

Public Works Economic Impact

A national and state level overview of public works employment and economic figures

May 2023

What is Public Works?

DEFINITION: Public works is the combination of physical assets, management practices, policies, and personnel necessary for the public and private sectors to provide and sustain structures and services essential to the welfare and high quality of life for our citizens. When it comes to public works, one size does not fit all



The United States has approximately 19,500 municipalities of varying sizes. In each community, whatever the size, there are needs common to all that must be met through the provision of public works services. These needs are met on a daily basis by visionary, values-driven, and hardworking men and women who provide and sustain public works services in the best interests of their communities

APWA's Public Policy Priorities for the 118th Congress:

- **Emergency Management**
- **Transportation**
- **Water Resiliency**

APWA Priorities for Emergency Management

Emergency Management

- **Planning:** Public works is critical in emergency planning, responding to, and recovering from infrastructure impacts from natural and man-made disasters. Furthermore, in 2003 with the enactment of Homeland Security Presidential Directive (HSPD)- 8, public works was recognized as first responders
- **Mitigation:** Since 2018, more than 500 Major Disaster and Emergency Disaster Declarations have been issued by the President. In 2022 alone, there were over 70 declarations. APWA advocates for and supports federal emphasis on mitigation through federal grants, training opportunities, and tools like asset management
- **Communications & Coordination:** Efficient and operational communication among public works professionals and other first responders is required for effective preparedness, response, and recovery operations. First responders in public works, along with law enforcement, fire, and emergency medical personnel, are on the front lines responding to disasters and protecting people, and critical infrastructure
- **Streamlining:** APWA supports permanently enacting the now-expired 2006 Post- Katrina Management Reform Act pilot programs and include in the Stafford Act. Continue review of the PA deductible issued under the Supplemental Advance Notice of Proposed Rulemaking. Continue federal government drone usage study. Fund professional development training initiatives to support a diverse, high-quality workforce, and continued career opportunities in emergency management with dedicated funding to workforce programs authorized by IIJA. As the leader in public works education and credentialing programs, APWA encourages and values continual education and professional growth opportunities for those who build, operate, maintain, and safeguard our nation's infrastructure
- **Cybersecurity & Telecommunication:** As first responders, public works professionals and first responder partners must be included when developing, implementing, and executing cybersecurity and telecommunication policies and programs, such as FirstNet
- **Priority – Planning/Recommendations:** Ensure federal training programs designed to enhance interagency cooperation in emergency management includes public works response aspects, and actively seek public works participation in design and attendance. APWA strongly encourages the Federal Emergency Management Agency (FEMA) to work with local, state, and tribal governments to ensure a Public Assistance (PA) deductible can be properly drafted and meet unique population needs

Economic Impact of Emergency Management

OVERVIEW

- The Emergency Management Performance Grant (EMPG) program is the only source of federal funding provided directly to state and local governments for the functions which help build robust emergency management systems
- EMPG funding has supported 986 statewide preparedness outreach campaigns and 2,271 local campaigns
- At least 2,432 state and 2,848 local plans were developed, maintained, or updated using EMPG funds
- In 2022, the United States dealt with 18 disaster events causing losses exceeding \$1B
- For every \$7 spent on disaster recovery, only about \$1 is spent on resilience against future hazards;
 - Every \$1 spent on resilience is estimated to have an economic benefit of \$6
- The United States federal government spends approximately \$46 billion a year on disaster response and just 1/7th (\$7 billion) to develop resilience for the next disaster
- AIR, a leading catastrophe modeling firm, reports that the value of coastal exposures in the U.S. grew 27% between 2012 and 2018
- A National Institute of Building Sciences report highlights that the country could cost-effectively spend \$520 billion to reduce its disaster liability by \$2.2 trillion

FAST FACTS



51
Number of disasters requiring a major or emergency declaration



14,483
Events requiring state assets that did not reach the level of a major declaration



4,747
Additional events supported by local assets using Emergency Management Performance Grant program



153.3 million
People reached by preparedness outreach campaigns in 2022



\$700 million
Return on investment in Emergency Management Performance Grant program

Economic Impact of Emergency Management

Figure 1

Federal Disaster Response Appropriated Funding by Agency

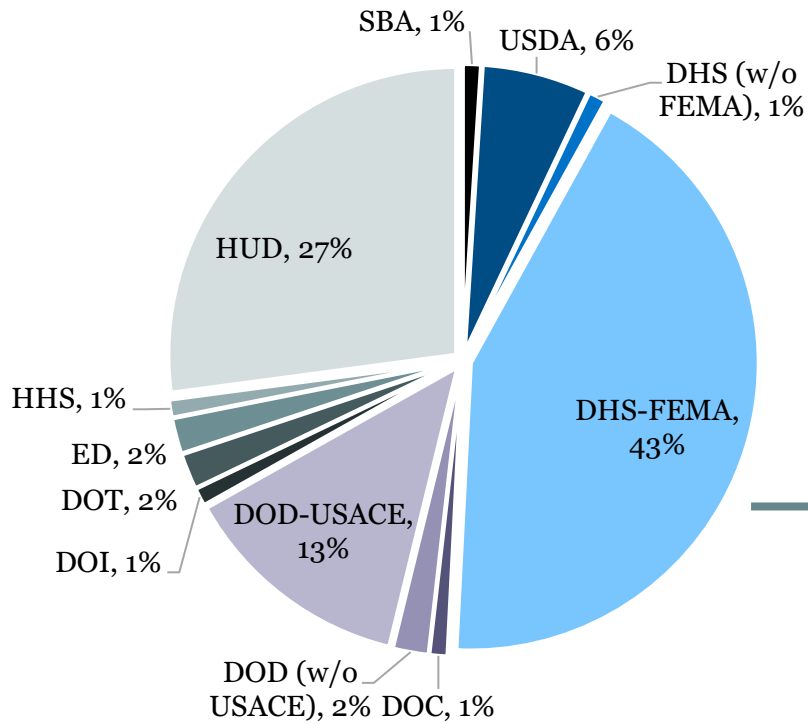
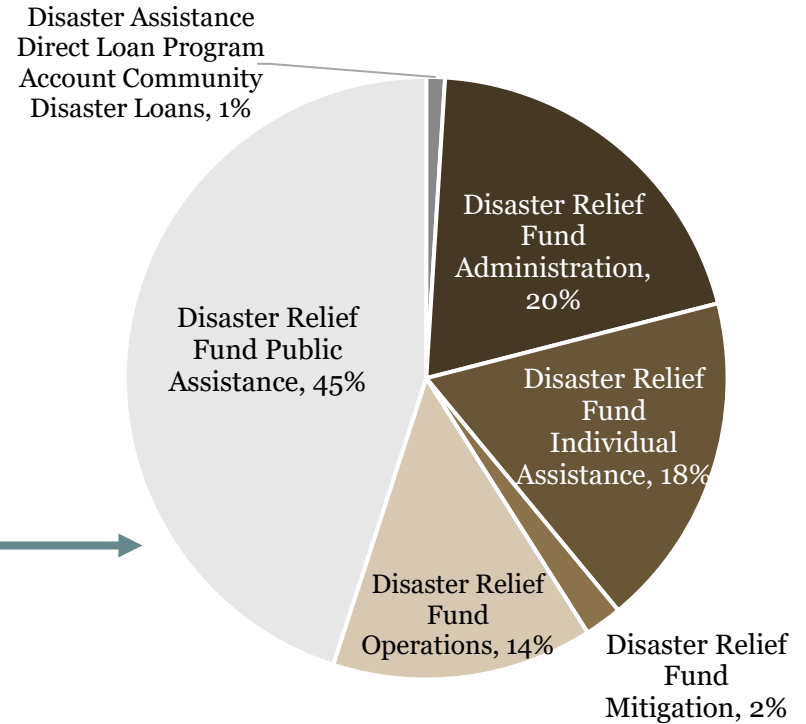


Figure 2

DHS-FEMA Funding



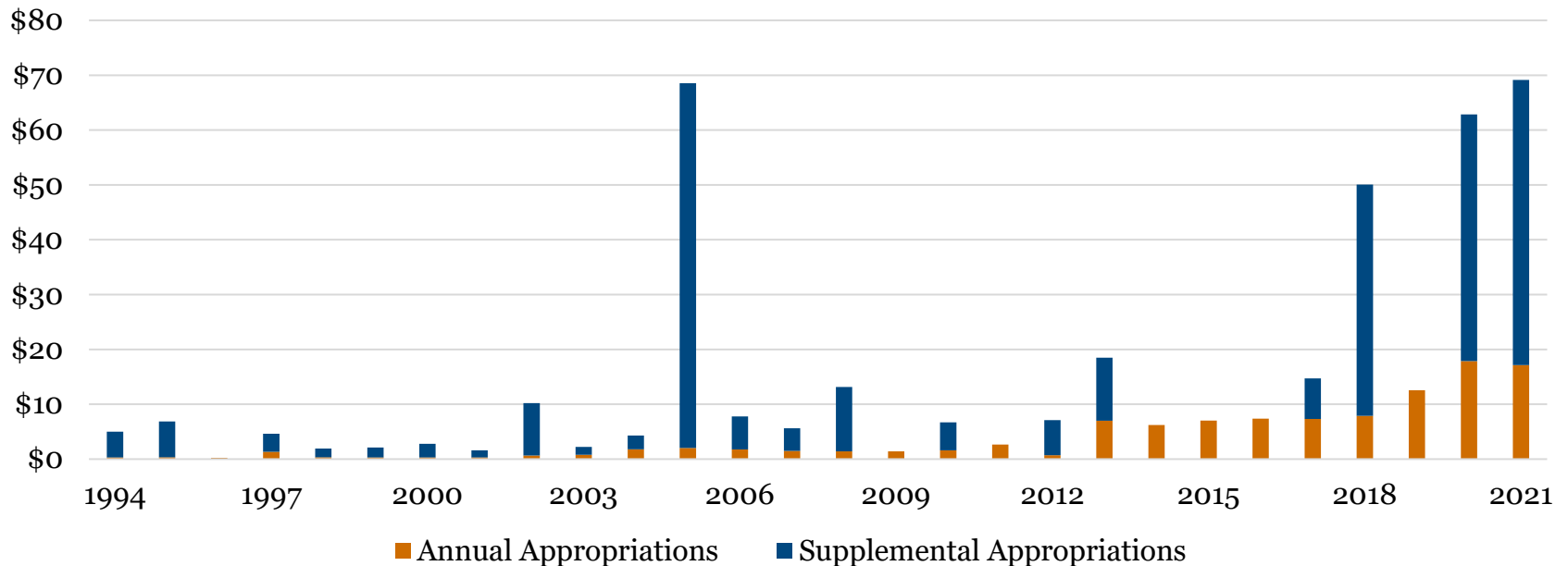
Sources: [Brookings](#), [FEMA](#)

The data from Figure 1 comes from FEMA last updated April 2023. The most up-to-date appropriations data is from 2017-2019 disasters. The data from Figure 2 comes from Brookings last updated in 2021

Annual Appropriations to the Disaster Relief Fund (DRF)

- Annual DRF appropriations through the normal budgeting process are small and the unpredictable nature of large-scale disasters means that a large majority of DRF funds come from supplemental appropriations
- As DRF appropriations are simply an amount of budget authority provided to support disaster activities, many of the issues related to the DRF are less about the appropriation than they are about the defined federal role in disaster relief operations

Disaster Relief Appropriations, FY1994-FY2021 (billions)



Sources: [Congressional Research Service](#)

APWA Priorities for Transportation

Transportation

- **Safety:** APWA strongly supports funding increases IIJA authorizes for existing transportation safety programs and its establishment of new programs with a significant safety component. Specifically, APWA is focused on ensuring these programs are fully funded and the information is disseminated to our membership for maximum impact on improving the safety of all those utilizing our transportation network. Additionally, APWA backs transportation programs supporting safety improvements for rural roads, work zones, public transit, railroads, trails, and for achieving road to zero goals, and improving traffic incident management. Due to the importance of safety, APWA strongly encourages the greatest possible amount of flexibility and accommodations to support safety projects, and to include streamlining for permitting, reporting, and other project requirements
- **Continue Streamlining Success:** APWA is pleased with the enactment of “One Federal Decision” processes in IIJA, and the law takes important steps to continue responsible streamlining of regulatory requirements and permitting processes to protect the environment while effectively distributing funds. Ensuring all communities – especially small, rural, tribal, or historically disadvantaged – can access the funding opportunities of IIJA. Making certain these communities can connect to technical experts and leverage resources to assist in streamlining infrastructure processes and permitting is essential to the law’s success and improving and protecting quality of life. It is important that local governments have a seat at the table and are fully engaged in the permitting process as they know their communities best
- **Infrastructure Resilience:** Investing in America’s transportation infrastructure strengthens our communities, protects public safety and health, and creates economic opportunity. APWA supports an approach that incentivizes resiliency measures in infrastructure planning and design, prioritizes projects that strengthen a community’s ability to withstand future impacts, and supports the development of tools to build more resilient systems. Additionally, APWA supports restoring the ability for state and local governments to issue tax-exempt advance refunding bonds to assist in lowering the total costs of bond funded infrastructure. Furthermore, APWA supports a broad approach to sustainable infrastructure including active transportation options such as bicycles, pedestrian, and mass transit

Economic Impact of Public Transportation

- \$1 invested in public transportation returns \$5 in economic benefits
- The average household spends 16% of income on transportation, and 93% of this goes to buying, maintaining, and operating cars;
 - The average household can save nearly \$10,000 by replacing a personal vehicle with use of public transit over the average operational lifespan of a vehicle after purchase
- Every \$1 billion invested in public transportation supports and creates approximately 50,000 jobs
- 87% of trips on public transit have a direct impact on the local economy
- Home values in areas near public transport were up to 24% higher than in other areas
- Hotels in cities with direct rail access to airports raise 11% more revenue per room than hotels in cities without direct rail

Economic Impact	Per \$Billion of Capital Investment	Per \$Billion of Operations Investment	Per \$Billion of Average Investment
Output (business sales)	\$2.6 billion	\$3.0 billion	\$2.9 billion
GDP (value added)	\$1.2 billion	\$1.9 billion	\$1.8 billion
Labor Income	\$0.8 billion	\$1.3 billion	\$1.2 billion
Tax Revenue (fed, state, local)	\$264 million	\$428 million	\$382 million
Jobs (employment)	12,600	20,000	17,900

(includes direct, supplier purchases, and employee spending, 2018 \$s)

APWA Priorities for Water Resiliency

Water Resiliency

- **Resilience and Stewardship:** APWA urges that the authorized funding for replacing lead drinking water services lines under the Drinking Water State Revolving Fund (DWSRF) is implemented. Support targeted improvements for water systems for natural hazards, cybersecurity vulnerabilities, or extreme weather events by fully funding: Midsize and Large Drinking Water System Resilience and Sustainability Program and Clean Water Infrastructure Resiliency and Sustainability Program. Support is crucial for programs such as the Water SMART Drought Response Program, which assists state, local, tribal, and critical service entities with drought-related activities and expands the technology transfer of drought and water conservation strategies
- **Update:** Public works professionals are at the forefront when addressing emerging contaminants, including Per- and polyfluoroalkyl substances (PFAS). APWA supports regulatory standards informed by thorough research and peer-reviewed scientific studies. A time-sensitive waiver process that would require an assessment within 30 days or result in automatic approval would provide clarity and relief from supply challenges. Full funding for agencies to hire appropriate staff. Budget for extensive outreach and provide needed technical assistance to applicants whether from the agency or through partner organizations to support IIJA implementation
- **Streamline:** Adhere to the “One Federal Decision” process, which IIJA codified into law to provide a more predictable, transparent, and timely federal review and authorization process for delivering major infrastructure projects exceeding \$25 million. When revising regulations for streamlining, retain analyses such as cumulative impacts to account for maximum cost benefit analysis and environmental impacts. APWA strongly encourages the federal government and industry to coordinate with state and local governments on water infrastructure projects. APWA opposes unfunded mandates. APWA opposes curtailing the local governing authorities ability to appropriately control use of public rights-of-way

Economic Impact of Water Resiliency

OVERVIEW

- Globally, more than 2 billion people live in highly water-stressed countries, and about 4 billion people experience severe water scarcity for at least one month of the year
- An estimated 80% of the world's wastewater is released untreated into the environment, polluting water resources faster than nature can recycle and purify them
- Since 1990, water-related catastrophes have accounted for almost 90 percent of the top thousand most devastating natural disasters
- The U.S. needs to invest a total of \$109 billion per year in water infrastructure over the next 20 years in 2019 dollars to close the water infrastructure gap according to the U.S. Water Alliance
- In 2019, total capital expenditure on water infrastructure at the local, state, and federal levels was approximately \$48 billion, while investment needs totaled \$129 billion, creating an \$81 billion funding gap;
 - If trends continue, the capital investment needed for water infrastructure repairs and improvements will total \$3.27 trillion over the next two decades;
 - Underinvestment would lead to a cumulative \$2.9 trillion decline in GDP by 2039

FAST FACTS



2.1 trillion

Gallons of drinking water lost as a result of aging infrastructure in U.S.



\$500 billion

Estimated cost of replacing the nation's water infrastructure



\$7.6 billion

Cost of lost water in 2019 due to leaks from poor infrastructure in U.S.



636,000

Jobs lost annually by 2039 as a result of lower production volumes

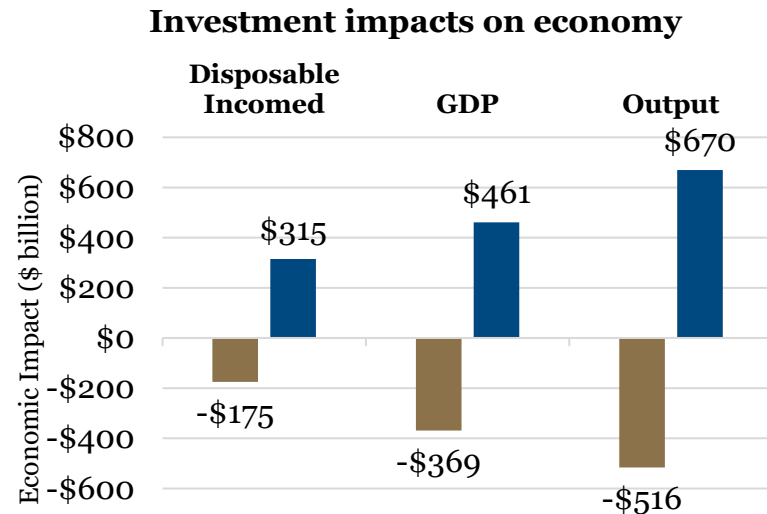
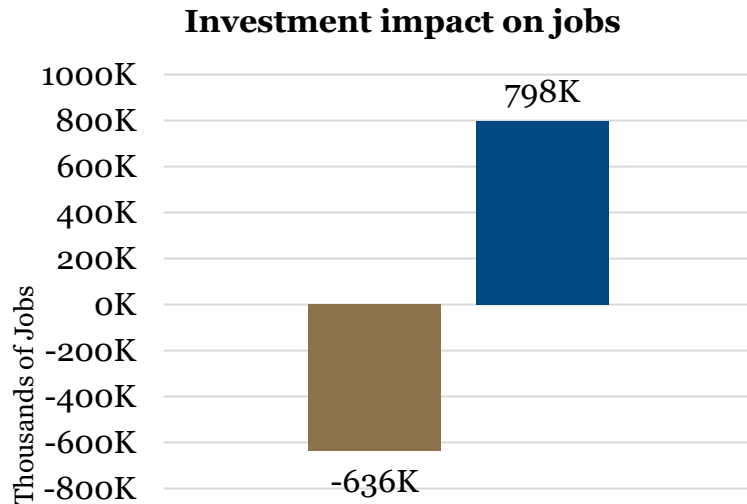


89,000

Expected U.S. manufacturing job losses as a result of unreliable water services

Economic Benefits of Water Infrastructure Investment

- Should the United States increase its investment in water infrastructure by \$2.2 trillion over the next 20 years, or roughly \$109 billion per year,
 - business sales would increase by \$5.6 trillion, growing the U.S. GDP by \$4.5 trillion;
 - upwards of 800,000 jobs could be created, with wages increasing disposable income by over \$2,000 per household; and
 - the trade balance would be improved as U.S. exports would become more competitive, gaining \$225 billion in export value
- Increased reliability in water services would help U.S. households avoid up to \$7.7 billion in cumulative medical costs over the next two decades, \$2.6 trillion in losses from service disruptions and overflows, and \$1.4 trillion in cumulative disposable income loss



■ Failure to Act Scenario 2039 ■ 100% Investment Scenario 2039

Workforce Development

APWA supports dedicated and full federal funding for workforce programs authorized by Congress in IIJA. A skilled and educated workforce is critical to the successful implementation of the law and to support America's vast Infrastructure network

As the leader in public works education and credentialing programs, APWA encourages and values continual education and professional growth opportunities for those who build, operate, and maintain our nation's infrastructure

- APWA successfully advocated for the inclusion of a definition of 'public works department' within IIJA
- Critical step in recognizing public works and the vitality of a strong workforce to support it

IIJA Text

“(a) DEFINITION OF PUBLIC WORKS DEPARTMENT OR AGENCY.—
In this section, the term ‘public works department or agency’ means a political subdivision of a local, county, or regional government that designs, builds, operates, and maintains water infrastructure, sewage and refuse disposal systems, and other public water systems and facilities.”.