



OpenAI's Infrastructure Blueprint for the US

November 13, 2024

Revolutionary technology drives advances in infrastructure. Capital flows determine where and how the infrastructure is built. These decisions determine whether a nation leads or lags in technological innovation, often with far-reaching consequences for economic competitiveness and national security. This is why infrastructure is destiny.

As foundational a technology as electricity, and promising similarly distributed access and benefits, AI presents an unmissable opportunity to revitalize the American Dream and reindustrialize the US. Investment to extend the current US lead in AI will yield tens of thousands of skilled-trade and other jobs; growth in productivity and GDP; a modernized grid including power generated by nuclear energy; a state-of-the-art network of semiconductor manufacturing facilities; and a new generation of AI-powered businesses and entrepreneurship.

Abroad, the rise of US-backed projects will help attract an estimated \$175 billion currently sitting in global funds, and for the benefit of the most people possible, instead of flowing to

China-backed projects that limit people's access to AI, tighten government control over their lives, and strengthen China's global influence. Capital spending on AI already rivals the mainframe era of the late 1960s and the fiber optic deployment of the late 1990s¹. There is no question as to whether these funds will flow – only to where. As our CEO Sam Altman has noted, there is no third option.

Nations succeed when they harness their resources to gain technological competitive advantage. For AI, those resources are the advanced chips, data and energy needed to generate the compute. As Sam has laid out, technology brought the world from the Stone Age, to the Agricultural Age, to the Industrial Age, and from here, “the path to the Intelligence Age is paved with compute, energy, and human will.” Russian President Vladimir Putin has said that whoever wins on AI will control the world. The US is leading on AI innovation but China, fixated on seizing the lead by 2030, is building faster – harnessing government-controlled data and increasing its production of chips and energy. Energy above all is critical to the US maintaining its lead.

Given the stakes, we need to think big, act big, and build big. The history of the US is one of iconic infrastructure projects that moved the country forward: the auto industry, the Tennessee Valley Authority, the Manhattan Project, the interstate highway system. We need a national strategy now to ensure that investment in AI infrastructure benefits and protects American competitiveness, our national security, and that of our allies. This strategy should encourage rather than stifle developers, who will be the Main Street businesses of the Intelligence Age. It should support thriving AI ecosystems of labs, start-ups and larger companies that together will secure America's leadership role on AI into the future.

Today, we're proposing a set of ambitious initiatives to catalyze the building of AI infrastructure in the US and with our partners and allies around the world.

1. AI Economic Zones created by state and federal government together to give states incentives to speed up permitting and approvals for AI infrastructure, making it easier to build new solar arrays and wind farms and bring unused nuclear reactors back online. States that provide subsidies or other support for companies launching infrastructure projects could require that a share of the new compute be made available to their public universities to create AI research labs and developer hubs aligned with their key commercial sectors – such as Kansas establishing a hub dedicated to applying AI in farming. States in the Midwest and Southwest already are leading the way in supporting data centers and positioned to benefit from accelerated permitting.

2. A National Transmission Highway Act, as ambitious as the 1956 National Interstate and Defense Highways Act, to expand transmission, fiber connectivity, and natural gas pipeline construction for non-electric transmission, as well as provide a framework for considering how future AI wireless connectivity could affect spectrum allocation (since AI eventually will employ spectrum to reach more people). The program would have the authority and funding to stand up

¹ A severe case of COVIDIA: prognosis for an AI-driven US equity market, JP Morgan, Sept. 3, 2024

transmission infrastructure for three key AI inputs: electrical power on an AI-optimized transmission grid, high-bandwidth data communications (both wired fiber and 5G+ wireless), and transmission pipelines and infrastructure for other energy sources needed to power this nationwide "AI highway."

To get this done, we need new authority and funding to unblock the planning, permitting, and payment for transmission – the "Three P's" – that together may represent the greatest obstacle to expanding energy resources to support AI development here in the US. By some estimates, the US has roughly 700 GW of solar, 400 GW of energy storage, and more than 200 GW of wind energy stuck in backlogs in our energy transmission and interconnection system. Our existing procedures simply aren't keeping pace with AI-driven growing demand.

3. Government backstops for high-value AI public works can play to government's and industry's respective strengths – government setting goals and industry building to meet them. The government can encourage private investors to fund high-cost energy infrastructure projects by committing to purchase energy and other means that lessen credit risk. Such privately funded projects would serve the public as strategic national assets."

At the same time, the government could direct some of that funding to local training programs to help prepare Americans in these communities for AI jobs such as data center management and operations. Our existing state-sponsored 529 education savings accounts could be updated to allow investments to cover vocational training such as coding bootcamps, HVAC technician training and electrician training. The AI sector could partner with state government to build chatbots that raise awareness of 529 savings accounts and help people create them. Together, the vocational training and developer hubs will scale our new, AI-ready industrial workforce.

4. A North American Compact for AI among the countries of the Western Hemisphere can streamline access to capital, supply chains and talent in a way that supports AI infrastructure and a robust AI ecosystem. Over time, this collaboration could expand to a global network of US allies and partners – for example, a Gulf Cooperation Council with the UAE and others in that region to establish AI data centers with appropriate measures to safeguard technology. The resulting economic bloc would be sized to compete with the People's Republic of China's AI infrastructure alliances.

5. Tapping the expertise of our nuclear Navy. Nuclear power is America's single largest source of clean power and our 94 reactors already online directly support nearly 60,000 jobs and indirectly support hundreds of thousands more. Yet the average US nuclear power reactor is more than 40 years old and only a handful of new plants are under construction, compared to China's 23. China also has built as much nuclear power capacity in 10 years as the US built in 40.²

² [US Energy Information Administration](#)

But that's on land – whereas the US Navy today operates about 100 Small Modular Reactors to power naval submarines. In addition to investments underway in a fusion-powered future, leveraging the expertise of our Navy for inputs into the construction of more civilian SMRs for civilian use could help catalyze a revival of American nuclear power that helps drive our great reindustrialization.

AI presents an unmissable opportunity to reindustrialize the US and through that, generate the kind of broad-based economic growth that will revitalize the American Dream. It also presents a national security imperative to protect our nation and our allies against a surging China by offering an AI shaped by democratic values, promoting individual choice and benefiting the most people possible. OpenAI is committed to working with forward-looking lawmakers to help make these ideas reality. It's time to do what the US has always done best: think big, act big, and build big.



At OpenAI, we're building artificial intelligence that helps people solve hard problems. By helping with the hard problems, AI can benefit the most people possible – through better healthcare and education, more scientific discoveries, better public policies and services, improved productivity, and new tools for creativity.