Q3 2021

ANSWERING AMERICA

ARE WE DOING ENOUGH TO FIX OUR ROADS AND BRIDGES?

BUSINESSFORWARD FOUNDATION
ARE WE DOING ENOUGH TO FIX OUR ROADS AND BRIDGES?

ANSWER: NO.

U.S. INFRASTRUCTURE RECEIVES A C- GRADE, YET WE INVEST FAR LESS THAN OUR GLOBAL COMPETITORS. WASHINGTON SHOULD ALLOCATE SUFFICIENT FUNDING SO LOCAL GOVERNMENTS CAN HOLISTICALLY ADDRESS THE INFRASTRUCTURE NEEDS OF THEIR COMMUNITIES.
THE ARGUMENT

1. According to the American Society of Civil Engineers (ASCE), U.S. infrastructure earns a C-. In key sectors, it scores even worse — but Washington continues to underinvest.\(^1\)

The ASCE estimates that the total investment shortfall could reach $2.59 trillion by 2029. And by 2039, inadequate funding could end up costing the U.S. $10 trillion in GDP and three million jobs.\(^2\)

2. President Biden expanded the scope of what Washington should consider in an infrastructure plan through the American Jobs Plan (AJP).

The original proposal allocated $2.3 trillion over eight years for investments across sectors, including transportation, water systems, workforce development, schools, broadband, the electric grid, health care, and family planning.\(^3\) Congress should adopt an approach that matches the AJP in scope and scale.

3. Following the AJP’s announcement, Congress has spent months negotiating the details of an infrastructure package. Both sides of the aisle have made proposals, including a $1.2 trillion package from a bipartisan group of ten Senators.\(^4\)

But the U.S. will continue investing far less than our global competitors until Washington finalizes a deal. Of all the G20 countries, the U.S. ranks second to last in projected infrastructure spending through 2040.\(^5\)

4. Without a federal partner, local governments have been left to fund and plan investments on their own, which has been particularly bad for states with a large number of local governing units, like Ohio and Pennsylvania.

Washington needs to take the lead and allocate enough funding so cities and states can think holistically about infrastructure. Adequate investments would create long-term economic gains by prioritizing sustainability and job growth.

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ONCE A GLOBAL LEADER ON INFRASTRUCTURE, AMERICA NOW FAILS TO INVEST AND INNOVATE

TRADITIONAL INFRASTRUCTURE (2021):

AVIATION: D+  
BRIDGES: C  
DAMS: D  
DRINKING WATER: C-  
ENERGY: C-  
HAZARDOUS WASTE: D+  
INLAND WATERWAYS: D+  
LEVEES: D  
PORTS: B-  
PUBLIC PARKS: D+  
RAIL: B  
ROADS: D  
SCHOOLS: D+  
SOLID WASTE: C+  
STORMWATER: D  
TRANSIT: D-  
WASTEWATER: D+  

A - EXCEPTIONAL  
B - GOOD  
C - MEDIocre  
D - POOR  
F - FAILING  

SOURCE: AMERICAN SOCIETY OF CIVIL ENGINEERS*

TECHNOLOGICAL INFRASTRUCTURE SCORE: “INCOMPLETE”

ELECTRICAL GRID RENEWABLE GENERATION (2020)

46%  
42%  
20%  

GERMANY*  
U.K.*  
U.S.*

PREDICTED ELECTRICAL GRID RENEWABLE CAPACITY (2050)**

96%  
87%  
42%  

GERMANY  
U.K.  
U.S.

BROADBAND ACCESS

157M
(NEARLY HALF OF THE U.S. POPULATION)

AMERICANS ACCESS THE INTERNET AT SPEEDS SLOWER THAN BROADBAND SPEED, INCLUDING 24 MILLION IN MI, OH, IA, PA, AND WI.†

MILES OF HIGH-SPEED RAIL
(OPERATING + UNDER CONSTRUCTION, 2018)‡

23,368

AMERICANS ACCESS THE INTERNET AT SPEEDS SLOWER THAN BROADBAND SPEED, INCLUDING 24 MILLION IN MI, OH, IA, PA, AND WI.†

2,139

MILES OF HIGH-SPEED RAIL
(OPERATING + UNDER CONSTRUCTION, 2018)‡

CHINA  
SPAIN  
JAPAN  
US

20%

42%

96%

87%

42%

GERMANY

U.K.

U.S.

100%

96%

87%

42%

GERMANY

U.K.

U.S.

AVIATION: D+

BRIDGES: C

DAMS: D

DRINKING WATER: C-

ENERGY: C-

HAZARDOUS WASTE: D+

INLAND WATERWAYS: D+

LEVEES: D

PORTS: B-

PUBLIC PARKS: D+

RAIL: B

ROADS: D

SCHOOLS: D+

SOLID WASTE: C+

STORMWATER: D

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INLAND WATERWAYS: D+

LEVEES: D

PORTS: B-

PUBLIC PARKS: D+

RAIL: B

ROADS: D

SCHOOLS: D+

SOLID WASTE: C+

STORMWATER: D

TRANSIT: D-

WASTEWATER: D+

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THE COST OF UNDERFUNDING COULD REACH $10 TRILLION BY 2039

According to the ASCE, the U.S. must spend $5.93 trillion by 2029 to fix our roads, bridges, dams, broadband, and other infrastructure systems. Current federal, state, and local budgets cover only about $3.35 trillion of that, creating a $2.59 trillion shortfall. The longer these repairs and investments are delayed, the higher costs grow and the larger the gap becomes. By 2039, inadequate funding could cost the U.S. $10 trillion in GDP and three million jobs, with the average American household paying an extra $3,300 per year.\(^\text{15}\)

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### TOTAL NEEDS, ESTIMATED FUNDING, FUNDING GAP AND BIDEN PROPOSAL THROUGH 2029

<table>
<thead>
<tr>
<th>Category</th>
<th>Total Needs AS Estimated by the ASCE</th>
<th>Current Estimated Funding from Federal, State and Local Budgets</th>
<th>Funding Gap</th>
<th>Biden’s Original Proposal for Infrastructure Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Billions of Dollars</td>
<td>$5.93 trillion</td>
<td>$3.35 trillion</td>
<td>$2.59 trillion</td>
<td>$2.3 trillion</td>
</tr>
</tbody>
</table>

**Billions of Dollars**

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- **Surface Transportation**
- **Drinking Water/Wastewater/Stormwater**
- **Electricity**
- **Airports**
- **Inland Waterways and Marine Ports**
- **Dams**
- **Hazardous and Solid Waste**
- **Levees**
- **Public Parks and Recreation**
- **Schools**
WHILE WASHINGTON WAITS, OUR COMPETITORS ARE INVESTING

STATE AND LOCAL GOVERNMENTS CARRY U.S. INFRASTRUCTURE SPENDING

(PUBLIC SPENDING IN BILLIONS OF 2017 DOLLARS)\(^4\)

<table>
<thead>
<tr>
<th>Year</th>
<th>State &amp; Local</th>
<th>Federal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>1970</td>
<td>$100</td>
<td></td>
</tr>
<tr>
<td>1980</td>
<td>$200</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>$300</td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>$400</td>
<td></td>
</tr>
</tbody>
</table>

WHILE INFRASTRUCTURE'S SHARE OF THE FEDERAL BUDGET DECREASES

(INFRASTRUCTURE SPENDING AS PERCENTAGE OF TOTAL FEDERAL SPENDING)\(^5\)

<table>
<thead>
<tr>
<th>Year</th>
<th>Infrastructure Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>'60</td>
<td>6%</td>
</tr>
<tr>
<td>'70</td>
<td>5%</td>
</tr>
<tr>
<td>'80</td>
<td>4%</td>
</tr>
<tr>
<td>'90</td>
<td>3%</td>
</tr>
<tr>
<td>'00</td>
<td>2.5%</td>
</tr>
</tbody>
</table>

IN THE G20, ONLY MEXICO IS PROJECTED TO SPEND LESS

(PROJECTED INFRASTRUCTURE INVESTMENT THROUGH 2040 AS PERCENTAGE OF GDP)\(^6\)

<table>
<thead>
<tr>
<th>Country</th>
<th>Infrastructure Investment Percentage of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>5.1</td>
</tr>
<tr>
<td>Indonesia</td>
<td>4.1</td>
</tr>
<tr>
<td>Australia</td>
<td>3.6</td>
</tr>
<tr>
<td>India</td>
<td>3.6</td>
</tr>
<tr>
<td>Japan</td>
<td>3.2</td>
</tr>
<tr>
<td>South Korea</td>
<td>2.9</td>
</tr>
<tr>
<td>South Africa</td>
<td>2.9</td>
</tr>
<tr>
<td>Russia</td>
<td>2.8</td>
</tr>
<tr>
<td>Brazil</td>
<td>2.7</td>
</tr>
<tr>
<td>France</td>
<td>2.6</td>
</tr>
<tr>
<td>Canada</td>
<td>2.5</td>
</tr>
<tr>
<td>Italy</td>
<td>2.4</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>2.3</td>
</tr>
<tr>
<td>Argentina</td>
<td>2.2</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>1.8</td>
</tr>
<tr>
<td>Turkey</td>
<td>1.8</td>
</tr>
<tr>
<td>Germany</td>
<td>1.6</td>
</tr>
<tr>
<td>United States</td>
<td>1.5</td>
</tr>
<tr>
<td>Mexico</td>
<td>1.3</td>
</tr>
</tbody>
</table>
CONGRESS SHOULD ACT NOW AND FOLLOW BIDEN’S LEAD

The Biden Administration has proposed investing $2.3 trillion over eight years. If enacted, the AJP would be the largest infrastructure package the U.S. has seen in more than 50 years. The plan goes beyond traditional infrastructure and calls for expansive investments across the economy, including in workforce development, schools, the caregiving economy, and our manufacturing sector.

THE AMERICAN JOBS PLAN: $2.3 TRILLION OVER 8 YEARS

The Biden Administration’s original proposal invests an additional one percent of GDP per year over eight years to upgrade traditional infrastructure, revitalize manufacturing, invest in research, secure supply chains, and support our caregiving economy. A package as big as the AJP would cut significantly into the $2.59 trillion funding gap.17

EXPANDING SCOPE AND SCALE OF INFRASTRUCTURE INVESTMENTS

Years of underinvestment have held the U.S. economy back, but Congress now has the opportunity to create long-lasting GDP and job growth by following Biden’s lead.

These investments will spark an economic revolution... with the American Jobs Plan, we’re going to create good-paying opportunities for millions more people. And these are jobs that will lift families up, remaking the middle class. It’s going to strengthen our economy and revitalize entire communities along the way.

Biden’s plan would invest $280 billion in the workforce and $137 billion in schools and child care to create an economy where workers have the skills and resources they need to succeed.

It would also prioritize the sustainability and resilience of systems by promoting clean solutions, like energy efficient buildings, nature-based infrastructure, and electric vehicle charging stations.
Mayors and governors have been left without a partner

Without a strong federal partner, local and state governments have been left to plan and fund infrastructure investments on their own. Washington needs to take the lead and allocate enough funding so cities and states can think holistically about the needs of their communities.

States need a partner in Washington

State rankings of total governmental units:

- #3 PA (4,830)
- #5 OH (3,897)
- #11 WI (3,096)
- #12 MI (2,863)
- #16 IA (1,941)

Many Midwestern states have a disproportionately larger number of local governing units, making planning and coordination even more difficult. A federal plan would create cohesion across projects and reduce bureaucratic delays.

What Buttigieg has really done is look at the essence of where decision-making needs to be made, which is at the local level, and provide better tools at that level.

- John D. Porcari
  Former Deputy Secretary of Transportation

In Dayton, infrastructure is calling. We need this American Jobs Plan to invest in the new economy with broadband access, electric charging stations for cars, and rail that will connect us to other cities across Ohio and the Midwest.

Most importantly, we need funding to fix our roads that already exist here in Dayton. So for Dayton, and cities all across the country: Congress, please pass the American Jobs Plan and invest in our future.

- Nan Whaley
  Mayor of Dayton, OH

Under my administration, local governments will finally have a partner in Washington.

- Pete Buttigieg
  Secretary of Transportation

- Nan Whaley
  Mayor of Dayton, OH

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FAILING INFRASTRUCTURE HOLDS THE MIDWEST BACK

THE MIDWEST IS A TRANSPORTATION HUB

OHIO IS THE CROSSROADS OF AMERICA

Ohio is within a day’s drive of 60% of the U.S. and Canadian population.

4TH LARGEST INTERSTATE SYSTEM
2ND LARGEST INVENTORY OF BRIDGES
8TH LARGEST ROADWAY NETWORK
5TH HIGHEST VOLUME OF TRAFFIC

The Federal Highway Administration estimates that the return on investment for each dollar spent on transportation infrastructure is $5.20, which benefits the transportation-driven Midwest the most.

MIDWESTERN STATES’ INFRASTRUCTURE RANKINGS

IA: Bridges: D+. Iowa ranks worst in the nation for structurally deficient bridges. One in five (4,571) are in poor condition, and 38% of trains and transit vehicles are past their useful lifespan.

MI: Roads: D-. More than 7,300 miles of Michigan’s highways are in poor condition, costing the average driver $644 per year due to driving on roads in need of repair. The gas tax and registration fees struggle to adequately fund road repairs; Michigan ranks 46th in the country on infrastructure spending per capita.

PA: Wastewater: D-. Current wastewater systems discharge billions of gallons of raw sewage into Pennsylvania’s surface waters each year. On-lot wastewater systems, which serve 1.6 million homes, experience failure rates of nearly 20%.

OH: Levees: D. Levees in Ohio reduce flood risk from the Ohio River Valley and Lake Erie for more than 151,000 people and $27.5 billion in property. Yet 25% are in unacceptable condition and a majority are beyond their intended lifespan. A majority of levee systems have not had risk assessments as there are no consistent standards for maintenance and inspection.

WI: Transit: D+. Bus ridership in Wisconsin’s largest transit systems has dropped rapidly in recent years, reducing fare revenues and putting upward pressure on prices. Wisconsinites who take public transportation spend an extra 62.7% of their time commuting, as 29% of transit vehicles are beyond their useful life.
CASE STUDY: OHIO

- 33% of state-regulated dams are at high hazard risk
- 42% of bridges are older than 50 years

D+
Drinking Water Infrastructure

25% of urban roads are in poor condition

1,255 sites generating hazardous waste:
#4 in the U.S.

$17 billion in wastewater infrastructure needs

#42 in transit funding per capita

Traffic congestion costs drivers $4.7B per year in time and fuel

Source: American Society of Civil Engineers
CASE STUDY: IOWA’S WATER INFRASTRUCTURE

DAMs ASCE REPORT CARD SCORE

IOWA’S ECONOMY DEPENDS ON ITS RIVERS

$4.3B IN REVENUE

26K JOBS

99 DAMS IN IOWA ARE RATED HIGH HAZARD

IOWA'S STATE DAM SAFETY PROGRAM BUDGET IS LESS THAN $50 PER REGULATED DAM. NATIONAL AVERAGE IS $700 PER DAM.

92% OF THE NATION’S AGRICULTURAL EXPORTS

78% OF THE WORLD’S EXPORTS IN FEED GRAINS AND SOYBEANS

60% OF ALL GRAIN EXPORTED FROM THE U.S.

ARE SHIPPED ON THE MISSISSIPPI RIVER

INLAND WATERWAYS ASCE REPORT CARD SCORE

The average age of locks and dams is 80 years old, 30 years beyond the intended design life.

“IOWA SCIENTISTS WARN OF ‘SOBERING EXTREME HEAT’” SEPTEMBER 19, 2019

“More than 200 scientists from 38 Iowa colleges and universities have signed on to a climate change statement that warns of “sobering extreme heat projections” for the Midwest that will put people, livestock and pets at risk... “Time is running out,” said Jerald Schnoor, of the University of Iowa’s Center for Global and Regional Research, “Many good things are happening — solar panels, wind farms and so on — but they’re not happening fast enough.”}

LEVEES ASCE REPORT CARD SCORE

RECORD RAINFALL

In 2020, Tim Hall of the Iowa Department of Natural Resources warned Iowans about elevated stream flows: “2019 was a very wet year, but so was 2018. The last two years combined were the wettest two years on record for the state.”

Iowa recently set a new record for rain and snow from June, 2018 to May, 2019 with nearly 51 inches of precipitation, approximately 16 inches more than the 34.42 inches the state averaged from 1981 to 2010.

$6.8B OF PROPERTY PROTECTED BY LEVEES


15. Ibid.

16. Ibid.


21. Ibid.


32. Ibid.

33. Ibid.

34. Ibid.


