DRAFT
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COVID-19 and Water Infrastructure in the Sacramento Region
IMPACTS AND OPPORTUNITIES

Federal investments in local water infrastructure will leverage agencies' strained local financial resources, help protect public health, create jobs, expand opportunities for displaced workers, and accelerate critical modernization/rehabilitation projects.

Summary

Hand washing is the primary health protocol for individuals to practice in response to COVID-19. The ability of water systems to deliver safe, clean and reliable water for washing hands and other personal, institutional and medical hygiene practices is critical for treatment and prevention of COVID-19.

While most community water systems are currently able to meet this challenge, the economic fallout from the COVID-19 pandemic will continue to grow in severity, presenting a clear and present danger to their ability to continue to do so going forward. Financing critically-needed capital improvements to keep systems running by replacing aging infrastructure and modernizing water systems to prepare for climate change, while maintaining necessary service levels for their customers, will likely become a bridge too far without federal assistance.

A major federal appropriation to support rehabilitation and modernization of local water systems is essential to quickly kick-start construction-ready infrastructure projects that otherwise will be put on hold until significantly weakened agency balance sheets can support them. Such a federal investment will also help local economies by creating thousands of good-paying jobs with relatively low barriers to entry for displaced workers.

The Sacramento region has an enviable track-record of success in effectively deploying federal funds on local and regional water projects and remains well positioned to do so on already identified construction-ready infrastructure investments. In addition, because the region lies at the confluence of the American and Sacramento rivers, which are major components of the federal Central Valley Project, investments that make the Sacramento region's water systems more efficient and resilient can contribute to improved statewide water management and environmental stewardship.

COVID-19 Impacts on Local Water Systems

The need for safe, clean and reliable water deliveries has never been more critical. Accessibility to water 24/7/365 for drinking, cooking, washing, cleaning and all other activities of daily living – and especially hand-washing – is taken for granted by most of society. COVID-19 is a forbidding threat to that reliability.

At the same time, the loss of more than 30 million jobs nationally, with over four million of those in California, has been devastating to those suddenly out of work and economic activity generally. In the Sacramento region, unemployment has grown from a record low of 3% in September 2019 to 18.5% in April 2020, representing a loss of 221,000 jobs. The president's senior economic adviser predicts the unemployment rate will likely hit 20% in May. With the loss of income comes an inability for many to stay current on water bills, with resulting negative impacts to water agencies' balance sheets.

Nevertheless, through a combination of voluntary measures and state-ordered actions, water providers in the Sacramento region have maintained service regardless of residents' ability to pay. Also, previously shut-off service connections have been reconnected, moratoriums have been imposed on service disconnections, and penalties from delinquent charges are being waived.

According to the American Water Works Association (AWWA), the combined impacts of increased costs and decreased revenues on water utilities due to COVID-19 range from $13 to $15 billion.[1]

The Cost of Delaying Urgently Needed Infrastructure Projects

Direct and immediate impacts on water utilities are only part of the COVID-19 story. According to the AWWA, loss of revenue will cause water utilities to delay or defer up to $5 billion in annual capital expenditures. Factoring in the economic multiplier effect, this deferred spending by utilities will reduce economic activity in affected communities by as much as $32.7 billion, resulting in the loss of 75,000 to 90,000 private sector jobs.[2]

This impending delay in capital investments will exacerbate threats to already vulnerable water systems.

Much of the nation's water infrastructure was constructed in the early and middle of the last century. This infrastructure has a typical lifespan of 75 to 100 years and much of it is overdue for replacement. Deteriorating water infrastructure is prone to abrupt failures that jeopardize public safety and require immediate, expensive repair. For example, the 2014 failure of a 93-year old water main in Los Angeles required emergency repairs costing $481,000 per linear foot, compared to typical, non-emergency repair cost of $500 to $2,500 per linear foot. Notably, this cost does not include the public health, water loss, property damage and other impacts of the failure.[3]

At the same time, climate change is challenging traditional water infrastructure. The western United States, in particular, faces more frequent and intense droughts, reduced snowpack and loss of natural water storage, earlier snowmelt, and more atmospheric river events.[4] For the Sacramento region, snowpack is estimated to decline by 50% to 80%. These changes are projected to produce more frequent events when water is either too abundant, requiring flood protection, or too scarce, requiring alternative supplies. In response, water managers must modernize their systems to be more adaptable to changing conditions and more flexible in their ability to capture, store, treat and distribute water reliably for communities and the environment.

The U.S. Environmental Protection Agency estimates the 20-year capital facilities needs of community drinking water systems at $472.6 billion, with California alone accounting for more than $50 billion.[5] Other projections of water infrastructure needs are as high as $720 billion for both water and wastewater systems, with estimates indicating as much as two-thirds of these needs are currently unfunded.[6]

Federal Funding Would Deliver Benefits for Individuals and Communities

According to the Congressional Budget Office, "the federal role in water infrastructure has declined over the past few decades," largely replaced by state and local funding. In 2017, the federal government spent $8 billion for water infrastructure, compared to $33 billion in spending by state and local governments.[7] However, COVID-19 will dramatically reduce the availability of that state and local funding. Without

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[1] *Fiscal Impact of the COVID-19 Crisis on U.S. Drinking Water Utilities*, American Water Works Association
[2] *Fiscal Impact of the COVID-19 Crisis on U.S. Drinking Water Utilities*, American Water Works Association
[3] *The Economics of Water Main Failures*: https://waterfm.com/the-economics-of-water-main-failures/
[4] *Climate change will affect California water management in many ways*, PPIC, November 2018
[5] *Drinking Water Infrastructure Needs Survey and Assessment*, Sixth Report to Congress, U.S. EPA Office of Water, https://www.epa.gov/sites/production/files/2018-10/documents/corrected_sixth_drinking_water_infrastructure_needs_survey_and_assessment.pdf
[6] *National Economic & Labor Impacts of the Water Utility Sector*, Water Research Foundation, September 2014
[7] *Federal Investment, 1962 to 2018*, Congressional Budget Office, June 2019, https://www.cbo.gov/system/files/2019-06/55375-Federal_Investment.pdf

significantly increased federal funding and stimulus investments, critical water infrastructure projects will come to a grinding halt.

Such an increase would return significant economic benefits to individuals, communities and the nation. It is estimated that for each dollar invested in water supply and sewer systems there is a $2.62 increase in private industry revenue that year and a $6.35 increase in private sector output over the long-term. Every $1 million of capital spending on drinking water projects creates 15 to 18 jobs.[8]

Without this increased Federal support, which would create tens of thousands of new jobs, it is projected that up to 90,000 private sector jobs could be lost **[source?]** as a consequence of deferred capital spending by water utilities.

Water sector jobs pose a relatively low barrier to entry, which make them comparatively more accessible to displaced workers, and thus a more effective investment for a more immediate economic return. Fifty-three (53) percent of water workers have a high school diploma or less, compared to 32.5% of workers nationally.

Sacramento Region: How Federal Funds Could Be Deployed

The Regional Water Authority (RWA)[9] has compiled 150 water, groundwater, recycled water and wastewater projects that are ready for construction over the next year. These projects range in cost from hundreds of thousands to hundreds of millions of dollars, totaling $1.2 billion in vital public investment that would generate almost 13,000 jobs working to rehabilitate aging infrastructure, pilot projects to demonstrate alternative technologies, and new infrastructure to build resiliency and develop a reliable water future for the region.

The RWA knows how to undertake and mange projects for economic stimulus. In 2009, RWA agencies were awarded $5 million in American Recovery and Reinvestment Act funding by the U.S. Bureau of Reclamation to accelerate the installation of water meters throughout the Sacramento region. Within 13 months of receiving their notice to proceed, the five participating water providers had installed 12,000 meters, exceeding the original goal of 10,000 while staying within budget.

In response to the 2013-2016 multi-year west-wide drought, Congress provided funding support through the Bureau of Reclamation to support improved resiliency. The RWA received $10 million in grant funds and broke ground on 16 projects within just six months. That $10 million leveraged two-and-a-half times that amount by underwriting $26 million in projects that bolstered regional water supply reliability.

When it comes to federal funding, the RWA provides a high return on investment and remains poised to do so. The RWA maintains an Integrated Regional Water Management Plan to keep an up-to-date inventory of the near-term and long-term capital projects of its member agencies. A recently completed Regional Drought Contingency Plan and a more general Regional Reliability Plan identify projects to increase the reliability and resiliency of regional water supplies. By having projects already well developed in these plans, the RWA's identified water projects are ready for quick implementation.

Conclusion

The need for safe and reliable water supplies has never been more critical. Yet, the economic fallout from the COVID-19 pandemic on water utilities threatens the near-term feasibility of critically-needed capital

[8] *Fiscal Impact of the COVID-19 Crisis on U.S. Drinking Water Utilities*, American Water Works Association
[9] The mission of the Regional Water Authority is to assist its member agencies in protecting and enhancing the reliability, availability, affordability and quality of water resources.

spending. Federal investment in water infrastructure in the Sacramento region will help advance needed new water infrastructure and support necessary rehabilitation projects, create jobs, and produce broad economic, environmental and public health benefits.