maintain (O&M): A municipality may choose to handle the design-build part of a project itself, but have a private partner assume responsibility for operating and maintaining the system. Such O&M arrangements are typically long-term, often lasting decades.

Design-Build-Finance-Operate and Maintain (DBFOM): This is a far more inclusive deal, in which a private consortium takes responsibility for every phase of a project, including the financing. While one company takes the lead and assumes “wrap-around responsibility,” many private firms are involved.

A concession agreement: What distinguishes a concession agreement from other contractual arrangements is that the private sector partner collects revenue directly from those who use the system, usually in the form of fees paid by residents.

In practice, the permutations of these basic models is nearly endless. What is common to all of them is the

sharing of risk and reward among private and public partners. Two large, groundbreaking DBFOM deals — in Bayonne, N.J. and Rialto, Calif. — are covered elsewhere in this report. But simpler P3s are also common.

In Nassau County, long-term neglect had left the Bay Park Sewage Treatment Plant needing \$300 million simply to bring it up to code. That was before Hurricane Sandy hit and knocked the plant offline. The importance of a functioning plant became painfully evident very quickly. People were forced out of their homes, said Michael Martino, a county employee at the time and now manager of communications and community relations at United Water. “Two sections of street were literally blown open,” he explained, and 16 noisy generators had to be brought in to help get the plant back in service. The generators ended up running continuously for two years.

As a result of the devastation, the cost of rehabilitating the plant nearly tripled, growing from \$300 million to more than \$800 million. The Federal Emergency Management Agency (FEMA) agreed to provide most of the needed funds, with the state and county making up the difference.

The FEMA money enabled the county to bring the plant back on line, but it did not fund the ongoing operation and maintenance (O&M) that everyone now saw as critical. To that end, the county signed a 20-year P3 agreement with United Water to operate and maintain the Bay Park facility. The company will continue to make improvements over the two decades in return for a fixed fee that Martino said is significantly lower than the county would otherwise pay.

ELEMENTS CRITICAL TO SUCCESS OF P3s

Public officials need to understand what P3s can accomplish and how to evaluate whether a partnership is appropriate in a given situation. Several groups are currently offering help to those who want it, including the Metropolitan Policy Program at the Brookings Institution, the Mayors Water Council at the U.S. Conference of Mayors, the National Governors Association and the West Coast Infrastructure Exchange.

P3 authorizing legislation, already enacted in 25 states, protects against last-minute legislative roadblocks. According to Patrick Sabol, a senior policy and research assistant with Brookings’ Metropolitan Policy Program, such legislation removes a major risk factor and is therefore key to attracting private partners.

A P3 that is nothing more than a stopgap measure is unlikely to succeed. A public-private partnership should

not “just lengthen the fuse before a liability blows up,” said Sabol. It should enable local governments to reallocate resources in ways that improve the delivery of core services to the community, as in Bayonne, Rialto and Nassau County, among many others.

If local communities are not included in the development of P3s, they are likely to oppose them. Residents often fear that profit-motivated companies will shortchange the public by underperforming, overcharging and then drain the local economy by eliminating jobs.

The practical answers to these concerns can vary — the local workforce can be reduced over time by attrition, thus preserving current employees’ jobs, and solid contracts can guarantee that work will be accomplished and rates kept at reasonable levels. But unless residents feel that their concerns are being heard and satisfactorily addressed, few answers will soothe public opposition.

In Nassau County, United Water “sat down with some 17 environmental groups,” said Cairo. “We asked them, what do you want to accomplish?” The discussions lasted for two years and covered a range of problems, everything from foul odors and ground water contamination to job losses and inland bay nutrient pollution. He said possible solutions were presented and reviewed until all concerned agreed that a suitable plan had been developed.

Just before the final contract was to be voted on last July, Emily Wurth, director of the water program at Food & Water Watch, warned voters that no good would come from the P3 being proposed. But local environmental leaders spoke up. Adrienne Esposito, executive director

of Citizens Campaign for the Environment, said, “we believe a professional contractor, with community and county oversight, is the best safeguard for protecting public health, our groundwater and our waterways.” In response to Food & Water Watch, she added, “they don’t live here. The county does not have the capability to treat wastewater.”

The contract was approved by the Nassau County Legislature, the Nassau County Interim Finance Authority (NIFA) and signed by County Executive Edward Mangano in September 2014.

THE FUTURE OF P3s

While P3s have been growing judiciously in the U.S., the private sector’s appetite for these deals is not boundless. “In gross terms, P3s are just a drop in the bucket,” said Carden. “If P3s were meeting 10% of a given country’s infrastructure needs, that would be a lot.”

“These public-private partnerships are alternately framed as a panacea to all of America’s infrastructure challenges or a corporate takeover of critical public assets,” write Sabol and Robert Puentes in “Private Capital, Public Good: Drivers of Successful Infrastructure Public-Private Partnerships.”

“In reality, they are neither. A well-executed [P3] is simply another tool for procuring or managing public infrastructure — albeit a new and increasingly popular one.”





A Tale of Two Public-private Partnership Cities

JOINT VENTURE LIFTS BAYONNE, N.J.'S WATER FINANCES

In 2012, Hurricane Sandy hit hard in the working-class port city of Bayonne, N.J., flooding east side industrial areas and the former Military Ocean Terminal. Water from Newark Bay swept through six Public Service Electric and Gas Company (PSE&G) switching terminals, and cut power to the whole city. Many long-time residents, who had lived through numerous storms, said they had never seen one so devastating.

Bayonne, with a population of more than 60,000, was struggling even before Sandy, but the storm made it all the more difficult for the city to address its water woes on its own. The city was buying 17.6 million gallons of water per day from the North Jersey District Water Supply Commission, but only using half of it.

The water came from reservoirs 50 miles northwest of the city, delivered through an outdated aqueduct in need of frequent repair that the city could ill afford. Like many other cities, Bayonne had deferred maintenance on its water systems. Its excessive debt burden led to a poor credit rating that made further borrowing more expensive.

Patrick Sabol, a senior policy and research assistant at the Metropolitan Policy Program of the Brookings Institution, said that ideally, “Bayonne should have been able to get it together, but the reality is they couldn’t take on new debt, even at high cost.”

Bayonne’s sewer system, pumping an average of 8.3 million gallons of wastewater daily, had similar challenges, including outdated infrastructure and outfalls that needed updating to meet federal regulations.

The Bayonne Municipal Utilities Authority (BMUA) needed a solution. Its options included selling its water utilities outright to a private company, or entering into either an operation-and-maintenance contract or a longer-term

concession agreement. Only a few months after Sandy, the city chose the latter avenue — a joint venture partnership for both water and wastewater operations with Kohlberg Kravis Roberts (KKR) funding 90% of the effort with United Water, a unit of French giant Suez Environnement S.A.

While BMUA maintains ownership and the control of user rates, the joint venture made an initial payment of \$150 million to the city. This infusion of capital was critically important to the city because it eliminated \$130 million of existing debt and improved both the authority’s finances and Bayonne’s credit rating. In 2013, Moody’s Investor Service upgraded Bayonne’s bond rating from Baa1 with a negative outlook to Baa1 with a stable outlook, in particular citing the city’s recent progress in reducing its debt burden through the lease-sale of the MUA operations.

“Bayonne should have been able to get it together, but the reality is they couldn’t take on new debt, even at high cost.”

— Patrick Sabol

KKR and United Water further pledged to funnel another \$157 million into the water systems over the 40-year length of the contract, with about \$2.5 million a year earmarked for maintenance and upgrades. That work began quickly with the cleaning and inspection (using television cameras) of many miles of water and sewer mains. Some 1,500 water hydrants are also being checked to make sure the fire safety infrastructure is reliable. Installation of new water meters, which greatly expedites the finding and repair of leaks, is also underway. The new meters can be monitored directly from the offices of United Water Bayonne, and telltale signs — heavy water

use late at night, for instance — are being used to direct repair crews and inform customers of possible leaks on their property.

Tim Boyle, BMUA's executive director, said the initial efforts are part of extensive upgrades over the next several decades. "Remember, the city of Bayonne still owns the water and sewer systems, and it's Bayonne that benefits," he said. "We receive \$2.5 million per year, which is a nice chunk of money guaranteed. What the partnership does is remove the need for political will for the maintenance of the system. It's hard to imagine politicians committing an equal amount of money to maintaining our water supply."

Water consumers are paying for some of the improvements: 8.5% rate hikes on both water and sewer bills were implemented in 2012 — the first BMUA increase since 2006 — and another 4% increase came in at the beginning of 2015. As a result of the 2012 increase, low-volume users saw their cost for 748 gallons of water increase from \$4.29 to \$4.65, and heavier users started paying \$5.12, up from \$4.72.

The authority said it would have had to raise rates even without its new agreement, but the hike was criticized by entities such as advocacy group Food & Water Watch.

In a report titled "Private Equity, Public Inequity," the group said that private equity players typically focus on short-term profits and may seek to flip assets after driving down service quality and driving up prices. That means households and businesses could end up paying more for inferior service.

Still, a report by NW Financial Group, a financial advisory and municipal underwriting firm, estimates that Bayonne's 4% annual rate increases are less than the 5% annual increases that New Jersey's regulated water utilities have averaged since the 1970s. The report also said that the new partnership is locked into "a fixed-rate increase schedule that assures modest future rate increases over the 40-year concession period."

At the Wharton conference, "Investing in America's Public Water Systems — Making Public-Private Partnerships Work," Patrick Cairo, a Suez Environnement senior vice president, said that Bayonne's water rates "will be a little north of inflation levels — any more than that and the system will start to unravel because of upset customers."

A law firm hired by BMUA estimated that the city could save almost \$35 million over its 40-year contract, compared to operating the water utilities on its own. But a BMUA attorney cautioned that it is too early to say if those savings will actually be realized. So far, rate increases have

occurred within the contractually agreed-upon amounts "and therefore — after four years — United Water is on track to realize the projected savings," Cairo said.

It is indeed early in the relationship among United Water, KKR and the citizens of Bayonne. So far, the rate increase has been an issue locally, but few have complained about inferior service. United Water, for its part, reports fielding positive consumer comments about access to information from the smart water meters it has installed.

A PRIVATE SECTOR LIFELINE FOR RIALTO

The city of Rialto, 60 miles from Los Angeles in the region's Inland Empire, provides water to 48,000 customers and sewer services to 100,000, with budgeted revenue of \$37 million in fiscal 2014. As in Bayonne, the existing system suffered from deferred maintenance, but there was also serious water contamination by the chemical perchlorate that was not detected until 1997. After a decade of litigation, the estate of a former fireworks manufacturer agreed to an \$11 million settlement in 2014 for polluting the groundwater with toxic chemicals.

Because of the contamination, Rialto has had to purchase water at a high premium from other municipal operations, and main breaks became commonplace. The city found itself in a situation familiar to municipal managers across the country — the presence of large debts aggravated by the recession, and problems of compliance with federal standards.

According to "Private Capital, Public Good," a research paper from the Brookings Institution, Rialto's "historically underfunded system also struggled to meet pension liabilities, which were starting to weigh on the utility's ability to affordably raise capital in the tax-exempt market."

Andrew Sawyers, director of the office of wastewater management at the U.S. Environmental Protection Agency, said that state revolving loan funds and municipal bond financing often have not been sufficient to meet local needs. That was a factor in the creation of the EPA's Water Infrastructure and Resiliency Finance Center early in 2015. It is designed to be a resource for communities and municipal utilities that struggle with limited budgets.

In 2013, Rialto entered into a 30-year, \$300 million public-private partnership (P3) agreement with Veolia Environnement S.A.'s Veolia Water as the operator of the project. Ullico, a labor-owned insurance and investment company, was the lead finance partner, along with Table Rock Capital. An agreement with labor unions ensured that all existing employees would keep their jobs for at least 36 months.

The structure of the concession agreement, which creates the new Rialto Water Services, is similar to that of Bayonne, but a significant difference is that Veolia has actually been a contracted operator for Rialto's water systems since 2002. The new partnership deepens the relationship, with operational, management and fee-collecting responsibilities, plus the obligation to upgrade the system in the first five years. The partners also agree to settle \$27.4 million of the city's water-related debt, and provide a total of \$35 million in cash.

The partners are guaranteeing 445 new construction jobs, and have committed to \$41 million in capital improvement projects for Rialto's water infrastructure. They project savings of \$2.5 million for the city over the first five years of the contract. By mid-2014, more than \$525,000 had been invested in maintenance repairs, projects and upgrades. New water meters are being installed, and a treatment plant digester is being rehabilitated.

Veolia has improved the customer service call answer rate by 95%, installed a new computerized work order management system, and is using geographic information system technology to map and monitor the 260-mile collection system. These are not inconsequential benefits. The value of water privatization to communities like Rialto is "finding companies that are willing to make capital investments on their own dime — that's advantageous to constituents rather than onerous," said Tim Carden, managing director of PFM Group.

But Rialto also experienced a 15% rate increase, which went into effect on January 1, 2015. That amounts to a 30-cent

increase on each 748-gallon unit of water. Mary Grant, a researcher for Food & Water Watch, said the city agreed to increase rates by about 115% from 2012 to 2016.

Jeff Murphy, portfolio manager for the Ullico Infrastructure Fund, said that the rate increase was "reasonable," given the necessity of upgrading the water system, and the efficiencies that Veolia brought to the operation. "The increases were lower than in surrounding communities that had raised rates," he said. "The existing rate base was barely covering the operation, and was unable to pay for the capital improvements that had to be made." He acknowledged that "raising water rates is not a popular thing to do."

The West Valley Water District, a neighboring local public agency that provides drinking water to parts of Rialto, said the takeover was not to be blamed for the increases. The district said the need was based on a 2012 analysis — before Rialto Water Services was created — pointing out that "costs such as chemicals, lab fees and required permits were increasing. Since that time, those costs have in fact increased by an average of over 200%."

Still, there is no question that Rialto's water users will pay higher bills because of extensive capital improvement programs — the operators are going after profit, and the updates will not be a free benefit. But there also is no debate that those programs were both desperately needed and long deferred. ■



U.S. Shifts to Strong Support for Public-private Infrastructure Deals

FEDERAL SUPPORT FOR PUBLIC-PRIVATE PARTNERSHIPS (P3s) has taken a surprising turn recently. At the Wharton conference, “Investing in America’s Public Water Systems — Making Public-Private Partnerships Work,” the general consensus was that Washington would not be playing much of a role in P3s for water infrastructure projects anytime soon. That was in early May, 2014.

In June, the situation began to change when a new federal loan program was passed by both houses of Congress with strong bipartisan support and signed by the President. Just a few months later, Obama proposed a budget for 2016 that includes strong support for P3s.

The bright idea out of Canada is “opening up a closed procurement process by requiring local officials to do a lifecycle analysis.”

— Richard Anderson

CANADA LEADS THE WAY

A 2013 article in *Governing* magazine asked, “Why Isn’t the U.S. Better at Public-Private Partnerships?” Lamenting the U.S. government’s lack of support for P3s, the article holds up Canada as role model. “Experts say it’s time to copy Canada and change that,” according to the publication.

As part of what the Canadian government calls, “the largest and longest infrastructure plan” in the nation’s history, Canada has committed \$1.25 billion to a national

portfolio of 20 public-private partnerships, seven of which involve water and wastewater infrastructure. But what is noteworthy about the Canadian program is not just the size or scope of its investment but the process it has put in place.

“What is the bright idea out of Canada?” asked Richard Anderson, a senior advisor at the U.S. Conference of Mayors and managing director of the Mayors Water Council. “It’s opening up a closed procurement process by requiring local officials to do a lifecycle analysis.” While PPP Canada, the agency in charge of the program, cautioned that public-private partnerships are “not the right solution in every case,” the Canadian government has said these ventures are worth considering. It also said that PPP Canada has the expertise needed to help local officials conduct the “Value for Money” analysis needed to determine if a P3 makes sense for a given project.

In its simplest form, a “Value for Money” analysis looks at the estimated lifecycle cost of a public infrastructure project in two ways, both as a public-private partnership and as a traditional publicly managed project. The P3 option is pursued only if it provides better value for the money over the lifetime of the project.

In addition to facilitating the consideration of P3s, Canada’s government also requires any P3 that uses federal funds to follow carefully defined protocols. In Canada, “the federal government says you have to abide by its procurement process and use its standardized contracts,” said Patrick Cairo, senior vice president for corporate development at Suez Environnement. PPP Canada also has strict requirements about transparency. “The books are open on the companies involved,” said Anderson. “Everything associated with that project is public knowledge.”

U.S. CHARTS ITS OWN PATH

Few expect the U.S. to follow exactly the same path as Canada, and indeed, Washington has begun to chart its own way forward.

Janet Kavinsky, executive director of transportation and infrastructure at the U.S. Chamber of Commerce, saw three ways in which the U.S. government could support P3s. It can facilitate P3 education and training for the public sector, provide financial assistance to P3s, or “it can get out of the way” by streamlining the permitting process and removing prohibitions and regulations that “are disincentives for private sector involvement,” she said.

The federal government began to move on all three fronts when it enacted the Water Resources Reform & Development Act (WRRDA), in June 2014. Among other provisions, the \$12 billion act “reforms bureaucracy, accelerates project delivery, and streamlines environmental reviews,” according to the House Transportation and Infrastructure Committee. Feasibility studies by the Army Corps of Engineer, which had been taking 10 to 15 years, must now be completed within three years, for example.

WRRDA also establishes a five-year pilot program that is designed to encourage private involvement in large public water and wastewater infrastructure projects. The Water Infrastructure Finance and Innovation Act (WIFIA), which provides subsidized, low-interest federal loans, is modeled after the Transportation Infrastructure Finance and Innovation Act (TIFIA), a well-established federal program administered by the U.S. Department of Transportation, which Kavinsky said has been “critical to P3s in transportation.” Like TIFIA, WIFIA encourages P3s by making low-cost federal loans available to projects that include private partners, as long as the project is publicly sponsored, and the local public agency supports it. By lowering the cost of public debt, these low-interest loans give projects “more capacity to bring in equity or private debt,” explained Kavinsky.

The U.S. Environmental Protection Agency (EPA), which administers the pilot program, is now holding listening sessions around the country. One of the groups it is likely to hear from is Food & Water Watch. Wenonah Hauter, the group’s executive director, recently complained that “WIFIA will give low-interest loans primarily to private water corporations, compete with the State Revolving Funds for federal resources, and place inappropriate pressure on local governments to privatize their drinking water and wastewater systems.”

Kavinsky said it will take a year or more before all the issues are aired and enabling regulations have been settled.

NEW MUNI BONDS BUILD ON EARLIER EFFORT

The 2016 federal budget proposed by the president includes Qualified Private Infrastructure Bonds (QPIBs), which serve to promote public-private partnerships. QPIBs make tax-free municipal debt available to projects with more than 10% private sector involvement. Such financing has been available before in the form of Private Activity Bonds (PABs), but those bonds came with two significant restrictions.

First, while the interest earned on qualified PABs is exempt from federal income taxes, it remains subject to the alternative minimum tax (AMT). The American Recovery and Reinvestment Act (ARRA), also known as the stimulus package, temporarily exempted PABs from the AMT for two years, but that exemption expired in 2010. “When the ARRA provisions expired, PABs became less appealing to bond buyers,” said Robert Puentes, senior fellow at the Metropolitan Policy Program of the Brookings Institution.

The second restriction that has limited the effectiveness of PABs is a volume cap that establishes a fixed allocation for each state. The federal government set the cap to limit the amount of tax revenue it could lose. But certain projects considered essential to public welfare were exempted, including airports and solid-waste facilities, among others. Water infrastructure was not among those exempted from the volume cap. “The water and sewer industry must have been asleep at the time, because no one said, ‘why don’t you exempt water and sewer facilities as well?’” said Cairo, adding that advocates of P3s have been trying to convince the government to exempt water infrastructure projects ever since.

The new QPIBs remove both the volume cap and the AMT restrictions. According to Kavinsky, Obama could have accomplished the same thing by just tweaking the PAB program. “But it sounds a lot more presidential to say we’re going to come up with something new than it does to say we’re going to tweak an old program,” she said.

NEW WATER FINANCE CENTER MAY OFFER TECH HELP

In addition to QPIBs, the president’s budget also includes the establishment of a new interagency center at the EPA, which promises to offer the same kind of education and

training that PPP Canada provides. The White House said “the center will bring together investors and project sponsors; highlight promising deals; provide peer-to-peer learning and workshops; and develop case studies and toolkits.”

The new EPA water center would also offer financial training and technical assistance to help small communities and rural water systems attract private partners. Lacking this kind of aid, small systems have been largely shut out of P3s. “That’s because individually each of these utilities is too small for the juice to be worth the squeeze,” said Patrick Sabol, a senior policy and research assistant with Brookings’ Metropolitan Policy Program. Private equity investors typically will not consider projects smaller than \$100 million, and WIFIA loans are available only to projects with an estimated cost of at least \$20 million, he said.

The West Coast Infrastructure Exchange — a regional partnership that includes California, Washington, Oregon and British Columbia — is exploring the possibility of aggregating numerous small projects into a single package that can attract private partners. Aggregation is an approach that has been used for bridge construction in Pennsylvania and for water utilities of First Nations, or indigenous communities, in Canada, Sabol said. Whether the new EPA center will try aggregation remains to be seen.

One additional step that P3 advocates still hope to see would not depend on Congressional approval — removing the Internal Revenue Service restrictions around the co-existence of public and private debt financing in the same project. Currently, if private equity gets involved in a project that is already using money from tax-exempt municipal bonds, the private partner has to remove the municipal debt from the city’s balance sheet, Anderson said. The practical effect of this policy is that a portion of the private funds involved in a P3 has to be used to refinance any existing municipal debt.

“That’s a shame,” said Cairo. Existing debt from tax-exempt municipal bonds is often far less costly than new debt. So instead of preserving existing lower-interest debt that is already funding work, and using new, higher-interest debt to fund future efforts, a private investor has to bundle old and new debt together, and finance it all at current higher market rates, he said.

But whether or not the IRS changes its policy, or Congress agrees to any of the president’s new proposals, the bipartisan passage of WRRDA makes it clear the federal government will be stepping up its support for P3s for water and other infrastructure in the years ahead. ■

Special Report

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