Today’s Infrastructure Improvements Will Drive Tomorrow’s Economy

Few issues enjoy such broad bipartisan consensus as the failings of American infrastructure. Roughly two-thirds of Americans rate their own local roads as only in fair or poor condition, and a similar proportion say that the country is not doing enough to meet infrastructure needs, making infrastructure a top-tier issue in 2020.1 With Treasury Secretary Steven Mnuchin signaling that infrastructure spending is a priority for the administration if economic stimulus is required to address slowdowns in the economy due to COVID-19, the US approach to infrastructure projects is poised to become an even more pressing issue.2

Modern, effective infrastructure is an essential requirement for national commerce—and for growing and widely shared prosperity—even as changes in technology drive changes in infrastructure requirements. While definitions vary, a 2019 Trump administration executive order defined infrastructure projects as those relating to surface transportation; aviation; ports; water resources projects; energy production, generation, storage, transmission, and distribution; broadband internet; pipelines; stormwater and sewer infrastructure; drinking water infrastructure; and cybersecurity.3 Efficient investment in cutting-edge infrastructure connects businesses and workers to more opportunities, increases productivity, and undergirds American competitiveness. Thus, US infrastructure is vital to sustain capitalism and maintain US economic leadership. However, the US routinely lags other advanced nations in infrastructure quality and, when considering the size of its economy, infrastructure investment.4

As in 2016, both major party 2020 presidential election candidates are campaigning on improving US infrastructure, and both the Republican administration and Democratic congressional leaders have proposed significant increases in investment.5 In his Fiscal Year 2021 budget proposal, the president proposed a new, roughly $200 billion infrastructure initiative to increase near-term investments in key priorities, as well as
Recommendations

The US needs world-leading infrastructure to facilitate the global competitiveness of US businesses and create opportunities for prosperity for more Americans. This will require appropriate and sustainable finance and flexible adaptation to changing needs and priorities. The US should:

- Improve infrastructure planning and decision making through adherence to credible cost-benefit analysis and increased stakeholder coordination and collaboration to prioritize the broader public interest.

- Encourage innovation, including goal and outcome-oriented approaches to state and local funding that break down silos and increase flexibility for responding to the needs of emerging or developing technologies.

- Modernize and streamline regulatory burdens to reduce duplication and maximize the public benefit.

- Improve private-sector involvement through greater use of public-private partnerships.

- Explore alternative approaches for utilizing private investment resources to advance public infrastructure goals.

- Move toward user fees to more sustainably support a greater share of the US’ infrastructure portfolio.

- Incorporate climate risk into evaluations of potential infrastructure investments.
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A 10-year, $810 billion reauthorization of existing surface transportation programs equivalent to a roughly 4 percent annual increase in nominal funding levels. Democratic leadership in the House has proposed a framework for spending $760 billion on infrastructure over the next five years. But the relevance of infrastructure investment, and competing infrastructure proposals, across multiple election cycles reflects a continued failure to reach bipartisan agreement.

Continued delays in investment have increased the urgency of the commonsense solutions needed to upgrade and modernize US infrastructure. But policy makers and business leaders should not be content with short-term patches or quick fixes. Instead, leaders in the private and public sector should be unified in advancing policies that are focused on delivering world-leading infrastructure on a sustainable basis, continually meeting the US’ evolving needs, and supporting widely shared economic growth. The possible inclusion of infrastructure spending in an economic stimulus package further highlights the importance of achieving reforms that will make it an even more powerful source of long-run return on investment. To advance an agenda for more effective infrastructure investment, this report highlights reasoned approaches—stretching across categories of infrastructure—that policy makers should adopt to increase the impact of US infrastructure spending, including: 1) improving infrastructure planning and decision making through cost-benefit analysis and increased coordination, 2) encouraging and facilitating more innovation, 3) modernizing and streamlining regulatory burdens, 4) improving private-sector involvement through a greater use of public-private partnerships (PPPs), 5) exploring alternative approaches for utilizing private investment resources, 6) moving toward user fees as a source of more sustainable funding, and 7) incorporating climate risk into evaluations of potential infrastructure investments.

US INFRASTRUCTURE IS A CRITICAL COMPONENT OF EXTENDING ECONOMIC OPPORTUNITIES TO ALL AMERICANS

Infrastructure is called the “backbone” of the economy, connecting people and businesses to jobs, goods, services, information, and customers in and outside of the US. Access to high-quality infrastructure expands economic opportunities to more communities, improves quality of life, and boosts international competitiveness. Ports, waterways, railroads, airports, roads, reliable electricity, and internet connectivity are critical for the arrival of necessary inputs and the delivery of finished products, and thus for creating jobs. Infrastructure equally contributes to achieving a safe, healthy, mobile, and educated workforce.

In the US, most public infrastructure funding comes from state and local governments, with the federal government providing additional support through direct spending, grants, loans, and tax preferences. Federal funding is a significant source of support for transportation and water infrastructure, where the Congressional Budget Office estimates that it accounts for more than a fifth of annual investment. The Highway Trust Fund, financed primarily by motor fuel taxes and subsidized by general revenues, is the largest source of federal funding for infrastructure. Private-sector involvement in the
development and operation of public infrastructure also has a long history in the US. However, PPPs currently account for less infrastructure investment in the US than in other advanced economies.14

While comparisons between countries are difficult given divergent needs and the challenges of measuring quality, the relative state of US infrastructure appears to have declined since a period of strong public investment during the Great Depression and following World War II, including the construction of the federal highway system.15 Analysis of International Monetary Fund data suggests that, compared to other advanced economies, the US had much-higher-than-average stocks of public capital as a share of GDP in the 1960s but had fallen to below-average levels by the mid-1980s.16 By 1988, a congressionally chartered study of public works rated US infrastructure as only average in terms of its performance and capacity.17 While the US economy has remained strong, in part on the basis of past infrastructure investments, infrastructure is no longer a world-leading booster of its performance. For example, one set of global competitiveness rankings that placed the US second overall, only ranked the US 13th in terms of its overall infrastructure and 23rd in terms of its water and electric utilities infrastructure.18

Because infrastructure is critical to the strength of the US economy, improvements or degradations in infrastructure have enormous consequences for economic and fiscal health. Preliminary data from the Bureau of Transportation Statistics and the Census Bureau suggest that over $14 trillion worth of goods were shipped domestically and abroad utilizing US transportation infrastructure in 2017.19 Infrastructure is also critical to household finances, through its effect not only on jobs, wages, and consumer prices, but also on spending. In 2017, the average household spent an estimated 13 percent of its pretax income on transportation, the second-largest category after housing.20 That US households generally pay less for electricity than other advanced economies has much to do with natural resources but is also related in part to differences in infrastructure and its regulation.21

As the Committee for Economic Development of The Conference Board (CED) explained in its 2017 report, Fixing America’s Roads & Bridges: The Path Forward, smart infrastructure investments raise economic growth, improve productivity, and increase land values.22 Sound upgrades in infrastructure also can create positive long-term spillovers through increased public health, higher energy efficiency, more robust economic development, and other improvements.

Many potential benefits from smart infrastructure investment are future oriented, helping to boost global competitiveness and innovation in the long run. Infrastructure also influences where businesses locate, with important knock-on effects in economic opportunities that might otherwise go abroad. Infrastructure investment can attract and retain highly educated workers and businesses seeking to employ them, and thereby help struggling communities to create jobs and raise wages.23 Some analysts have estimated that, holding everything else equal, an additional dollar of public infrastructure investment generates on average over 10 cents of output per year over the long run.24
Inaction can also be costly. It can degrade road or rail transportation, increasing congestion, delivery times, environmental impacts, and repair costs for vehicles, and imposing additional risk to the safety or health of drivers and passengers. The average American worker spent 225 hours commuting to and from work in 2018, a record high.\textsuperscript{25} One analysis found that congestion costs urban Americans extra travel time and extra fuel worth $166 billion annually.\textsuperscript{26} The estimated average congestion time lost per auto commuter has increased over 40 percent since the turn of the century as capacity and alternative transportation options failed to keep up with growing numbers of commuters in population centers. Congestion also adds uncertainty to travel time, which harms both commerce and quality of life. A 2014 analysis by the US Travel Association suggested that air travel delays and cancellations stemming from airport congestion could motivate up to 38 million fewer plane trips annually, with a potential economic loss of roughly $36 billion.\textsuperscript{27}

Similar problems arise outside of transportation. The poor condition of US water and wastewater infrastructure is estimated to cost $2.6 billion per year through water main breaks, with one industry group in 2013 having projected annual costs to businesses and households managing unreliable water delivery and wastewater treatment in the tens of billions of dollars.\textsuperscript{28}

Failing to invest in internet capability also comes with a likely cost, with one industry-aided study finding that doubling broadband speeds in OECD countries is associated with an 0.3 percent increase in annual growth.\textsuperscript{29} In addition to forgone improvements in speed, the failure to expand broadband penetration more widely can also be viewed as a form of forgone infrastructure investment with economic consequences. Workers living in communities with unreliable or limited access to high-performance broadband will miss out on opportunities for education, skill building, and employment that could increase their prosperity, while businesses employing such workers will have less flexibility in how they function without reliable options for remote work.\textsuperscript{30} A 2009 study estimated that a 10 percentage point increase in broadband penetration in high-income economies would lead to a 1.2 percent increase in the growth rate of GDP per capita.\textsuperscript{31}

Delayed maintenance also imposes expense, as needed repairs become more costly and catastrophic failure more likely. Lower-quality infrastructure also adds business costs that reduce profits and productivity or raise consumer prices—eventually lowering effective wages and employment, economic growth, and the tax base.

Mistakes in infrastructure management are also costly. For example, one study found that the public health crisis resulting from mismanagement of the Flint, Michigan drinking water supply not only harmed the short- and long-term health of residents and incurred over $340 million in ameliorative state and federal spending, but also at least temporarily depressed the value of Flint’s housing stock by between $350 million and $500 million.\textsuperscript{32} Similarly, the 2007 collapse of the Mississippi River bridge in Minnesota not only caused injuries and loss of life but also had estimated negative economic impacts in the state of up to $60 million spread across two years.\textsuperscript{33}
PUBLIC INFRASTRUCTURE INVESTMENT FACES CHALLENGES

Despite large economic benefits of smart infrastructure spending, public investment has fallen. According to Bureau of Economic Analysis data, the average annual investment in nondefense public infrastructure fell from 4 percent of GDP in the 1960s to 2.7 percent in the 2010s.\textsuperscript{34} Although federal spending, including transfers to states and localities, is a minority of public infrastructure investment overall, the relative decline in federal support—as the economy and population have grown—contributes to declining total public investment. Average annual federal nondefense investment in major public physical capital, including transfers, declined by roughly 30 percent from 1960-1979 to the 2010s.\textsuperscript{35}

Declining infrastructure investment could lead US businesses and communities to miss out on or be slow to adopt new technologies that provide critical advantages in assessing markets or delivering services more efficiently or more widely. Infrastructure plays an enormous role in connecting Americans, and American products, to each other and the world, both physically and digitally. In recent decades, connectivity to broadband is credited with changing how companies operate and how business is conducted, but adoption remains incomplete, with some US communities and their

Investment in public infrastructure has declined significantly since the 1960s and 1970s

Average annual investment in government fixed assets as a share of GDP, by source

- Total federal (nondefense)
- State & local (structures only)

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Source: Bureau of Economic Analysis

Note: Federal investments exclude defense spending; *Through 2018
economic competitiveness disadvantaged by unreliable or low-quality service.36 The Federal Communications Commission estimates that more than 20 million Americans still lack access to broadband connections of a minimum speed capable of originating and receiving high-quality voice, data, graphics, and video telecommunications, including roughly a third of Americans who live in rural areas.37

The US has not only forgone productivity-enhancing infrastructure improvements, but also under-invested in maintenance and repair. Some analysts have estimated that executing all currently deferred maintenance for public infrastructure at the state and federal levels combined could cost as much as $1 trillion.38 However, simply increasing resources without significant improvements in how the US allocates and finances those resources would be shortsighted. Instead, the US needs to confront the fundamental challenges to effective, efficient, and sustained investment that led to the current predicament. Additionally, the US should not only repair all existing assets but also adapt, upgrade, and modernize US infrastructure to meet the long-run needs of a cutting-edge, 21st-century economy. The US is in a different position now than it was during large infrastructure investments in the mid-20th century:

Cost challenges

The cost of infrastructure investment in the US has grown significantly and appears to be higher than in other advanced economies, though the drivers are not clear.39 One study found, after adjusting for inflation, the cost of building a mile of interstate highway in the US tripled between the 1960s and the 1980s, while labor and materials prices did not increase much.40 Similarly, studies have found US rail projects to be significantly more expensive than comparable projects in other advanced economies.41 Slow productivity gains may also be restraining US infrastructure purchasing power. One 2016 study found that US construction sector productivity, which was largely stagnant in the 1990s, declined significantly and steadily after 2000.42

Regulatory burdens

Health, safety, and environmental standards have increased over time, leading to longer review times that slow planning and add costs, attracting attempts at reform.43 A 2018 analysis found that the median time for review of a federal project under the National Environmental Policy Act (NEPA) in the 2010s was more than three and a half years, with an average completion time of more than seven years for Federal Highway Administration and Federal Aviation Administration projects.44

Resilience and adaptability concerns

The life cycle of many infrastructure investments is measured in decades. Yet the pace of technological and environmental change could accelerate significantly in the half century ahead. Investment decisions made today will likely lock in certain technologies, carbon footprints, and weather and climate resilience postures. Given uncertainty, analyzing and pricing such risks will be critical for informed infrastructure decisions, and options that preserve flexibility may be preferable as a result.
ADVANCING INFRASTRUCTURE POLICIES IN THE NATIONAL INTEREST

To sustain capitalism for another generation, the US will need to foster world-leading infrastructure that facilitates the competitiveness of US businesses and increases opportunities for more Americans to share in growing prosperity. To further that goal, CED is undertaking research throughout 2020 focused on providing reasoned solutions in the nation’s interest to the specific, critical challenges facing policy makers trying to improve the quality of key US infrastructure assets. Successfully addressing those challenges will require the US to maximize the benefit of its infrastructure investments, which should be characterized by: 1) prioritized funding for the highest-value projects, 2) flexible adaptation to shifting needs and demands, and 3) appropriate and sustainable financing. Specifically, the US should:

Improve infrastructure planning and decision making through cost-benefit analysis and increased coordination

Smart investment requires serious cost-benefit analysis that goes beyond narrow, parochial interests to advance projects with the greatest net benefits through increased coordination in long-term design and planning, bringing together private and public stakeholders across different levels of government and political or geographic boundaries. Improved project selection would reflect data-driven asset management of both already existing and planned infrastructure resources, uncovering the true scope of needs, benefits, and life cycle costs—and trade off the relative value of maintenance or upgrades to existing infrastructure against the construction of a new capacity.45

The US approach to infrastructure project selection has been, and should remain, decentralized. State and local decision makers can identify needed and high-value infrastructure improvements. But decision makers at all levels should face scrutiny and accountability for funding choices. Standardized metrics should guide project selection, incentivize cooperation among private and public stakeholders, and encourage best practices in financing and management with federal infrastructure funds. Additionally, developing an experts’ list of top-priority infrastructure projects nationally could illustrate the application of cost-benefit analysis across regions and types of projects, encourage discussion and critiques, and build support for high-value projects that may be difficult to execute under current jurisdictional arrangements.46

Encourage innovation

Infrastructure investments will both shape and be shaped by technological innovation. Providing an environment where US businesses can more quickly and fully take advantage of improvements and breakthroughs in science and technology will maximize economic opportunities and prosperity for all Americans. Federal policy, particularly within transportation, should encourage goal- and outcome-oriented state and local funding—investment decisions that are not constrained to particular categories of infrastructure and, instead, push spending to assets and solutions that best achieve a community’s or region’s particular needs. For example, dedicated funding for roads or rails will lead to rigid road- or rail-based solutions in proportion to the funding provided even if a different
balance or approach—perhaps one not yet recognized or that places more emphasis on data infrastructure, including access to high-performance broadband, over physical mobility—could better achieve the region’s goals.

In some sectors, a lack of affordable, high-quality access to globally competitive broadband is likely already restraining potential productivity growth. For example, a 2019 USDA analysis found that deploying existing agricultural technologies at scale—requiring high-performance broadband connectivity—would result in “economic benefits equivalent to nearly 18 percent of total production” on farms.47

The places that best, and most quickly, adopt the regulatory and infrastructure investment posture needed to facilitate the economic opportunities and gains from new technologies will be at a considerable advantage in the decades ahead.48 Take a potentially key technology like autonomous transport, which could reorient how we organize and conduct many business and consumer activities. A city or a nation that recognizes and accommodates the necessary infrastructure changes—digital and physical—for progressing the use of autonomous transport may gain significant early mover benefits if the technology proves to be as central as some analysts predict.49 Changes in the physical landscape—including the standardization of road markings and the design of curbside spaces—and the regulatory environment—with respect to safety standards, cybersecurity standards, insurance rules, and the harmonizing of potentially confusing jurisdictional issues—may each be critical aspects of early success.50

Additionally, given large existing investment needs and slow productivity growth in construction, the US should review its research and development efforts in infrastructure. Increasing investment in innovation, perhaps from other parts of the nation’s research portfolio, could well spur quicker long-lasting improvements in economic opportunity and quality of life.

Modernize and streamline regulatory burdens to reduce duplication and maximize benefits

CED has consistently advocated for investing in “smart regulation,” reviewing and modernizing regulatory regimes to enhance efficiency, yielding both greater benefits and lower costs.51 With long delays between project conception and execution, and often multiple layers of jurisdiction and review, a smart regulation approach could ensure that the rules governing reviews and permitting of projects address important concerns and ensure that net benefits are maximized over time at all levels of government. The federal government and states should bring together stakeholders and public entities throughout a region to ensure that the oversight process is stripped of duplication and optimized for the national interest across all levels of government. Consistent with other efforts aimed at encouraging innovation, a successful regulatory regime should also facilitate faster deployment of new technologies and easier upgrades to existing infrastructure assets to capture economic opportunities, increase resilience, and reduce environmental impact. In areas like broadband, regulations should be reviewed to ensure that pro-competitive rules are in place so that businesses compete over customers based on innovation, quality, and price rather than rely on barriers to entry.
Better utilize private-sector involvement through public-private partnerships

Well-designed PPPs incentivize efficiency, innovation, and long-term performance while transferring certain financial risks—like cost overruns and delays—from the public to private investors.\(^52\) PPPs vary in form, with private-partner responsibilities ranging from the execution of simple operation and maintenance contracts for fixed periods of time to accepting ground-up involvement in the development, delivery, and long-term management of a new public asset. Private-sector investors and operators expect to recoup their costs and profit from users directly or from government payments for the development or upkeep of an asset. As a result, the clearest cases for PPPs arise when a project can be funded, directly or indirectly, from a revenue stream derived from users. This includes the case of some existing assets where privatization or private-partner operation could encourage innovation, efficient operations, and sustained upkeep and modernization.

Florida’s I-595 corridor project is often held up as a model PPP, where periodic performance-based payments to the private-sector builder, operator, and maintainer of the project have primarily come from public revenues levied through tolls on the express lanes constructed as part of the improvement project.\(^53\) The use of a private-sector provider helped speed completion of the asset by several years, more rapidly benefiting drivers and allowing the state to begin collecting express lane toll revenues sooner.\(^54\)

PPP agreements are not riskless—since private-sector partners may fail to complete a project or contract—and private financing cannot increase overall infrastructure funding, but it can speed the funding process and, when user fees are the expected future revenue source, help signal that project benefits are expected to exceed costs.\(^55\) Additionally, by establishing the financing of operations and repairs upfront, PPPs can be a kind of credible commitment by public entities to the long-term upkeep of infrastructure assets. A 2020 Congressional Budget Office review concluded from limited evidence that PPPs appeared to lead to faster design and build times and lowered costs compared to public-sector equivalents but only “by small amounts on average.”\(^56\)

While most sound infrastructure projects will not suit PPP-style collaboration, policy leaders should take full advantage of PPP models when appropriate. American governments at all levels should encourage private-sector participation with proper oversight, including against manipulation.

Explore alternative approaches to utilize private investment resources

PPPs are one way in which private investment resources can be utilized to improve public-sector infrastructure investment, but not the only way. Private-sector funding, particularly through tax-exempt municipal debt issuances, is a central element of the current US approach to infrastructure financing. However, creative financing mechanisms like Transportation Infrastructure Finance and Innovation Act assistance and the currently lapsed Build America Bonds program have also been successful in encouraging the efficient upfront utilization of private investment resources, including by expanding
which nongovernmental investors can participate in infrastructure project financing.\textsuperscript{57} Policy makers should continue to explore, evaluate, and support creative alternatives that could broaden the range of investors, lead to gains in cost efficiency, or otherwise improve the set of available options for drawing private-sector capital into public infrastructure investment.\textsuperscript{58}

**Move toward user fees to sustainably support a greater share of the US’ infrastructure portfolio**

In theory, a push toward “user-pay” models, often embedded within PPP arrangements, can help promote efficient outcomes and sustainable financing by ascribing the cost of operating infrastructure to the people who most directly benefit from it. In practice, because infrastructure can have spillover benefits like increased property values, improved environmental outcomes, or decreased congestion for alternative assets, identifying actual beneficiaries is more complicated.\textsuperscript{59} But generally, user-pay models yield better and fairer outcomes. As sustainable long-run funding for the maintenance, improvement, or replacement of infrastructure assets remains hard to come by, governments should be exploring options for funding a greater share of infrastructure needs through user-based fees. In some instances, like highway investment and repair, the US should take action to restore more of the funding burden to direct users. While motor fuel taxes served as an effective user fee and the predominant source of funding, the per gallon federal “gas tax” has been frozen since 1992, and increases in fuel efficiency have reduced revenues per mile traveled without reducing wear and tear.\textsuperscript{60} CED has in the past called for an increase in gas taxes, or some other user-fee-based alternative, to more sustainably fund needed investments.\textsuperscript{61} However, additional opportunities for new or improved user-pay approaches to financing should be considered across infrastructure assets, including for rail, airports, and ports.\textsuperscript{62}

**Incorporate climate risk into evaluations of potential infrastructure investments**

Changes in climate pose potentially striking risks to the value proposition of long-lived assets, even while the timing and severity of those risks remain uncertain. Preparation for climate-related stresses or hazards—including more extreme weather events; increased flood, wildfire, and drought risks; and other negative outcomes—have pushed some private-sector actors to lead the way in incorporating long-run climate risks into their investment decision making.\textsuperscript{63} Business leaders concerned about the national interest must also lead the way in encouraging policy makers to similarly recognize and incorporate those risks—as well as learning from the private sector—when they evaluate potential infrastructure investments. Serious cost-benefit analysis requires that policy makers attempt to grapple with the resilience and adaptability, as well as the potential climate impact, of competing choices.
Endnotes

1. “Washington Not Paying Enough Attention to Infrastructure,” Monmouth University Polling Institute, May 22, 2018; “Global Infrastructure Index 2019,” Ipsos, November 27, 2019. Support for increased federal infrastructure investment has been robust across a number of surveys produced by different polling outfits in recent years. In 2016, roughly three-quarters of Americans surveyed by Gallup reported supporting increased federal investment to improve US infrastructure. For an overview of recent results, see: Frank Newport, “The Singular Appeal of a Government Focus on Infrastructure,” Gallup, May 2, 2019.


3. “Executive Order on Strengthening Buy-American Preferences for Infrastructure Projects,” The White House, January 30, 2019. The taxonomy of US infrastructure is fluid and shifts as the needs of society and business change but generally includes the shared physical assets necessary for modern living and commerce. To take one attempt at definition, Henry Petroski, a professor of history and engineering at Duke University, held up infrastructure as connoting “the sum of a society’s physical improvements and denotes the public works (that is, structures and systems like roads, bridges, and water supplies that serve the public) as well as the works of private enterprise (for example, the fiber-optic, wireless, cellular, and other information and communication networks) that enable a civilization to function in a civilized way.” See: Henry Petroski, The Road Taken: The History and Future of America’s Infrastructure, Bloomsbury USA, February 16, 2016.


10. Apart from its economic significance, infrastructure is also critical to meeting goals like national security and disaster preparation. President Dwight Eisenhower justified investment in a national highway system in part on the basis of the nation’s “appalling inadequacies to meet the demands of catastrophe or defense” in the event of a nuclear war. See: “Address of Vice President Richard Nixon to the Governors Conference Lake George, New York July 12, 1954,” Federal Highway Administration.


14. Jonathan Woetzel, Nicklas Garemo, Jan Mischke, Martin Hjerpe, and Robert Palter, “Bridging Global Infrastructure Gaps,” McKinsey Global Institute, June 2016. Between 2010 and 2014, PPPs accounted for roughly 1 percent of total infrastructure spending in the US compared to a 3 percent average among advanced economies. In part, lower levels of PPP funding likely reflect differences in demand compared to other advanced economies owing to the market for state and municipal bonds.


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34. Authors’ calculations based on “Table 7.5. Investment in Government Fixed Assets,” Bureau of Economic Analysis, accessed on March 5, 2020.

35. “Historical Table 9.3—Major Public Physical Capital Investment Outlays in Percentage Terms: 1940–2021,” Office of Management and Budget, 2020. It has also been relatively deprioritized, shrinking more than 2 percentage points, or roughly 40 percent, as a share of total federal outlays between the 1960s and 2010s, as federal spending on other categories, particularly health care, steadily increased.


40. Brooks and Liscow, “Infrastructure Costs.”

41. For example, a 2015 analysis found that the four most expensive of 144 rail projects in 44 countries, on a per kilometer basis, were all located in the US, though relatively higher US rail project costs may be owing to differences in station construction, with contracting practices another potential driver. See: Gordon and Schleicher, “Higher Costs May Explain Crumbling Support”; Alon Levy, “Why American Costs Are So High (Work-in-Progress),” Pedestrian Observations, March 3, 2019.

42. Woetzel et al., “Bridge Global Infrastructure Gaps.”

43. “Fact Sheet: CEQ’s Proposal to Modernize Its NEPA Implementing Regulations,” Council on Environmental Quality, January 9, 2020; Christy Goldfuss, “5 Recommendations to Speed Infrastructure Permitting without Gutting Environmental Review,” Center for American Progress, September 6, 2018. Additionally, another source of increased cost owing to regulation may take the form of decision makers redirecting investment to more expensive projects than in the past to avoid running into legal challenges or to more clearly satisfy environmental standards. See: Brooks and Liscow, “Infrastructure Costs.”


46. Such a model might serve as an American version of the kind of long-term assessment of infrastructure needs typically outlined in other advanced economies by national infrastructure commissions. See: Andrew Bennett and Kirsty Innes, “Economic Infrastructure for the Internet Era,” Tony Blair Institute for Global Change, December 6, 2019.


48. Bennett and Innes, “Economic Infrastructure for the Internet Era.”


SUSTAINING CAPITALISM

Achieving prosperity for all Americans could not be more urgent. Although the United States remains the most prosperous nation on earth, millions of our citizens are losing faith in the American dream of upward mobility, and in American-style capitalism itself. This crisis of confidence has widened the divide afflicting American politics and cries out for reasoned solutions in the nation’s interest to provide prosperity for all Americans and make capitalism sustainable for generations to come. In 1942, the founders of the Committee for Economic Development (CED), our nation’s leading CEOs, took on the immense challenge of creating a rules-based post-war economic order. Their leadership and selfless efforts helped give the United States and the world the Marshall Plan, the Bretton Woods Agreement, and the Employment Act of 1946. The challenges to our economic principles and democratic institutions now are equally important. So, in the spirit of its founding, CED, the public policy center of The Conference Board, will release a series of 2020 Solutions Briefs. These briefs will address today’s critical issues, including health care, the future of work, education, technology and innovation, regulation, China and trade, infrastructure, inequality, and taxation.