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Workers: Why it Matters
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Chairman DeFazio, Ranking Member Graves, committee members, thank you for inviting me to talk with you today. I am Adam Hersh, Ph.D., Senior Economist at the Economic Policy Institute, a non-partisan, 501(c)3 nonprofit think tank in Washington, DC.

Today, I will talk about 2 things:

1. Why infrastructure matters
2. What impacts we can see and expect from recent major legislation to expand infrastructure investment, and

First, I want to recognize that this Congress, over the past 18 months, passed 3 monumental pieces of legislation that are critical for American transportation and infrastructure and by so doing have started America on a path to higher, more broadly shared, and more sustainable prosperity. These are the American Rescue Plan Act (ARPA), the Infrastructure Investment and Jobs Act (IIJA), and the Inflation Reduction Act (IRA).

Considering that the previous administration along the 115th and 116th Congresses failed to advance any new infrastructure agenda—despite grandiose pledges and repeated “Infrastructure Weeks”—these 3 acts mark not just monumental political achievements, but also the promise to fundamentally transform the American economy and improve everyone’s quality of life.ⁱ When these spending plans are fulfilled, you will have touched the lives of every single person in America with upgraded and expanded access to safer roads, less time spent in traffic congestion, cleaner drinking water and sanitation, modernized schools, dependable and sustainable energy grids, cleaner air and better health, lower costs of doing business, a revitalized manufacturing sector, more money in their pockets because of the investments in America this Congress has made.

Still, all you have done is far from enough. We need to be doing much more to meet the needs of our current economy and provide the foundation for America’s future prosperity and security. America faces a yawning infrastructure deficit and if we don’t rise to meet this moment, we risk being left behind economically.

1. Why Infrastructure Matters

Infrastructure constitutes the essential public goods at the heart of our economy that allow people, goods, and ideas to be more easily exchanged, as well as to address the costs of negative externalities arising in such complex social organization.ⁱⁱ This is the “truck, barter, and trade,” that

Adam Smith wrote about in his book, *The Wealth of Nations*; infrastructure lowers the cost of moving people and goods as well as creating more opportunities to trade information and spark innovation. Policy debates often focus on infrastructure’s impact in terms of the jobs and investment that can be created today. Yes, every job created directly in infrastructure construction creates an additional 17.8 jobs in other sectors of the economy and fuel domestic manufacturing.ⁱⁱⁱ But infrastructure is even more essential to creating the opportunity and productivity that propels economic activity into the future, yielding economic dividends for years to come by connecting people, goods, and information together more efficiently.

Consider your own consumption of a very basic infrastructure good like bridges. You may have crossed a dozen or more to get to this hearing today. You probably cross dozens more on every trip home for your district work periods. You probably don’t notice them passing by while you are busy on your mobile phone, but they are essential to everyday life in America and they are in trouble. A Department of Transportation survey of nearly 620,000 bridges nationally finds that 3 in 5 in less than “good” condition, while 2 in 5 are more than 50 years old.^{iv} Practically, this means most American bridges have reached or are approaching structural deficiency or functional obsolescence. Some states are significantly worse off than the average: in West Virginia 79% of bridges are in less than good condition, 74% in Kentucky, and 66% in Pennsylvania (see **Table 1**). Even in relatively well-situated states like Ohio and Florida, 39% and 38% of bridges, respectively, are still problematic—totaling more than 15,000 bridges.

Bridges are just one type of critical infrastructure. There are many more that are also essential in everyday life for American families and businesses. Until now, Congress has allowed America’s infrastructure to go to rot, failed to supply it in adequate amounts, and—whether by design or malign neglect—too often forced select communities most in need of affordable transportation to bear the costs of infrastructure projects while excluding them from the benefits. These include:

- Roads and other surface transportation assets
- Drinking, waste, and irrigation water systems
- Energy generation and transmission
- Public transit, passenger rail, and airports and aviation systems
- Coastal and inland waterways and ports
- Access to high-speed internet
- Conservation and public recreation space

America has been disinvesting in infrastructure assets for years, and our growing deficiencies impose staggering economic costs.^v The American Society of Civil Engineers (ASCE) estimates that the loss of functionality from America’s depreciated infrastructure assets will cost the United States \$10 trillion in GDP, 3 million jobs, and \$2.4 trillion in lost exports by 2039 due to increased costs of doing business, lost time and wasted fuel, health impacts, and other individual costs that add up to a big deal in the aggregate.^{vi}

The ASCE projects that the U.S. economy will need \$6 trillion in infrastructure investment, sustained over 10 years, may be too low. The aging infrastructure we have is ill-prepared to cope with increasingly frequent severe weather events, wildfires, and flooding we can expect moving forward as the climate warms—and certainly if we fail to limit that warming to 2 degrees Celsius above pre-industrial levels—which will cause it to deteriorate faster. And the ASCE analysis did not

factor in additional investments that will be needed to deploy decarbonization technologies at the ambitious pace and scale needed to meet emissions targets. The U.S. Global Change Research Program estimated that, if unabated, climate change will permanently reduce U.S. GDP by 10 percent.^{vii} Economic losses will result from harm to physical assets, reduced industrial and agricultural productivity, increased mortality and health impacts on labor force participation, and socio-political destabilization around the world. Other researchers estimate an additional \$400-600 billion investment a year is needed to achieve carbon net neutrality.^{viii}

The good news is that you have the power to change this in ways that will yield outsized effects on the U.S. economy and the lives of families across this country. Research on the longer-term return on investment from public infrastructure finds that, on average, every \$100 spent on infrastructure generates an additional \$17 benefit, though some research finds a return on investment as high as 73 percent.^{ix} The broad economic benefits may be even larger than these estimates suggest. Typical economic models, such as those used by the Congressional Budget Office (CBO) to score legislation, can paint a misleading picture by accounting for costs but not the full range of real-world benefits, making unrealistic assumptions about how people and markets behave, and assessing investment returns over too short a time horizon.

In the real world, infrastructure investments deliver an immediate economic surge, but also simultaneously achieve other objectives, for example:

- Expanding broadband internet access to rural and other neglected communities will not only create immediate jobs installing communications equipment, but will help bring to every corner of the country employment, education, health care, and social opportunities afforded by connectivity.
- Overhauling public water systems to eliminate lead and other toxics not only will create a lot of jobs and lower utility prices for families and businesses, but also yield lifelong impacts on educational attainment, earnings, and productivity for those living in affected communities.
- Reinvesting in and expanding sustainable public transportation systems will create direct jobs, but also open new opportunities for labor force participation and higher wages and productivity – connecting people to jobs that were literally out of reach – reduce greenhouse gas emissions and improve air quality and therefore health and education outcomes.

This Congress has taken significant steps in the right direction to do this with ARPA, IIJA, and IRA, allocating new resources to these long-neglected foundations of national economic prosperity. But it is also important to note that the foundations of a dynamic and efficient economy go deeper than hard physical infrastructure assets. The pandemic “she-cession” has laid bare how essential caregiving “soft” infrastructure also is for the overall economy and that inadequate and unequal access to quality care has caused preventable harm to individuals, families, and on aggregate economic performance. America’s lack of paid caregiving infrastructure represents a glaring obstacle to achieving the country’s full economic potential that future Congresses must address.

2. Benefits of ARPA, IIJA, and IRA Infrastructure Measures

ARPA delivered critical resources to American state, local, tribal, and territorial governments in a time of acute crisis so that they could maintain continuity in essential public and private

transportation and infrastructure services when revenue streams tanked;^x expanded and accelerated local infrastructure projects to offset demand losses in other sectors of the economy; and provided support for struggling small businesses and families to keep the lights on. Moody's analytics found that ARPA increased employment by more than 4 million jobs and nearly doubled the rate of GDP growth in 2021, and delivered sufficient aggregate demand to ensure that the Great Lockdown of 2020 did not repeat in a double-dip recession.^{xi}

The Infrastructure Investment and Jobs Act reauthorized funding for existing infrastructure and provided nearly \$550 billion in new investments in surface transportation, public transit and rail, water, and broadband internet infrastructure, along with new investments in renewable energy and electric vehicles.^{xii} By my estimates, the additional infrastructure spending in IJA supports 772,400 jobs annually.^{xiii} **Table 2** details the number of jobs associated with each program under the IJA, with most jobs coming from road and surface transportation projects, though all program areas provide significant job creation effects.^{xiv} **Table 3** looks at the kinds of jobs that IJA will create broadly across the economy. Of course, the construction industry comprises the largest share of employment, with nearly 176,000 jobs annually. But the investments also stimulate 175,000 jobs annually in the manufacturing sector, nearly 100,000 jobs in transportation industries, and more broadly across other industries through induced demand. Critically, Buy America and prevailing wage provisions in this and other legislation help set a high standard for contractors to ensure that America's investments create good jobs with fair wages and contribute to the revitalization of our manufacturing base. Moody's Analytics estimates that, at the peak of the expenditures, U.S. GDP will be roughly 0.8 percentage points higher as a result of IJA.^{xv}

Ink is still drying on the Inflation Reduction Act, but it is clear this is the most ambitious action Congress has taken to confront the impending climate change crisis with more than 100 programs that will restore, expand, and modernize a broad range of infrastructure systems. These investments will bring the costs of transportation, electricity and other utilities, building heating and cooling for families and businesses in America. The spending will do so while supporting domestic manufacturing and development of new domestic industries where U.S. businesses will lead innovation and critical components of energy goods and systems will better insulated from disruption in global supply chains. University of Massachusetts economists estimate that IRA will generate 912,000 jobs per year, on average, for 10 years from the public and private investments that the policies incentivize.^{xvi} Rhodium Group economists estimate that IRA will reduce energy costs for the average household by \$730 to \$1135 annually.^{xvii}

Conclusion

While this Congress has taken great strides to tackle pressing crises while reinvesting in the infrastructure at the foundation of America's long-term economic prosperity. Achieving our economic goals will require not just significantly more resources, but embracing new approaches to the public role in how we fund and incentivize infrastructure and technological investments. Thank you.

ⁱ Emily Cochrane and Eileen Sullivan. 2020. “The Many Times It’s Been ‘Infrastructure Week’ in Washington.” *New York Times*. April 1. Accessed September 15, 2022. <https://www.nytimes.com/2020/04/01/us/politics/coronavirus-infrastructure-week-timeline.html>.

ⁱⁱ Technically, economists define a “public good” as non-rival and non-excludable, although in common usage public goods may also refer to rival, non-excludable goods.

ⁱⁱⁱ Bivens, L. Josh. 2019. “Updated employment multipliers for the U.S. economy.” *Economic Policy Institute*. January 23.

^{iv} EPI analysis of Department of Transportation. 2022. *National Bridge Inventory: Bridge Condition by County 2022*. June 15. Accessed September 15, 2022. <https://www.fhwa.dot.gov/bridge/nbi/no10/county22.cfm>; ASCE. 2021. *Making the Grade: America’s Infrastructure Report Card 2021: Bridges*. Accessed September 15, 2022. <https://infrastructurereportcard.org/wp-content/uploads/2020/12/Bridges-2021.pdf>.

^v Ayres Steinberg, Sarah, and Adam Hersh. 2013. “New Ryan Budget Cuts Investments in America’s Future.” *Center for American Progress*. March 13. <https://www.americanprogress.org/article/new-ryan-budget-cuts-investments-in-americas-future/>; Bivens, L. Josh. 2017. “The potential macroeconomic benefits from increasing infrastructure investment.” *Economic Policy Institute*. July 18.

^{vi} ASCE. 2021. *Infrastructure Report Card*. Accessed <https://infrastructurereportcard.org/>.

^{vii} U.S. Global Change Research Program (USGCRP) 2018. *Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II*. <https://nca2018.globalchange.gov/>.

^{viii} Pollin, Robert, Shouvik Chakraborty, and Jeanette Wicks-Lim. 2021. “Employment Impacts of Proposed U.S. Economic Stimulus Programs: Job Creation, Job Quality, and Demographic Distribution Measures.” *Political Economy Research Institute*. <https://peri.umass.edu/publication/item/1397-employment-impacts-of-proposed-u-s-economic-stimulus-programs>.

^{ix} See Bivens, L. Josh. 2017. “The potential macroeconomic benefits from increasing infrastructure investment.” *Economic Policy Institute*. July 18. <https://www.epi.org/publication/the-potential-macroeconomic-benefits-from-increasing-infrastructure-investment/>; Heintz, James. 2010. “The Impact of Public Capital on the U.S. Private Economy: New Evidence and Analysis.” *International Review of Applied Economics*. Vol. 24, no. 5, 619–32; Berechman, Joseph, Dilruba Ozmen, and Kaan Ozbay. 2006. “Empirical analysis of transportation investment and economic development at state, county and municipality levels.” *Transportation*. Vol. 33, pp. 537–551.

^x In addition to supporting public health, public security, and education services, and providing aggregate demand support more generally—through the business and household sectors—with indirect economic benefits for transportation and infrastructure industries.

^{xi} Moody’s Analytics. 2022. “Global Fiscal Policy in the Pandemic.” *Moody’s Analytics*. February 24. Accessed <https://www.moodyanalytics.com/-/media/article/2022/global-fiscal-policy-in-the-pandemic.pdf>.

^{xii} Adam S. Hersh. 2021. “‘Build Back Better’ agenda will ensure strong, stable recovery in coming years.” *Economic Policy Institute*. September 16. <https://www.epi.org/publication/ijja-budget-reconciliation-jobs/>.

^{xiii} To be clear, these average annual number of jobs supported cannot be summed together over 10 years. If, for example, all of the spending ramped up in Year 1 and then persisted, then 772,400 jobs would be supported in the first year and then this number would persist but not grow. Over the 10-year window, one could cumulate these job numbers and classify them as “job-years”—a measure of total hours of work supported by this spending over the next decade. For more on the estimation methodology, see Adam S. Hersh. 2021. “‘Build Back Better’ agenda will ensure strong, stable recovery in coming years.” *Economic Policy Institute*. September 16. <https://www.epi.org/publication/ijja-budget-reconciliation-jobs/>.

^{xiv} These tables are reproduced from a report that also analyzed the potential effects of President Biden’s broader Build Back Better agenda.

^{xv} Moody’s Analytics. 2021. “Macroeconomic Consequences of the Infrastructure Investment and Jobs Act & Build Back Better Framework.” *Moody’s Analytics*. November 4. <https://www.moodyanalytics.com/-/media/article/2021/macroeconomic-consequences-of-the-infrastructure-investment-and-jobs-act-and-build-back-better-framework.pdf>.

^{xvi} Robert Pollin, Chirag Lala, Shouvik Chakraborty. 2022. “Job Creation Estimates Through Proposed Inflation Reduction Act.” *Political Economy Research Institute*. August 4. Accessed <https://peri.umass.edu/publication/item/1633-job-creation-estimates-through-proposed-inflation-reduction-act>.

^{xvii} John Larsen, Ben King, Hannah Kolus, Naveen Dasari, Galen Hiltbrand, and Whitney Herndon. 2022. “A Turning Point for US Climate Progress: Assessing the Climate and Clean Energy Provisions in the Inflation Reduction Act.” *Rhodium Group*. August 12. Accessed <https://rhg.com/research/climate-clean-energy-inflation-reduction-act/>.