

January 2021

Washington Office  
25 Massachusetts Ave., N.W.  
Suite 500  
Washington, D.C. 20001  
(202) 789 -7850  
Fax: (202) 789-7859  
Web: <http://www.asce.org>

On behalf of the more than 150,000 members of the American Society of Civil Engineers (ASCE), we would like to congratulate Joe Biden on his election as President of the United States. ASCE stands ready to work with President-Elect Biden as he addresses the significant challenges facing our nation, including modernizing America's infrastructure as part of the nation's economic recovery.

ASCE was founded in 1852 and is the country's oldest national civil engineering organization. It represents civil engineers in private practice, government, industry, and academia who are dedicated to the advancement of the science and profession of civil engineering. ASCE is committed to improving the nation's infrastructure to protect the health, safety, and welfare of the public. Daily, ASCE members are on the front-line of dealing with America's infrastructure crisis and know the benefits of making the needed improvements.

As we prepare for the year ahead, ASCE urges the Administration to work with Congress to prioritize our nation's infrastructure by developing legislation that not only makes critical investments, but creates jobs, protects public safety and acts as an economic recovery tool.

The ongoing public health crisis has only exacerbated our infrastructure crisis, as traditional user-fee based revenue streams have been drastically reduced. As a response, state and local governments have had to reprioritize their spending and drain funds for emergency repairs, which in many cases means our infrastructure will deteriorate further and become even more costly to bring back into a state of good repair. In fact, ASCE's [COVID-19 Status Report](#)<sup>1</sup> found that all infrastructure sectors are feeling the impacts of the pandemic and that there are worthwhile projects in every state that would benefit from an infusion of federal investment.

Earlier this year, ASCE released an [interactive map](#)<sup>2</sup> of **current construction-ready infrastructure projects** that span across multiple sectors. While the map is not a comprehensive list of every shelved project across the country, it is a snapshot of construction-ready infrastructure projects that have been put on hold or delayed due to COVID-19's impacts on states and local municipalities budgets. These include water system upgrades, high hazard dam repairs, ports that are bracing themselves from sea level rise, and other projects that will benefit communities and make our infrastructure more climate resilient.

ASCE urges your Administration to work closely with Congress to address the country's extensive infrastructure needs. If we are to achieve sustainable, resilient communities and true economic recovery, the federal government must provide critical leadership and commit to not only financing infrastructure programs, but to funding them.

---

<sup>1</sup> <https://www.infrastructurereportcard.org/covid-status-report/>

<sup>2</sup> <https://www.infrastructurereportcard.org/stimulus-relief-map>

As your Administration works with Congress to improve and modernize our nation's infrastructure, ASCE asks that you take the following key priorities under consideration:

- **Prepare for a Sustainable, Resilient Future** – ASCE supports federal initiatives that increase resilience of infrastructure against man-made and natural hazards. ASCE urges the development of performance criteria and uniform national standards that establish minimum performance goals for infrastructure, as well as the inclusion of comprehensive risk assessments that encourage mitigation strategies and address recovery and return to service. Furthermore, ASCE supports the development, adoption, and enforcement of a national model building code as a key to creating disaster resilience in communities.
- **Prioritize Asset Management and Operations and Maintenance (O&M) needs**– ASCE supports prioritizing investments that increase safety and resilience, as well as focusing on state of good repair and the operations and maintenance of the current systems. The use of performance-based ownership of infrastructure, which encourages the use of sustainable engineering practices and life-cycle performance, will be critical to the long-term use of our infrastructure systems. ASCE supports the use of best-practice asset management strategies as a way to make the best use of limited infrastructure funding and minimize the total cost of owning and operating these systems.
- **Restore a Strong Federal Partner in Infrastructure Investment** – To close the estimated [investment gap](#)<sup>3</sup>, meet future needs, and restore our global competitive advantage, we must increase investment in our infrastructure across all levels of government and the private sector and authorize programs to improve specific categories of deficient infrastructure by fully funding them. Failing to close this investment gap is not only a public safety issue, but has a cascading impact on our economy, impacting business productivity, gross domestic product (GDP), employment, personal income, and international competitiveness.

On **January 12<sup>th</sup>**, ASCE released an update to our economic study series, Failure to Act, followed by the release of the 2021 Infrastructure Report Card on **March 3<sup>rd</sup>**. The Failure to Act report quantifies the impact of continuing to underinvest in our nation's infrastructure, and looks at those impacts on families, businesses, and the overall economy. The findings from the Failure to Act report are critical as federal lawmakers consider how to best alleviate economic hardships caused by the COVID-19 pandemic. Our most recent report found that that infrastructure inadequacies will stifle U.S. economic growth, **cost each American household \$3,300** a year, cause the loss of \$10 trillion in GDP and lead to a decline of more than \$23 trillion in business productivity cumulatively over the next two decades if the U.S. does not close a growing gap in the investments needed for bridges, roads, airports, power grid, water supplies and more. The release of the 2021 Infrastructure Report Card in March will provide a comprehensive assessment of the nation's infrastructure across 17 sectors, with stormwater a new addition in the upcoming report.

ASCE hopes these resources can act as a guide as your Administration and Congress work together to develop a comprehensive strategy for improving our nation's infrastructure. We look forward to working with you to rebuild and modernize the systems that Americans rely on every day so that all communities have the opportunity to thrive.

---

<sup>3</sup> <https://www.infrastructurereportcard.org/the-impact/failure-to-act-report/>

## Preparing for a More Sustainable, Resilient Future - Greater Adoption of Industry Codes and Standards

With an increasing number of severe weather events, sea level rise, and other climate change impacts, a variety of factors will determine which structures would incur the most damage. Engineers have worked to mitigate those risks through proactive improvements to building design standards and codes, along with research and inspection.

The American Society of Civil Engineers' (ASCE) Standards provide technical guidelines for promoting safety, reliability, and resiliency in the built environment. Accredited by the American National Standards Institute (ANSI), ASCE has a rigorous and formal process. Standards are created or updated by a balanced, volunteer standards committee, followed by a public review period. All standards are updated or reaffirmed at least every five years.

Many of our standards are referenced by model building codes and adopted by state and local jurisdictions. The purpose of a building code is to establish minimum requirements necessary to protect and improve public health, safety and welfare in the built environment. Model building codes provide for protection from fire, structural collapse, general deterioration, and extreme loads related to man-made and natural hazards.

ASCE supports the development, adoption, and enforcement of a national model code as a key method of minimizing climate impact and creating disaster resilience in communities to protect and improve public health, safety, and economic vitality. The following ASCE documents offer a sound basis upon which such a model code can be developed:

- ASCE 7, *Minimum Design Loads and Associated Criteria for Buildings and Other Structures* (ASCE/SEI 7-16), currently an integral part of U.S. building codes, describes the means for determining soil, flood, tsunami, snow, rain, atmospheric ice, earthquake, and wind loads, and their combinations for resilient structural design;
- ASCE 24, *Flood Resistant Design and Construction*, prescribes a standard for cost effectively increasing resiliency by reducing and eliminating risks to property from flood hazards and their effects;
- ASCE 41, *Seismic Evaluation and Retrofit of Existing Buildings*, standardizes methods for the retrofit of existing buildings to increase resiliency in communities after a seismic event; and
- ASCE Manual of Practice 140, *Climate-Resilient Infrastructure: Adaptive Design and Risk Management*, provides guidance for and contributes to infrastructure analysis/design in a world in which risk profiles are changing due to climate change per the Fourth National Climate Assessment.

Appropriators should provide robust funding to those federal agencies whose missions include the following activities:

- Preparing and implementing a national model code addressing climate change; and

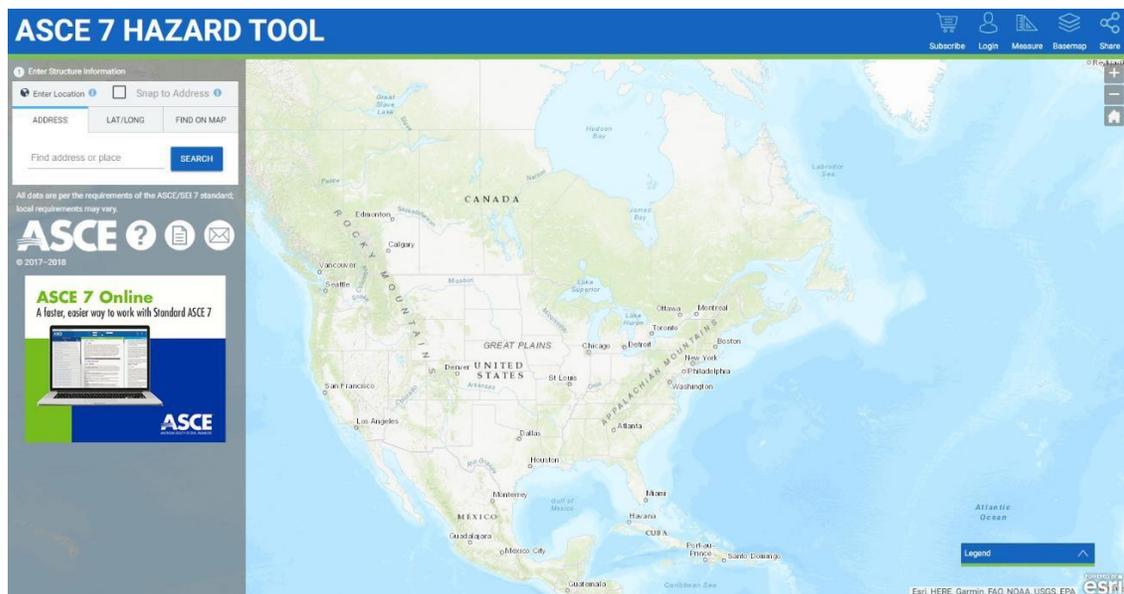
- Promoting national incentive programs encouraging state and local agencies to adopt said national model code.

In the wake of Hurricane Harvey, the City of Houston voted to require all new construction in the city's floodplains be built two feet above the 500-year floodplain. Florida, meanwhile, has made a series of updates to their building codes over the past twenty years, including the mandated use of stronger nails, relocation of vents, and more thorough inspection processes. These are strong examples of how codes can be modernized and ASCE standards can be incorporated to strengthen a city or state's resilience.

### ***Promoting resilient infrastructure with ASCE 7***

ASCE 7 is the means for determining flood, tsunami, snow, rain, atmospheric ice, earthquake, and wind and other loads and their combinations for general structural design.

- ASCE 7 was revised in 2017 as part of the regular update cycle to reflect new realities in which engineers are working to make our infrastructure more resilient to weather-changing events.
- Changes reflect the best understanding of the influence of loads on structures and continue to be the foundation for loads specified in most building codes in the United States.
- The new edition features wind-speed and seismic maps, state-coordinated snow data for seven mountainous states, and entirely new chapters on tsunami and fire design.
- ASCE 7 now features an [online hazard tool](https://www.asce.org/online-hazard-tool), a quick, reliable way to look up hazard data for seven environmental hazards including wind, seismic, ice, rain, snow, flood, and tsunami.



[asce7hazardtool.online](https://www.asce.org/online-hazard-tool)

## Optimizing Investments Using Asset Management

With inadequate funding resources and aging infrastructure, asset owners need a better way to prioritize their investment decisions. Infrastructure owners, particularly in the private sector, have employed asset management planning for years, while others at the state and local levels are increasingly exploring this approach to optimize infrastructure projects.

While the FAST Act requires state transportation agencies to develop asset management plans for highway infrastructure, widespread implementation of strategic asset management is lacking through the freight network. Through comprehensive promotion and guidance, more public and private infrastructure owners could take a proactive approach to developing needed data, including assessing the life-cycle condition of critical infrastructure assets, applying risk management tools, and making appropriation long-term funding decisions. For example, by adopting ISO 55000, an international asset management system standard, a common framework to participate in the financing, building, operation, replacement, and innovation of our country's infrastructure could be established.

An October 2019 poll from Government Business Council and ASCE found that 19% of local and state management officials felt there was little to no political support for asset management or were not sure where their leadership stood. The same poll found 34% of respondents identified the need for political support as key to improving asset management capabilities.

While many Asset Management Plans (AMPs) are voluntary and not required by the federal government and those that are mandatory lack enforcement, cities that choose to incorporate them have provided many benefits to the community in terms of funding. Innovative technologies exist today that automate these AMPs; adapting to the challenges of Climate Change.

Therefore, ASCE supports:

- Making federal grant or loan funding contingent on the development of an asset management plan and annual reporting to the appropriate federal agency, such as EPA for water utilities, MARAD for ports, FTA for transit authorities, FHWA for DOTs;
- Requiring continuous oversight and accountability for completed plans to ensure that they meet stated goals and can be implemented, and do not become a “check the box” exercise;
- The creation of a new grant or low interest loan program to assist localities or states with setting up a comprehensive asset management inventory as well as education and training programs;
- Consolidating best standards that are currently developed for different infrastructure assets across agencies into one center for best practices and adopting
- Encourage communities to move beyond paper reports and implement innovative asset management solutions.

## Restore a Strong Federal Partner in Infrastructure Investment

A sizable portion of our existing infrastructure systems are supported with user-generated revenue streams. With the onset of the COVID-19 pandemic, commercial water use is down, commuters are staying off the roads and away from transit, and airports are virtually empty. Meanwhile, municipal and state budgets are buckling under unprecedented demands, meaning less support is available for parks, schools, and other publicly-owned infrastructure, precisely at the time we should be investing.

Therefore, the federal government should make infrastructure investment a centerpiece of its immediate response and long-term economic recovery strategy.

ASCE urges the 117<sup>th</sup> Congress and President-Elect Biden to focus first on prioritizing those aspects of our infrastructure most in need of repair, replacement, and modernization, to sustain our economy, public health, and safety. The first step should be to address major infrastructure priorities at the federal level: fixing the Highway Trust Fund, increasing the cap on the Passenger Facility Charge to modernize our nation's airports, increase funding for the Drinking Water and Clean Water State Revolving Funds, and provide adequate funding for our nation's dams and levees.

**Highway Trust Fund.** The federal Highway Trust Fund, which pays for improvements and construction of roads, bridges, and transit systems, is funded by the federal gasoline tax, currently 18.4 cents a gallon. The tax has not been raised since 1993, and the revenues have not kept pace with system needs. If Congress does not act and find a long-term revenue solution, the Highway Trust Fund will have a total revenue deficit of \$92 billion between FY2021-2025, or a yearly average of \$18.6 billion. This comes at a time when we are already face a backlog of maintenance needs for our nation's roads, bridges, and transit systems, which has only been worsened by the COVID-19 pandemic.

The next iteration of a federal surface transportation bill should continue to support the proven user-fee system by raising the gas tax to ensure it is sustainable over the upcoming years. Furthermore, Congress and the Administration should also explore alternative user fees such as vehicle miles traveled to identify a long-term user fee solution for the Highway Trust Fund, as well as a tax on electric vehicles that would account for their presence on our nation's roads. Furthermore, other methods of revenue generation, including state, regional, and/or local sales taxes, dynamic pricing, container fees, and transit ticket fees should be considered for surface transportation maintenance and improvement. These actions will ensure the Highway Trust Fund can continue supporting critical transportation projects across the country to keep our country and economy moving and raise the ASCE Infrastructure Report Card grades.

**Passenger Facility Charge.** As a result of the COVID-19 pandemic, U.S. airports face at least \$23 billion in operating losses and passenger traffic through U.S. commercial airports are down by nearly 80% from this time last year. This comes at a time when the nation's airports were already experiencing nearly a \$500 million shortfall for capital needs over the next five years according to the Airports Council International-North America (ACI-NA). ASCE urges Congress and the Administration to support investments in airports by removing the cap on the Passenger Facility Charge (PFC) and increasing funding for the Airport Improvement Program (AIP).

Eliminating the cap on the PFC, while increasing AIP funding would allow airports of all sizes to address deteriorating or outdated infrastructure and grow the economy, as ACI-NA has also found that investing in America's airports could create 2.1 million jobs. An uncapped PFC, set by individual airports in response

to their needs and the market, would allow for a modernized funding stream to meet the growing infrastructure demands of airports nationally.

**Clean Water and Drinking Water State Revolving Funds.** Despite increased efficiency methods and sustainable practices, there is a growing gap between the capital needed to maintain drinking water and wastewater infrastructure and the actual investments made. In fact, by 2025, the disparity between needed and anticipated funding for drinking water and wastewater systems will be \$105 billion. The Clean Water State Revolving Fund (SRF) and Drinking Water SRF both play a vital role in providing state and local governments with a critical source of funding for water infrastructure projects through low-interest loans over the past several decades. Therefore, ASCE urges the Administration and the 117<sup>th</sup> Congress to prioritize the reauthorization of the Clean Water SRF, which has not been reauthorized in 30 years, and triple annual appropriations so that the Clean Water SRF receives \$4.9 billion annually, while the Drinking Water SRF would receive \$3.3 billion annually.

**Dams and Levees.** It is estimated that \$80 billion is needed in the next 10 years to maintain and improve the nation's levees, while [the Association of State Dam Safety Officials estimates](#) the cost of rehabilitating our nation's federal and non-federal dams to exceed \$70 billion. Included in this is the U.S. Army Corps of Engineers' (USACE) estimate that more than \$21 billion will be required to address dam deficiencies for Corps-owned dams; at the current rate of investment, these repairs would take over 50 years to complete. Unfortunately, the National Dam Safety Program consistently receives only a portion of its annual \$13.9 million appropriations, while the High Hazard Potential Dam Rehabilitation Program only received \$12 million for FY21, well short of the FY21 authorization of \$60 million. Likewise, while WRRDA 2014 created a new National Levee Safety Program to promote consistent safety standards, create levee safety guidelines, and provide funding assistance to state for establishing participating levee safety programs, the program only received \$4.5 million in FY21 and \$15 million in FY20, each well below its full annual authorization of \$79 million.

Furthermore, we urge the federal government to ensure water affordability. Drinking water and wastewater investments are overwhelmingly funded by local ratepayers and states and as these revenues have declined, higher water rates threaten many ratepayers. The federal government should work with state and local governments to incentive the development and funding of affordability programs to ensure that low-income and vulnerable communities do not bear a disproportionate burden of future rate increases. While ASCE was pleased to see Congress provide \$638 million for low-income water and sewer customer assistance as part of the most recent COVID-19 relief bill, additional support similar to the LIHEAP program may be necessary.

Now is the time to renew, modernize, and invest in our infrastructure to maintain our international competitiveness and ensure that communities across America receive equitable funding so that those communities lacking the capacity to access complicated federal grant programs are not left behind. ASCE looks forward to working with your Administration as it develops an economic relief bill that makes these much needed investments in our nation's vital systems. Continuing to underinvest in our infrastructure is already costing American families and businesses in wasted time, increased congestion, leaky pipes, and ongoing repair work. Therefore, investing in our infrastructure now, will not only create jobs and help our economy, but these investments will act as a down payment for future infrastructure projects.