



# HOUSE COMMITTEE ON THE BUDGET

Chairman John Yarmuth

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## Strong Infrastructure and a Healthy Economy Require Federal Investment

The United States has been underinvesting in infrastructure for decades, and American families and businesses will reap the economic consequences unless the federal government undertakes a major course correction. At a hearing September 25 on “America’s Infrastructure: Today’s Gaps, Tomorrow’s Opportunities, and the Need for Federal Investment,” the House Budget Committee heard testimony from expert witnesses on the economic importance of infrastructure, the status and funding needs of American infrastructure, its importance in attracting investment in and building communities, and the need to repair and maintain our current transportation, water, and other systems while addressing new 21<sup>st</sup> century challenges.

“If we, as a Congress, want to prepare our economy and our nation for a rapidly changing future, we must dramatically improve and modernize our infrastructure,” said Chairman John Yarmuth.

### Economic Importance of Infrastructure

Businesses and households depend on safe and efficient transportation networks to ship raw materials, food, and finished products and for employees and customers to get to work or stores. We also need reliable, effective, and sustainable networks for energy and water supplies, as well as waste disposal. And as our world becomes more connected, our economy is increasingly dependent on broadband for voice, video, and data transmission. Further, many regions, particularly coastal areas, are facing an urgent need for infrastructure that can withstand or mitigate the impact of increasingly severe weather and rising sea levels.

**“Infrastructure connects the nation's businesses, communities, and people driving our economy and improving our quality of life.”** — Carol Haddock, P.E., Director of Houston Public Works, and representing the American Society of Civil Engineers (ASCE), laid out the vital link between infrastructure and economic strength. She said, “For the U.S. economy to thrive, we need a first class infrastructure system – transport systems that move people and goods sustainably, efficiently, and affordably by land, water, and air; energy transmission systems that deliver clean, reliable, low-cost power from a robust range of sources; and water systems that reliably and safely drive industrial processes as well as the daily functions of our communities.”

### Infrastructure Investment Is Lagging

**“There is widespread agreement that the United States is spending too little on its infrastructure.”** — R. Richard Geddes, Ph.D., of Cornell University and the American Enterprise

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Institute, described how the United States has fallen behind. Available data suggests that infrastructure investment has fallen, relative to the size of our economy, and currently sits at inadequate levels. In his testimony, Dr. Geddes further noted: “The Congressional Budget Office estimated that combined federal, state and local spending on infrastructure was (in current 2019 dollars) \$441 billion as of 2017. That was about 2.3 percent of U.S. GDP. It remains well below estimates of the spending needed to keep infrastructure in a state of good repair.” This [CBO estimate](#) of transportation and water infrastructure spending as a share of GDP represents the lowest level in more than 60 years (spending peaked at about three percent in the late 1950s).

**“Many of the fees that are generated, and in many cases the property taxes that back the investment in our infrastructure, have been relatively flat.”** – Ms. Haddock noted at the hearing that part of the decline in investment is attributable to a stagnant revenue base that is not growing with the costs of infrastructure investment. Ms. Haddock continued, “We’ve talked about the gas tax not being indexed and hasn’t been raised since 1993. If you adjust that for inflation, we see a 40 percent reduction in actual buying power.”

**“I do believe we need to spend more. I do not believe we are keeping up with our developed and frankly even developing or emerging economy peers.”** – Adie Tomer, a Fellow at the Brookings Institution’s Metropolitan Policy Program, warned about the implications of underinvestment for U.S. economic competitiveness. The World Economic Forum’s [Global Competitiveness Report 2018](#) ranks the U.S. as 9<sup>th</sup> worldwide in infrastructure, behind Japan, Germany, France, and others. According to a [review by the Council on Foreign Relations](#), European countries spend, on average, the equivalent of 5 percent of GDP on building and maintaining their infrastructure, more than double what the United States spends. Moreover, the decline in U.S. infrastructure investment over time [has not been mirrored in other countries](#).

## **U.S. Infrastructure Is Aging, Underperforming, and Harming the Economy**

Much of U.S. infrastructure is past its originally planned lifespan. Underinvestment has led to a backlog of needs, even as the U.S. population has nearly doubled since the 1960s, when many of the country’s major infrastructure systems were designed. Businesses and individuals are bearing the economic costs of our failing infrastructure. They are losing time, productivity, and opportunities due to excessive traffic, delayed shipments, disruptions in energy supplies, and connectivity issues.

**“Our infrastructure systems are failing to keep pace with current and expanding needs, while investment in infrastructure falters.”** — Ms. Haddock outlined ASCE’s [Infrastructure Report Card](#), which assesses the state of U.S. infrastructure across 16 infrastructure categories including transportation, water, energy, and waste. “ASCE’s 2017 Infrastructure Report Card rated the overall condition of the nation’s infrastructure a cumulative grade of D+,” she testified. This D+ was the same poor grade as the previous 2013 report card. Ms. Haddock’s testimony presented

the results for selected categories, citing grades of C+ for bridges; D+ for drinking water, wastewater, and public parks; D for roads, dams, levees, and inland waterways; and D- for transit. ASCE concluded that the U.S. has been paying only about half of its infrastructure bill, with an investment gap of \$2 trillion anticipated over the next ten years, including \$1.1 trillion for roads, bridges, transit, and commuter rail.

**“Deteriorating infrastructure impedes our ability to compete in the thriving global economy, and improvements are necessary to ensure our country is built for the future.”** – Ms. Haddock described how outdated and inadequate infrastructure is a significant drag on the economy. ASCE estimated in its [“Failure to Act” report](#) that failure to close the infrastructure investment gap and restore U.S. infrastructure to good condition (a grade of “B”) by 2025 would result in \$3.9 trillion in cumulative losses to GDP (in inflation-adjusted 2015 dollars) and 2.5 million lost American jobs. These losses stem from increased costs of production, supply chain components, and business travel; declining exports due to increased transportation costs; and declining consumer spending. “Our nation is at a crossroads,” Ms. Haddock said. “While we have made some progress, reversing the trajectory after decades of underinvestment requires transformative action from Congress, states, infrastructure owners, and the American people.”

**“If these issues are not addressed, poor infrastructure can cost each American family \$3,400 a year or nine dollars a day in personal disposable income. This money out of our pockets is going to car repairs, gas, and time wasted in traffic.”** – Ms. Haddock described the potential impacts of poor infrastructure on households: fewer jobs; lower incomes due to a restructuring of the economy to lower-paying jobs to address problems caused by poor infrastructure; and more income diverted to transportation, electricity, and water/wastewater costs. We would also experience additional human and economic costs, and a reduced quality of life in our communities, from complications ranging from poor drinking water quality to inadequate flood control structures.

## **Public Infrastructure Investments Generate Significant Economic Growth**

Modern economies rely on infrastructure. Trade and commerce could not exist on a modern scale without efficient transportation, communication, energy, water, and waste disposal systems. Maintaining, expanding, and modernizing our infrastructure is vital to ensuring strong economic growth.

**“Investment in infrastructure will have a direct positive impact to the economy short-term and long-term through the jobs that are created, through design and construction, but more importantly through the 75 percent of the overall cost of infrastructure that goes into long-term operations and maintenance jobs. It is direct, it is tangible, and it is long-lasting.”** – Ms. Haddock discussed the economic benefits of infrastructure investment. While infrastructure is a necessary facilitator of economic activity, investments in infrastructure can impact the economy more directly. In the short run, infrastructure spending will increase demand and economic

activity. A dollar of infrastructure spending can increase near-term economic output by [\\$1.50](#), and the multiplier effect can be even larger in times of recession. In the long run, infrastructure spending can enhance the productive capacity of the economy by helping individuals and businesses to produce and sell goods and services more efficiently. On average, the resulting increase in private-sector output is equivalent to a rate of return of [17 percent](#) on public investments, significantly higher than for most private capital investments, [especially for core infrastructure](#) such as transportation, transit, and utilities.

**“Communities who invest in affordable transportation options or retrofit their suburban town centers or along their main streets are first in class to attract new jobs and industries.”** –

Christopher Coes, Vice President of Smart Growth America, discussed how smart infrastructure investments can drive economic development, encourage mixed-income and affordable housing, catalyze additional investments by the private sector, and revitalize towns and neighborhoods across America. These comments drew upon his background in both transportation policy and real estate investment. “To make communities investment-ready,” he explained, “federal investment has to go beyond just roads, bridges, and transit, but it has to be about modernizing our schools, brownfields, our water infrastructure, and rural broadband.” He cited several examples of communities that have been able to revitalize neighborhoods through modest infrastructure investments to build more walkable communities. “Office, retail, and multi-family built-in walkable communities,” he testified, “have achieved over 75 percent price premiums over their non-walkable competitors.”

**“Revitalizing our existing communities also requires addressing brownfield remediation. In the United States, there are more than 500,000 brownfield sites that present ample opportunities for economic growth.”** —

Brownfields are polluted or contaminated properties that require cleanup before redevelopment, and Mr. Coes discussed the often-neglected issue of cleaning up these sites as a way of attracting investment to communities that often already have under-utilized infrastructure in place on vacant properties. He said: “With property value increases between 5 to 15 percent and an \$18 return for every federal dollar spent, brownfield redevelopment has proven itself to be effective in growing the local economy.”

## **New Challenges Call for Modern Goals and Vision for U.S. Infrastructure**

In addition to the broad economic benefits of investing in infrastructure, we face new challenges and opportunities in the 21<sup>st</sup> century that our infrastructure policies and programs must address.

**“Today we have new challenges, ones just as serious as our predecessors.”** — Our existing infrastructure and policy frameworks, Mr. Tomer explained, successfully addressed the issues of an earlier era, such as connecting cities across state lines and delivering telephone service. But those frameworks were not designed to address today’s challenges: skyrocketing income and wealth inequality, the reshaping of entire industries by digitalization and broadband, the existential pressures of climate change, regional economic divergence that is stressing local fiscal

capacity, as well as the aging of our existing infrastructure. These challenges require a modernized set of economic, social, and environmental goals for our infrastructure investments. Mr. Tomer proposed four new federal infrastructure objectives: to address environmental resilience, affordability, economic competitiveness, and agency redesign. Mr. Coes suggested a guiding vision that “no matter where you live or who you are, you can enjoy living in a place that is healthy, prosperous, and resilient.”

**“We are woefully behind on the levels of digitalization we should have.”** — Mr. Tomer testified that, even though many households and businesses are fully digitalized, there is a strong case that we need to do more to provide broadband access to everyone and strengthen our economic competitiveness. Ms. Haddock and Mr. Coes also highlighted the importance of fixed and mobile broadband access for commerce and the need for greater federal attention. “In the United States,” Mr. Coes said, “rural communities and their economic development opportunities hinge on—and are burdened by—their poor access to broadband internet.” The private sector currently delivers most broadband access, but it is not reaching every community, every classroom, or every individual in both rural and urban environments. We need federal action and investment to close these gaps.

**“Many of our households face an inequitable infrastructure reality.”** — Mr. Tomer identified how stalled wage growth and our current infrastructure and housing together are deepening inequality. Transportation is the [second highest household expense after shelter](#), broadband prices are a barrier to its use, and “the combined cost of housing, transportation, and other infrastructure services often [exceeds the total after-tax income of the bottom 20 percent of households](#) by income.” “Unfortunately,” Mr. Coes noted, “there is an increasing gap between American cities and towns that have the right infrastructure and those that don’t.” For example, per Smart Growth America’s rankings, [only 2 percent](#) of the distressed communities designated as Opportunity Zones have smart growth investment potential, due to insufficient walkability, job density, housing diversity, and access to a central business district. The average Opportunity Zone resident spends more than half of their household income on housing and transportation, limiting their ability to save, invest in themselves, or support local businesses. Neighborhoods such as these have been disconnected from opportunity as a legacy of U.S. infrastructure spending, Mr. Coes testified, and we must ensure that future investments “address and not exacerbate the historic inequities that we find in rural America, communities of color, and low wealth communities.” Ms. Haddock noted that in Houston, they are changing their cost-benefit analysis to account more equitably for human impacts – assessing flood protection projects, for example, based on the number of people, rather than the housing and land value, protected.

## **Federal Investment and Reliable Funding for Maintenance and Repairs Are Crucial**

The federal government supports infrastructure projects in a variety of ways, including direct spending on construction, grants to states and localities, loans, and tax preferences such as the

tax exemption for interest on state- and locally-issued bonds. Federal support is especially important for larger-scale projects that affect multiple jurisdictions, require a broader source of revenues than is available to local communities, or create or sustain public goods that should be widely available to all. As Mr. Coes testified, “The need for federal infrastructure investment has never been greater; however, how we invest is more important than our level of investment.” Some federal programs – especially the major transportation programs – are funded primarily through dedicated taxes or user fees, often channeled through trust funds. These mechanisms allow programs to be largely financed by their primary users and provide dedicated funding that can improve long-term planning, but the resulting revenue streams do not necessarily track infrastructure needs or priorities over time, and not all societally valuable infrastructure lends itself to straightforward, appropriate, or desirable collection of user fees.

**“If we are to achieve lasting progress, the federal government must provide that critical leadership to increase investment from all levels of government and the private sector”** — Ms. Haddock said that consistent, reliable, and dependable sources of infrastructure funding are crucial for planning and implementation. This is especially important since coordination is needed across federal, state, local, and private-sector entities, and because infrastructure planning often looks decades out into the future. ASCE recommends increasing total U.S. infrastructure investment from the current 2.5 percent [to 3.5 percent of GDP](#) by 2025. Other infrastructure assessments have come to similar conclusions; for example, McKinsey estimated a [spending gap of 0.7 percent of GDP](#). Because most infrastructure is owned by states, localities, or the private sector, Mr. Tomer and other witnesses agreed that federal investment needs to leverage, rather than replace, other funding sources – and should seek to create incentives for scalability and to facilitate regional planning across jurisdictions.

**“What we face is a problem with operation and maintenance...The spending really needs to address this deferred maintenance problem that we have in the United States.”** — As Dr. Geddes put it, “We don’t need to build another interstate highway system. We need to take care of the one that we have.” Many communities are grappling with decades of underinvestment in maintenance and repairs on existing infrastructure, warned Ms. Haddock. As a result, we’re facing much higher spending on replacement and repair down the road. “If you don’t change your oil,” she described it, “eventually your engine is going to need a lot more work than if you just did that routine maintenance along the way.” Infrastructure investment decisions must balance new or expanded systems against renewing existing infrastructure. A [“fix it first” approach](#) – conducting early and regular maintenance rather than waiting until structures are severely damaged or degraded – [yields large cost savings](#) in the long run. For new infrastructure, greater use of life-cycle cost analysis covering the full project lifespan, including both the initial construction and long-term operations and maintenance, would help ensure the most efficient use of funds.

**“The United States can adopt innovative approaches used successfully in many other countries to help state and local governments fund and finance their infrastructure”** — Dr. Geddes also



recommended that government infrastructure owners can generate revenue through value capture, asset recycling, and tax increment financing – approaches that identify and then monetize existing (or anticipated), but underutilized, sources of value in infrastructure, such as unused land next to highways. Mr. Coes noted that federal provision of low-interest loans, which have a longer timeline than traditional capital markets, can increase the financial viability of urban and rural infrastructure improvements. Dr. Geddes advocated for public-private partnerships as a way to “leverage private capital, expertise, and other benefits that help scarce transportation and infrastructure dollars go as far as possible.” While such partnerships can [slightly reduce construction costs and increase construction speed](#), they are not a panacea for [closing our major gap in infrastructure funding](#) because they still require substantial public investment.

## **We Must Prepare for the Future as We Invest in Infrastructure**

To ensure the long-term value of investments, fiscally responsible infrastructure planning must account for the need for greater resiliency and the emergence of new technologies. New technologies can alter how infrastructure will be used (e.g., autonomous vehicles); enhance capabilities and longevity (e.g., new materials and process); or provide entirely new capabilities and displace older, outdated infrastructure (e.g., broadband networks, distributed power generation and storage).

**“By becoming a more resilient nation, we can ensure our infrastructure is built for the future and our nation’s limited federal resources are spent wisely.”** — Ms. Haddock and Mr. Coes made the case that resilience is critically important to the health of U.S. infrastructure and to the economic and social well-being of American communities, especially as climate change and extreme weather intensify. ASCE recommends that Congress support resiliency goals in all infrastructure-related legislation, to limit long-term costs and minimize future economic, environmental, and social risk. As climate change intensifies, states have a stake in ensuring their infrastructure is effective in mitigating the effects. But in Houston, for example, Ms. Haddock testified that their vulnerable infrastructure simply cannot bounce back from extensive and increasingly frequent flooding without major reinvestment, and that the federal government has a vital role to play in supporting that reinvestment. Moreover, infrastructure that is designed to meet future needs and withstand future hazards may have a higher up-front cost but results in long-term budgetary benefits: every \$1 the federal government spends on natural hazard mitigation [saves \\$6 in future disaster recovery costs](#).

**“The technology of infrastructure is changing at breakneck speed.”** — Dr. Geddes recommended that the federal government invest in infrastructure technology research and encourage states and localities to adopt innovative technologies more quickly. Utilizing new approaches, materials, and technologies, Ms. Haddock said, can expedite repairs and replacements, extend the life of existing infrastructure, increase resilience and sustainability, and ultimately reduce costs. New wastewater treatment methods, for example, allow plants to

treat more water, discharge a cleaner product back to the environment, and turn waste into energy.

### **The Federal Government Is Critical to Strengthening U.S. infrastructure**

As the expert witnesses at this hearing made clear, we can and must act to invest smartly in rebuilding our infrastructure, assisting state and local partners, and preparing for the future. We know that infrastructure investment stimulates the economy in the short term, increases economic productivity in the long term, and strengthens communities. Democrats stand ready to pass smart and effective infrastructure legislation that has previously garnered bipartisan interest. Yet Republicans have not proposed or supported a realistic, workable plan that meets our nation's needs – choosing to provide tax cuts for the wealthy instead of supporting a critical foundation for U.S. economic growth. As Ms. Haddock said at the hearing, we have the ability to plan for our infrastructure and our future. The question is: do we have the courage?