Capitalizing on Infrastructure

Priorities for Implementing Historic Federal Investments

The combination of investments from the Infrastructure Investment and Jobs Act (IIJA), the Inflation Reduction Act (IRA), and the CHIPS and Science Act (CHIPS) represent the largest cross-sector public investment since the New Deal, introducing $2 trillion in new federal spending over 10 years. This Solutions Brief offers a two-year progress report on the IIJA, updating our Solutions Brief, Rebuilding America: Implementing the Bipartisan Infrastructure Law, issued last year. It also covers provisions in the CHIPS Act and the IRA, and provides recommendations in highlighted areas to help assure that these historic federal government investments achieve their goals.

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- **The array of federal investments risks addressing too broad a scope simultaneously—a traditional pitfall of industrial policy efforts.** For investments to be most effective, they should be designed to induce additional financing from private partners, and state and local governments to build sustainable models for prioritized projects and reduce the risk of crowd-out effects.

- **The complexity of these packages—375 programs under 13 departments and agencies under IIJA alone—requires unprecedented levels of collaboration between federal officials, and the collection of local public and private stakeholders responsible for implementing project plans.**
• Inflation is adversely impacting the buying power of these historic investments, making it even more important that the government at all levels prioritizes key projects, streamlines regulatory procedures, promotes competition, remediates supply chain challenges, and better coordinates to decrease costs and maximize efficiency.

• Overall, spending has accelerated after slow rollouts across many programs. However, investments in some areas key to economic growth such as energy transmission, broadband, and railways remain behind in their implementation schedules. Challenges also remain in clean energy, particularly those related to electric vehicles (EVs).

• While these packages are already impacting the economy, with more than $300 billion in new public capital invested and $500 billion more committed by the private sector through mid-2023, overloading program requirements to include a number of other additional policy goals, for example, the provision of childcare or limitations on stock buybacks, complicates and slows the implementation of needed projects.

• Federal support will run out after new funds ending primarily in 2026 and 2027 are spent down. Many programs are also subject to annual appropriations. The risk that Congress fails to appropriate authorized funds threatens successful completion of expected projects. It is crucial that state and local governments, as well as companies, establish sustainable business models for currently subsidized projects.

• While 90% of all IIJA funds will be spent by nonfederal partners at the state and local level, more than 60% of government procurement officials identify lack of resources and staffing shortages as barriers to efficient implementation.

• Labor shortages in the construction industry threaten the successful implementation of these historic investments. Job openings in construction show more than 360,000 jobs are currently unfilled.\(^2\) Public-private partnerships are key to increasing the training of the labor force for infrastructure construction projects. Immigration reform also can help alleviate this challenge.

**Recommendations**

Successful implementation of the significant federal investments in infrastructure, manufacturing, and supply chains will require leadership from all stakeholders across the public and private sectors. It will also necessitate close collaboration among government agencies at all levels, including measures for accountability. To do so, they must work with unprecedented collaboration to avoid pitfalls that have hampered infrastructure upgrades in the past, while adapting to the challenges presented by supply chain issues, labor shortages, and rising inflation. The following recommendations are designed to implement the infrastructure investments in a streamlined, cost-efficient, and fiscally sustainable way:
Increase federal collaboration with state and local governments, and the private sector

- Promote state and local leadership’s ability to pursue innovative solutions and convene local stakeholders, applying rigorous cost-benefit analysis with technical expertise from federal agencies; and involve Tribal communities, which hold a special position in government funding.

- Pursue public-private partnerships where appropriate, including collaborative contracting methods to leverage private-sector expertise, deliver the best projects for the lowest cost, and leverage available funding.

- Invest in federal and local agencies’ ability to drive awareness of infrastructure funding opportunities; add resources to staff federal help support desks that assist program participants.

- The federal government should consolidate competitive applications where possible, focusing on making the process accessible to local stakeholders in the public and private sectors.

Boost transparency and accessibility for stakeholders

- Federal officials should redesign Build.gov and publicly promote it as a one-stop web page that publishes program descriptions in a manner that is accessible to stakeholders, including the accountable departments or agencies; the status of funding and estimated amounts; requirements for application and reporting; and the value added for the American people.

- The federal government should leverage collaborative forums with state and local infrastructure coordinators to educate stakeholders on program availability and requirements, including state and local agencies, and private sector firms.

- States should invest infrastructure funds with state-level oversight with accurate databases that reflect federal funds in use by project.

- The federal government should continue to update implementation resources—including the IIJA guidebook, Build.com and Invest.com websites—with more detailed timelines and data.

Address regulatory paralysis through modernization and streamlining

- IIJA programs should streamline regulations, including the expansion of complementary regulatory review to expedite implementation, decrease costs, and maximize efficiency.

- The federal government should use the One Federal Decision process as encouraged by IIJA, even in areas where not explicitly required by the law. Specifically for high-impact projects such as power transmission, the decision-making process and the number of authorities with capacity to block projects should be streamlined.

- The federal government should reform permitting and swiftly implement National Environmental Policy Act (NEPA) reforms. Agencies should accelerate the establishment of lists of categorical exclusions for projects that do not require extensive environmental review.
• As a longer-term solution, a group should be formed of local, state, and federal officials to collaborate with trade unions, and engineering and construction experts to propose a set of standardized regulatory requirements that could be adopted by the 50 states and the District of Colombia to reduce complexity, along the lines of the Uniform Commercial Code.

Address cost and supply chain issues
• The Administration should extend the waiver of Buy America provisions for construction inputs that may be delayed or substantially increase cost by these provisions. Waivers should be reviewed and granted swiftly to not slow project implementation.
• Federal trade negotiators should work to reach agreements that will allow the US to reduce tariffs on key construction inputs.
• Public and private leaders at all levels should work together to determine how best to direct infrastructure funding toward improving supply chains.
• Project designers should coordinate between types of infrastructure, taking advantage of synergies and addressing potential conflicts early.
• Congressional committees with jurisdiction over infrastructure programs should better coordinate their work.
• Strategically prioritize project areas that need to be addressed because of the risk that inflation and interest rates could drive up project costs and reduce the buying power of investments.

Bolster the workforce needed to implement projects
• State and local agencies should focus on cultivating in-house expertise on federal grants and project implementation, leveraging former government and private sector experts where possible.
• Public, private, and union leaders should urgently collaborate on expanding training opportunities for skilled-trade workers, including apprenticeships.
• States should identify and recognize occupational licenses across state lines in reciprocity agreements for key construction and civil engineering occupations for which location has little(6,6),(996,986)
country a C- rating. The need to revitalize the country’s infrastructure motivated the recent federal push to boost US competitiveness through wide-ranging investments in transportation, broadband, and water systems, and the acceleration of innovations to address climate change. It was also a significant motivator for the 2021 Solutions Brief from the Committee for Economic Development, the public policy center of The Conference Board (CED): *A US Infrastructure Plan: Building for the Long Haul*, which provided guideposts for comprehensive infrastructure reform, many of which were eventually included in the IIJA. If federal infrastructure investment had remained at its pre-IIJA pace, the ASCE estimated that the US stood to lose $10 trillion in GDP by 2039, along with 3 million jobs and $2.4 trillion in exports.

It is crucial for the future path of the US economy and the country’s global leadership to take advantage of this unique opportunity to modernize deteriorating infrastructure networks, set the country’s foundation for the green energy transition, and solidify US competitiveness in advanced sectors. The expanse, complexity, and significant opportunity presented by these packages raise the stakes for public and private sector leaders to select and execute planned projects successfully.

However, infrastructure projects in the US historically simply take too long to complete and cost too much, preventing the country from achieving the full and timely benefits that a future-focused, competitive economy requires. Figure 1 shows that total permitting times for approved projects (from “notice of intent,” or NOI, to “record of decision,” or ROD) increased from nearly four years in 2010 to nearly five years in 2016. Permitting times shortened between 2017 and 2019, but not to the level in 2010 and likely in some cases are now even longer.

![Figure 1: Permitting times increased nearly 40 percent from 2010 to 2019](chart.png)


Note: Includes only projects for which final EISs and records of decision have been filed. Data is sorted by year according to the dates that projects received final decisions.
To maximize the impact of these investments, renewed focus must be dedicated to streamlining regulatory procedures and prioritizing high-impact projects. The pace and magnitude of these cross-sector investments requires an unprecedented level of collaboration that leverages private-sector capabilities to execute projects efficiently and at lower cost, which can be achieved through deepening partnerships across all levels of government and with private stakeholders.

Together, the IIJA, IRA, and CHIPS have begun spurring a wave of investment in infrastructure and manufacturing as shown in Figure 2. Through the first quarter of 2023, construction spending on facilities had doubled relative to 2021. As an indication that federal funds have successfully begun catalyzing broader investment, private sector spending has risen by almost three times as much as public sector spending.

Public investments, including federal infrastructure funding, can result in substantial economic returns. According to Congress’ Joint Economic Committee, US investment in physical infrastructure yields up to a 17% return on average. While returns vary based on the type of investment, the depleted state of US infrastructure indicates that efficient execution of IIJA and other federal programs could lead to even higher returns.

However, these significant federal investments also introduce risks. The substantial number of projects being implemented simultaneously will continue to put upward pressure on inflation for construction materials and labor, which are already eating into project
costs. An additional risk with large federal investments is the potential to crowd out investment from state and local governments, as well as the private sector, that could otherwise be made. For example, one analysis demonstrating the potential crowd-out risk by the Penn Wharton Budget Model team using an illustrative $2 trillion investment plan over 10 years found that public capital would rise 4.6% while lowering private capital by 0.8% in 2040, with a net-zero effect on GDP if financed through federal borrowing.

Under the IIJA, 90% of all funds will be spent by nonfederal partners, including states, cities, transit authorities, nonprofits, private entities, and universities.

The expense, complexity, and significant opportunity from successful implementation of projects under these three laws raise the stakes for public and private sector leaders to select and execute projects efficiently and effectively. For investments to be most effective, they should be designed to induce additional investments from private partners, and state and local governments, to build sustainable project models and reduce the risk of crowd-out effects.

IIJA Structure and Progress

The IIJA includes $1.2 trillion in investments, reauthorizing $650 billion in existing programs and adding $550 billion in new spending, to be allocated over a five-year period through FY 2026. The IIJA distributes federal funds through a combination of formula grants to states based on population and state size, while also offering competitive grants for which cities, towns, and municipalities can compete or apply directly, depending on the program. Overall, this mix of spending reflects both longstanding infrastructure priorities in surface transportation, aviation, and water, as well as priorities that reflect a broader view of infrastructure needs for a 21st-century economy: climate, clean energy, a modernized grid, and broadband.

The Administration’s main hub for documenting and tracking IIJA implementation, Build.gov, shows that agencies have announced or distributed more than $260 billion through August 2023. Including subsequent agency announcements in clean energy and passenger rail of roughly $40 billion, total IIJA announced funding stands at just over $300 billion (see appendix for details). That announced funding, once contracts are completed, will make its way to state and local governments, Tribes, and territories, with thousands of specific projects identified for funding.

However, the breadth of IIJA investments—375 programs under 13 departments and agencies—has meant that some program funding has moved faster than others. Of the 375 programs, 125 are newly established under the IIJA. New programs can take additional time to begin disbursing funds, particularly if they first require implementation through notice-and-comment rulemaking or include a competitive grant process.

A large percentage of IIJA funding flows through general funds, which are subject to annual appropriations for the amounts authorized under the law. For instance, nearly $94 billion, or 14%, of Department of Transportation (DOT) spending authority under the IIJA is subject to annual congressional funding. A key risk to implementation is not meeting authorized funding levels. In addition, inflationary pressures will drive up project costs and risks achieving the objectives of these investments.
Limited state and local capacity is also a barrier to effective project planning and private sector partnerships. The set of programs aimed at offering state and local partners technical assistance have been slow to launch, including the Asset Concession and Innovative Finance Program grants that will help local governments analyze and plan potential public-private partnerships; and the Transportation Access Pilot Program intended to assist local planners in assessing how projects will affect access to jobs, health care, and education.

While IIJA progress through two years appears to be accelerating, policymakers now must focus on taking additional steps to expedite project timelines and remove barriers to implementation. The IIJA requires the DOT to review existing regulations to identify potential opportunities for efficiencies, with a report due to Congress by November 15, 2023. These efforts and clearer guidance should assist projects in moving through permitting approval more quickly.\textsuperscript{14}

See Appendix for an overview of implementation progress for each of the law’s major priorities, as categorized and quantified by the Building a Better America guidebook editions from Build.gov, and the data made available on that website.
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<thead>
<tr>
<th>IIJA Announced Funding</th>
<th>Total IIJA Funding</th>
<th>Announced</th>
<th>Percent Announced</th>
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<tr>
<td>Roads, Bridges, and Major Projects</td>
<td>$326</td>
<td>$119</td>
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<tr>
<td>Public Transportation</td>
<td>$83</td>
<td>$19</td>
<td>23%</td>
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<td>Clean Energy and Power</td>
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<td>$30</td>
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<td>Water</td>
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<td>$22</td>
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<tr>
<td>Broadband</td>
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<td>$46</td>
<td>72%</td>
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<tr>
<td>Passenger and Freight Rail</td>
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<td>$22</td>
<td>35%</td>
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<tr>
<td>Transportation Safety</td>
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<td>$9</td>
<td>24%</td>
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<tr>
<td>Resilience</td>
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<tr>
<td>Airports and Federal Aviation Facilities</td>
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<td>Environmental Remediation</td>
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<td>Electric Vehicles, Buses, and Ferries</td>
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<td>Ports and Waterways</td>
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<td><strong>Total</strong></td>
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<td><strong>$302</strong></td>
<td><strong>36%</strong></td>
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Note: Announced funding amounts are sourced from Build.gov database updated as of September 7, plus the addition of select subsequent announcements related to Clean Energy and Rail programs. Amounts are in billions of dollars.

**CHIPS / IRA Structure and Progress**

After the IIJA, in August 2022 Congress enacted the IRA and the CHIPS laws.

The IRA provides nearly $400 billion in federal funding for clean energy projects, with $271 billion available in the form of tax credits, and the remainder a combination of grant and loan guarantees. The IRA focuses on tax incentives to boost clean energy production and adoption across a variety of energy sources, and also invests in bolstering the domestic manufacturing of clean energy products, including solar panels and batteries.

The IRA has already exceeded early estimates of its uptake and impact in its first year. As of August 2023, the IRA had spurred announcements of $110 billion in clean energy manufacturing investments from the private sector, leading to an estimated 170,000 new clean energy jobs. The investment includes more than $70 billion in the EV supply chain and more than $10 billion in solar power manufacturing. This first-year progress has led some analysts to estimate that the IRA could channel as much as $3.3 trillion into renewable technologies in the coming decade—nearly 10 times the initial estimate. Businesses taking advantage of incentives in solar and electricity transmission, battery storage, carbon capture, and hydrogen are expected to begin seeing earnings that reflect IRA’s benefits starting in late 2023 and into 2024.
CHIPS authorized and appropriated roughly $280 billion in new spending through Fiscal Year (FY) 2027, primarily in semiconductor manufacturing capacity and R&D. The Department of Commerce is overseeing $50 billion in investments, while these efforts are supported by the authorization of $174 billion for R&D across both the public and private sectors; science, technology, engineering and math education; and workforce development.20

According to the White House, CHIPS incentives have already spurred over $166 billion in announcements of semiconductor manufacturing investments through August.21 In total, private companies in 42 states filed 460 statements of interest. However, the distribution of funding has been slow.22 After a Notice of Proposed Rulemaking was released in March,23 the Department of Commerce began accepting applications in June for $39 billion in subsidies for semiconductor fabrication facilities.24 However, the department has not begun the issuance of funding awards, though it expects to do so by the end of 2023.

Unlike CHIPS incentives for semiconductors, investments in R&D were only authorized, not appropriated, and thus require additional congressional action. The 2023 Consolidated Appropriations Act dedicated $1.8 billion to CHIPS programs, including $400 million in additional funding for the National Science Foundation and $500 million for new tech hubs managed by the Department of Commerce.25 Given both the national security and economic imperatives, Congress should fully fund these investments; neither the FY 2023 appropriations package nor the Administration’s draft FY 2024 budget deliver the intended funding to CHIPS programs, which combined would leave research agencies roughly $8 billion short of authorized levels.26

The Department of Commerce should continue to advance its programs expeditiously to provide certainty to applicants and ensure the entire semiconductor ecosystem—including suppliers, manufacturers, and leading and legacy fabs—is able to benefit. The Department of Treasury must also still finalize rules for the Advanced Manufacturing Tax Credit, as the credit is essential in the facilitation of investment across the ecosystem.27

In total, the Administration has stated that through August, the private sector has announced commitments of $516 billion in investment, with $231 billion directed toward semiconductors and other electronics, $139 billion in EV and battery development, $111 billion in clean energy investment, $20 billion in biomanufacturing, and $16 billion in heavy industry. The public sector, largely through the IIJA, has contributed another $302 billion over that period, with the investments focusing on traditional infrastructure such as roads, bridges, and public transit; EVs ($177 billion); water and wastewater systems ($23 billion); initiatives to accelerate clean energy ($23 billion); and resilience ($18 billion).28

**Expected economic impact**

The three laws allocate a combined $2 trillion in new federal spending and tax credits over 10 years. While the IIJA is structured primarily as direct contract and grant investments, the IRA and CHIPS packages are largely designed to incentivize investment through tax credits, aiming to “crowd in” additional funding from the private sector, and state and local agencies.

Infrastructure spending enhances the performance and productivity of the US economy. If workers can more easily move goods across the country due to improvements in freight
infrastructure output rises, with the investment delivering benefits long after the initial construction. In a country like the US, where infrastructure quality lags behind many other measures of economic health, more infrastructure spending at the margin can have a particularly high return on investment.

With these significant federal investments, the US has embarked on an industrial policy-type approach to addressing climate change, rebuilding and expanding infrastructure, and reshoring manufacturing. However, this raises significant questions about the design of contracts and grants in these programs, as well as tax incentives to help direct investment. First, these federal supports will run out after new funds ending primarily in 2026 and 2027 are spent down. It is crucial that state and local governments, as well as companies, establish sustainable business models for currently subsidized projects. Many programs tied to these laws are also subject to annual appropriations from Congress. The potential for 1% cuts in all discretionary spending for FY 2024 if Congress fails to pass all appropriations bills, or Congress not appropriating authorized funds, threatens projects’ successful completion.

The array of federal investment also risks addressing too broad a scope simultaneously—a traditional pitfall of industrial policy efforts—which will require unprecedented coordination to execute successfully. A lesson learned from previous US industrial investments is that narrowly defined goals that leverage private sector incentives are most likely to succeed, while attempts to solve multiple social goals disconnected from the industry’s economic vitality are less successful.29

Large federal investments can also increase aggregate demand to an unsustainable level and contribute to inflation in the short term. Unemployment stood at 3.8% in September, near its 50-year low of 3.4% in early 2023.30 Large amounts of new investment may bid up the cost of labor and the prices of scarce materials, driving project costs higher, particularly if interest rates continue to rise.

Figure 4 shows the extent that inflation is eating into project costs, which diminishes the power of federal investments. A simple calculation showing increases in the cost of construction materials and labor from the pre-COVID-19 pandemic period would suggest that project costs have risen by 24% through September 2023. However, the DOT’s official National Highway Construction Cost Index found that costs have risen by double that amount, or roughly 49% through the first quarter of 2023.31 According to the DOT’s analysis, factors related to continued supply chain challenges and heightened competition for resources including transportation, materials, and compliance costs may contribute to excess cost increases.32
Case Studies

Some federal agencies responsible for overseeing multi-year funding programs under the IIJA have taken longer than expected to open application rounds and distribute funds. For example, several programs meant to be announced in 2022 were instead announced as larger funding opportunities in 2023 with combined first- and second-year funding. As such, some important sectors are at risk of falling behind.

Clean energy and grid resilience

Of the $75 billion the IIJA allotted for clean energy and power, roughly $30 billion was announced as of September 2023, according to Build.gov and subsequent agency announcements.  

Delays in grant opportunities are most pressing for public power and clean energy projects. Crucially, many of the environmental goals in the IIJA depend on a high-quality electric grid. Renewable energy sources, which are variable and often located near specific geographic features, need long-range transmission of energy. Moreover, EVs are only as reliable as the electric grid that powers them. Investments in the energy grid under the IIJA have only recently been announced, with $3.5 billion in total funding being awarded to 58 selected projects under the Grid Resilience and Innovation Partnership Program, while $1.3 billion will go toward three interregional transmission projects under...
the Transmission Facilitation Program. These and other transmission-focused initiatives should be prioritized, given that they are critical to other energy projects, and in light of continued cost pressures that may limit the impact of investments in coming years.

While advancing clean energy projects is a primary goal of federal investments, precedent shows that electric grid projects can be extraordinarily challenging. A review of 30 transmission line projects since 2005 shows that they take an average of 10 years to complete, and some are expected to take as long as 30 years. In 2011 then-President Barack Obama attempted to prioritize and accelerate seven long-distance transmission projects; only two have since been completed.

Many transmission projects span multiple jurisdictions and are subject to a variety of reviews and many potential litigants, each of which can delay or end a project. For example, recent efforts to connect hydroelectric power in Quebec with energy users in the US have been stymied by opposition from New Hampshire, Maine, and New York.

Specific reforms to accelerate electricity transmission permitting must be a key priority; one study estimates that without at least doubling the historical pace of electricity transmission expansion over the next decade, roughly 80% of the potential emissions reductions expected under the IRA in 2030 will be lost. States should not block interstate regional transmission lines or other new renewable energy projects that would be subject to federal preemption.

Few individual infrastructure projects ever meet unanimous approval. But the greater the number of potential vetoes on a project, the greater the likelihood that essential projects may fail. The federal government has a role in ensuring that the broader need for inter-state commerce is adequately represented against the interests of local control. In the case of grid transmission—as with highways, railroads, and pipelines—there is a compelling federal interest. To support the IIJA’s Building a Better Grid initiative, states should not have the right to veto multi-state projects. Equally, while the Fiscal Responsibility Act of 2023 (FRA) took several steps to promote permitting reform, the legislation does not impose barriers to standing for those who wish to challenge the decision in court or provide that inaction by a certain date will deem a project approved. Congress should consider these additional steps to speed permitting for all types of projects.

**EVs and charging infrastructure**

One of the most significant investments in the IRA seeks to turbocharge US manufacturing of EVs and advanced batteries. The package made available $23 billion in funding, largely through tax credits, aimed at inducing private investment and encouraging consumer EV adoption. Additionally, the IIJA included $7.5 billion to establish a national network of 500,000 EV chargers.

As of August 2023, private manufacturers have announced more than $92 billion in concrete investment in EV and EV battery facilities since the IRA’s passage. Over this period EV-related jobs have grown by nearly 90,000, while announced investments may generate up to 800,000 jobs in the broader economy. Meanwhile, consumer uptake of EVs has continued to increase, rising from 3.2% of new vehicle sales in 2021 to 7.2% in the second quarter of 2023.
An important aspect of the EV battery initiative, however, is the IRA’s provision that requires sourcing either from the US or countries with which the US has a free trade agreement of input materials and components for the vehicles to be eligible for tax credits for new or used EV purchases. For a vehicle to qualify for the full EV tax credit in 2023, 50% of the value of battery components and 40% of critical input minerals contained in batteries must be sourced from either the US or free trade partners. These levels rise 10 percentage points annually, resulting in a requirement of 100% of battery components and 80% of critical minerals by 2029 and 2027, respectively, to be eligible for the full credit.43 Eligible EVs also must be assembled in North America.

While the goal of strengthening US supply chains for EV production is important, these provisions stand to potentially undercut the Administration’s goal of 50% EV sales by 2030.44 China dominates EV battery supply chains—supplying 80% of global battery cells—following years of building expertise, and expanding its international investments in mining and the processing of critical minerals. China processes between half and three-fourths of the global supply of lithium, cobalt, and graphite, while also housing 70% of global production capacity of cathodes and more than 80% of anodes.45 China has also invested in nickel production.

The Administration should issue rules later this year outlining what constitutes a “foreign entity of concern” under the IRA, as it has for a similar provision in CHIPS. Beginning in 2024 EVs with battery components or critical minerals from such foreign entities will be disqualified from tax credits.46 That interpretation will dictate how licensing and joint venture arrangements with Chinese entities are treated under the program. US automakers, including Ford, currently depend on Chinese technology in their buildout of battery plants to support their growing EV lineups.47

As the Internal Revenue Service reviews this rule, it should ensure these provisions spur EV supply chains to benefit US manufacturers and at the same time that they do not cause unintended risks to national security. While these requirements are likely to drive up the scarcity and prices for components and critical minerals, which are already in short supply, greater clarity for manufacturers and investors on how these requirements will be interpreted and assessed will ease compliance.

As the US seeks to transition to clean energy, two broader concerns that threaten the pace of EV expansion are the capacity of the energy grid to support the growing number of charging stations and the availability of charging stations themselves. Funding for EV charging stations has begun to its way to states through the IIJA’s $5 billion National Electric Vehicle Infrastructure (NEVI) formula program. However, despite $1 billion in NEVI funding being set aside for both FY 2022 and FY 2023, the rollout of these programs has faced delays. Initial state plans were approved in September 2022, with year-two plans submitted at the end of August of this year.48 States are just now announcing the first round of project sites that will receive conditional awards for funding, and such projects must still undergo successful NEPA reviews and legal agreement execution.49 As of August, 16 states had begun soliciting applications from prospective charging vendors, while only five states had announced awards for such contracts.50 While some projects may begin by the end of 2023, it is likely that progress will accelerate in 2024.
Challenges to Implementation and Solutions

While in many cases money has begun flowing to projects, challenges remain to using federal funds effectively and quickly, including coordination among stakeholders and agencies across various programs, administrative challenges, permitting delays, supply chain issues, and workforce shortages. Projects with the greatest potential impact to meet immediate needs should be prioritized, including energy transmission projects that support grid modernization and water projects, both of which are critical to sustainability and national security.

Public-private coordination

Infrastructure is the classic case of implementation decisions—from project selection to procurement—residing at state and local levels rather than with the federal government. Under the IIJA, 90% of all funds will be spent by nonfederal partners, including states, cities, transit authorities, nonprofits, private entities, and universities.\(^5^1\)

Decision-makers must prioritize collaboration across all levels of government and with community participants, including the private sector, to avoid a traditional pitfall of infrastructure investment: siloed funding and projects in one infrastructure sector that fail to coordinate strategically with other ongoing projects. Synergies and forward planning are essential to maximize benefits. Given how many of these investments are cross-sector, it is crucial that state agencies working in specific sectors, including transit, energy, and broadband, work together in the planning stages.

One innovative example is the Southwestern Pennsylvania New Economy Collaborative, formed to manage the region’s $63 million Build Back Better Regional Challenge grant.\(^5^2\) The coalition, which includes 11 counties, more than 90 organizations, and numerous agencies, established a cross-functional, cross-sector board and is led by a full-time regional economic competitiveness officer to manage collaboration between entities and address barriers to implementation of the grant’s five key initiatives. This type of structured cross-sector collaboration, building ties between public agencies and private stakeholders of all types, can be a model for other regions as they plan and implement their various projects supported by federal investments.

The depth and breadth of federal funding is likely to strain the capacity of many state and local governments. In a June survey conducted by cloud-based spend management software developer Ivalua, 90% of state and local procurement budget owners reported that the process of obtaining federal funds was complex and time-consuming, while roughly 60% reported a lack of resources and staff to sufficiently manage the influx of federal funding.\(^5^3\) State and local agencies need expert personnel to issue awards, respond quickly to questions from builders and contractors, and make decisions about design details. Public-private partnerships must be leveraged where applicable, allowing private sector experts to supplement the capabilities and resources of public agencies, for instance by solidifying supply chains, engaging in local workforce skills development, and providing additional financing for large projects.

One of the most substantial needs of local governments and other stakeholders is continued collaboration from the federal agencies administering these programs. The Administration should leverage the infrastructure coordinators it requested that
every state and many city mayors to establish. In Pennsylvania, the new Office of Transformation and Opportunity to Spur Economic Growth, led by a former business executive, focuses on bringing state agencies together to speed permitting and undertake other reforms, such as shortening the length of time to obtain some business licenses from eight weeks to two days.

Paperwork requirements for state and local partners, no less than inflation, threatens to reduce the value of federal investments. The lack of resources and staff at the local level to drive implementation requires that federal officials expand technical assistance. Successful sector-specific models for this include Treatment Works Program at the Environmental Protection Agency (EPA) for wastewater in rural communities and the Department of Energy’s (DOE) Community LEAP Program for clean energy projects. Local stakeholders would also benefit from federal agencies continuing to collate the array of technical assistance to simplify access for stakeholders. Other types of helpful materials can be made widely available on the model of the Infrastructure School webinar series that agencies offered for each sector to assist local officials’ planning and to address questions.

Public-private partnerships across project pipelines can also be strengthened. Traditional hard-bid contracting methods typically involve a public agency planning and scoping large projects with outside input from engineering firms. Collaborative contracting methods that provide earlier contractor involvement can harness expertise to benefit technical planning and mitigate project risks and uncertainty. These innovative contracting methods should be pursued where possible, including progressive design-build delivery where the same private contractor has responsibility for both the design and construction of a project. This would allow private sector expertise to drive efficient implementation through shorter timelines, while avoiding multiple contractors handling separate project phases. Other methods leaning more heavily on the private sector can also leverage private capital with the option for a private entity to operate and maintain infrastructure systems following project completion. Examples of successful collaborative projects exist across many states and have a positive record of improving project timelines, mitigating risks for the private sector, and lowering public costs. A key issue, however, is the shortage of experienced public contract administrators to oversee implementation of the various federal programs. Leveraging private firms with expertise in federal contracting, and the consideration of recently retired government employees and former internal experts, can help regional leaders bolster expertise to drive successful implementation.

Transparency and clarity

The Ivalua survey found that 73% of respondents recognized the need for greater transparency. Clarity around available funding opportunities under these laws and their programs is particularly crucial as opportunities become available on different timelines. Federal officials should ensure that help desks that assist state and local agencies are well staffed, and provide information, updates, and answers efficiently. Help desk resources are crucial to align stakeholders to federal priorities and offer assistance on program requirements, application, and reporting.

Moreover, federal officials should leverage the Build.gov site as a single publicly available web page to make program descriptions accessible to stakeholders. The one-stop shop
should include relevant information such as the accountable departments or agencies at the federal, state, or local levels; the status of funding, available amounts, and funding that has been spent under each program; requirements for application and reporting; and the value to the American people. Additionally, the Administration should regularly update its resources on federal investments and funding opportunities to provide stakeholders clarity for planning decisions. These include the IIJA guidebook and IRA guidebook; the Build.gov and Invest.gov sites with detail on funding announcements; and interactive maps of project locations.59

Transparency is also critical to ensure that the public knows how and where money is spent. Accurate information about infrastructure spending is useful for cost-benefit analysis, for comparing best practices, and for accountability to prevent waste or abuse of funds. In most cases, however, states do not have websites detailing IIJA funds awarded in their state. California’s website presents data on funds the state has received through the IIJA by major category, the money devoted to planned or in-progress projects, and the geography of recipients.60 This level of detail, however, is the exception, not the rule. Making reliable data on the use of those funds publicly available is a worthy and necessary investment.

Administrative challenges and permitting

Local capacity is also an issue in the process of environmental assessments and permitting. Without reforms to streamline these administrative burdens, federal funding may be rendered less effective, adding time and cost to all projects.

One of the most time-consuming aspects of a construction project, if it requires a federal permit, is an environmental review under NEPA, which became law in 1970. The law requires an environmental assessment (EA) or environmental impact statement (EIS) for many projects that include a federal permit. Over time, this process has become increasingly lengthy: the average EIS between 2010 and 2018 took 4.5 years to complete.61

The long length of the statements and time to completion reflects, in part, the fact that the statements are open to a variety of legal challenges from opponents. Using NEPA lawsuits to delay decisions can effectively give opponents a way to delay or stop a project, even for a project that the government would like to permit.

Permitting reform to expedite development of energy infrastructure has bipartisan support. The FRA called for the designation of a lead federal agency for each project, tasked with completing an environmental assessment within specific deadlines.62 In August the Council on Environmental Quality (CEQ) initiated a broader rulemaking to streamline the NEPA process. Clarifying page limits for reviews and required timelines for completion for EIS and EA timelines of two years and one year, respectively.63 It also requires agencies to establish lists of categorical exclusions for projects that normally do not have a significant environmental effect, which are able to avoid the environmental review. It also allows agencies to prepare a Finding of No Significant Impact, instead of a full EIS, when agencies can take mitigation efforts to reduce environmental impact.

The CEQ’s proposal, however, does not include limitations on judicial review of permitting decisions or limitations on standing for those who wish to challenge permitting decisions
in court. Congress should consider these additional steps to speed permitting for all types of projects. Without permitting reform that provides greater certainty, investors will be reluctant to invest capital in projects.

Individual agencies can also make progress on streamlining reviews. In April, the Federal Highway Administration issued a request for information on improving environmental review processes; other agencies should follow suit in a government-wide effort to improve permitting following enactment of the FRA. The IIJA also codified the One Federal Decision process for major projects. When possible, the federal government should use the One Federal Decision process even in areas where it is not explicitly required by law.

Neither the proposed rule nor the FRA addressed specific reforms to accelerate electricity transmission permitting. But this must be a key priority; one study estimates that without at least doubling the historical pace of electricity transmission expansion over the next decade, roughly 80% of the potential emissions reductions expected under the IRA in 2030 will be lost. States should not block interstate regional transmission lines or other new renewable energy projects that would be subject to federal preemption.

As a longer-term solution, policymakers should look to the model of the Uniform Commercial Code. The code, adopted by all states, is essential to interstate commerce as it provides businesses and consumers certainty through a uniform set of laws governing commercial activity. A group of local, state, and federal officials; experts trade union; and engineering and construction experts should be convened to propose a set of standardized regulatory requirements that could be adopted by all 50 states and the District of Columbia. Reforms to standardize state and local requirements could help expedite reviews and permitting decisions, while removing duplication and compliance burdens that raise project costs.

**Cost and supply chain challenges**

The construction of infrastructure in the US costs more than in almost any other advanced economy. According to a July 2021 by the Eno Center for Transportation, a nonpartisan think tank, the US pays 50% more to build transit projects, with projects requiring tunneling in high-cost areas like New York City coming at a 250% premium. High costs are partially driven by longer completion timelines. The number and scale of projects looking to break ground simultaneously significantly raises demand for construction materials and labor. As of August 2023, the Bureau of Labor Statistics Producer Price Index for construction materials rose an extraordinary 43% from prepandemic levels, though it has retreated slightly from the all-time high seen in May 2022. Shortages and continued supply chain challenges threaten project delays, as in the cases of shortages of the transformers needed for energy grid projects and in shortages of semiconductors that have impeded broadband expansion.

Meanwhile, higher interest rates also threaten project budgets, while many locations are experiencing difficulty in finding contractors and skilled workers. These factors drive costs higher and present a challenge to effective implementation, causing delays and project reconfiguration with the potential to decrease the number of projects able to be completed under current funding levels.
States should leverage other funding streams available, such as those under the American Rescue Plan (ARP), enacted in 2021 to provide economic stimulus in the wake of the pandemic. For example, ARP funds could be used to train workers needed to build high-quality infrastructure; hire back public sector workers needed to manage federal investments; and get a jump start on water, sewerage, and broadband projects.\(^7^0\)

Additionally, Buy America provisions requiring construction materials to be US-produced to receive federal funding threaten to raise project costs by constricting the supply of eligible materials. While prioritizing US-made materials and components is important, it could also reduce the value of current federal investments. The Administration should extend the waiver of Buy America provisions for construction inputs, at least in markets where few suppliers can meet the domestic content threshold or where suppliers can only do so with significant delays.\(^7^1\)

More broadly, public and private leaders should work together to determine how best to leverage federal investments toward improving supply chains. For instance, competitive grant selections should target roadway funding to improve connections to ports, factories, airports, and other major supply chain nodes. Additionally, targeting funding to border hubs will help supply chain integration and efficiency of cross-border trade with Canada and Mexico.

**Workforce issues**

Labor demand in the construction industry has risen dramatically. As of October 2023, nearly 8 million Americans were employed in construction, an all-time high.\(^7^2\) Meanwhile, job openings in the sector show more than 360,000 positions are currently unfilled.\(^7^3\) Significant investments in infrastructure will require workers in a variety of specialty and nonspecialty occupations, from civil engineers to electricians to construction laborers.

Public-private partnerships are key to increasing the trained labor force for infrastructure construction projects. Employers, unions, public agencies, and nonprofits should collaborate to expand training opportunities through registered apprenticeships to develop workers with skills to build, maintain, and operate large infrastructure and manufacturing projects. Those leaders, including those at community colleges and other training providers, should participate in the Administration’s Talent Pipeline Challenge, which supports workforce development in broadband, construction, and electrification.\(^7^4\) The private sector should also commit to providing adequate training for employees, diversifying the pipelines through which they find workers, and committing to training of new employees in order to help expand the pool of workers to fill needed jobs.

State and local governments should use ARP and/or IIJA funding to support these efforts, taking advantage of the ability to use the funds for workforce development under several grant programs, and partnering with local employers and institutions of training or learning.

Immigration reform also should be considered to boost the US workforce trained in skilled-trades, construction, and engineering. Reforms can specifically target workers with needed skills in critical sectors. For example, some have proposed a “chipmaker’s visa” to fill shortages of workers to implement the goals of CHIPS.\(^7^5\) Others have successfully
followed this approach; industry giant Taiwan Semiconductor Manufacturing Company, the majority of executives had US work experience. This model would help to solidify the workforce available to execute key project priorities, while worker training and education will remain critical in the long run to build a robust labor pool.

States should also recognize occupational licenses across state lines in reciprocity agreements for key construction or civil engineering occupations where location has little impact on the job substance and review other areas where they may be able to streamline requirements.

**Conclusion**

The federal investments now being disbursed offer the country the opportunity for a major step forward in strengthening its infrastructure and manufacturing base for a 21st-century economy. To achieve the promising goals outlined by these laws, Congress should ensure continued funding for ongoing and new projects. State and local governments, and private stakeholders need time to formulate their requests for project funding and require certainty that funding will be available once planning and construction steps have begun.

Even as funds are distributed, significant work remains to deploy investments effectively on the important priorities outlined under the IIJA, IRA, and CHIPS. The expanse and complexity of these investments raise the stakes for public and private sector leaders to select and execute planned projects successfully. They also require an unprecedented level of collaboration between federal officials and local stakeholders implementing projects to avoid traditional pitfalls of industrial policy efforts.

The solutions outlined here can help state and local agencies control costs, procure the needed labor and materials to complete projects, repair disrupted supply chains, and administer funding effectively and with transparency. Further, they can help local business leaders identify important areas for cooperation with state and local governments on timely and efficient implementation. Solving issues of coordination, regulation, contracting, and transparency to ensure timely and effective implementation are essential to taking advantage of these major investments so they serve as a catalyst for economic growth in an era of strong global competition.

**Appendix**

Below is an overview of implementation progress for the major sectoral investments under the IIJA, as categorized and quantified by the Building a Better America guidebook editions from Build.gov, and the data made available on that website. This overview also includes information from agency announcements not yet reflected in the guidebooks or in Build.gov data. Note that the following detail does not include investments made under CHIPS or the IRA.
Roads, bridges, and major projects
Total funding: $326 billion.
Total announced in Build.gov data as of September 7, 2023: $119 billion.

The DOT has already released at least $118.7 billion of the $326 billion in funds appropriated in the IIJA. Much of the bill’s funding for roads and bridges came from preexisting policies and the largest new program, the Bridge Formula Program, made use of formula grants, which give an amount to state or local agencies based on characteristics of the jurisdictions they serve (such as population). Formula grants are generally quicker to implement than competitive grants, especially for programs such as the National Highway Performance Program, which already existed prior to the IIJA, and are being used in the new Bridge Formula Program.

The competitive grant process for all major programs is under way. The largest new competitive grant, $12.9 billion over five years for the Bridge Investment Program, released a new rolling funding opportunity in September for its Large Bridge Project Grants that combine FY 2023 and FY 2024 applications due in November. Separate funding opportunities are expected to be released for the other two programs: Planning Project Grants and Bridge Project Grants. As the department has announced about 36% of the total funding in the first two of the five fiscal years the IIJA is intended to cover, highway funding is roughly on track.

Passenger and freight rail
Total funding: $63 billion.
Total announced in Build.gov data as of September 7, 2023: $0 billion.
Total including subsequent agency action: $22 billion.

After delays in making funding opportunities available, the Federal Railroad Administration is beginning to make progress. In September the Consolidated Rail Infrastructure Safety Improvements (CRISI) grants program announced $1.4 billion in awards for selected projects that will apply to FY 2022. In order to catch up with fiscal year funding amounts, Federal Railroad Administration plans to open a notice of funding opportunity (NOFO) for FY 2023 and FY 2024 CRISI funding by January 2024. For the largest rail program, the $36 billion Federal-State Partnership for Intercity Passenger Rail, NOFOs closed in March and April for projects in and outside the Northeast Corridor, respectively. Those two allotments now combine FY 2022 and FY 2023 funding, with $4.6 billion expected to be awarded by the end of 2023 for national projects. Awards were announced in early November for Northeast Corridor projects totaling nearly $9 billion for the two fiscal years, with an additional $7.4 billion announced in commitments for future years. Rail funding in the IIJA is late relative to the fiscal years for which it has nominally been awarded. However, in establishing a project pipeline for the future, the Federal Railroad Administration is seeking to set conditions that could result in a more organized process in the future.
Public transportation
Total funding: $83 billion.
Total announced in Build.gov data as of September 7, 2023: $19 billion.

The DOT is responsible for all public transportation programs. Most of the funding the DOT is distributing is in preexisting programs, including Urbanized Area ($33.4 billion) and State of Good Repair ($21.6 billion) formula grants. Those programs have begun distributing funds; however, according to September Build.gov data, they are behind schedule, releasing only 20% of funds through two fiscal years (Build.gov). Only two of the larger programs in this category—Ferry Service for Rural Communities ($2 billion) and Rail Vehicle Replacement Grants ($1.5 billion)—are new. While the rail competitive grants are on schedule with nearly half of funds already announced and opening its FY 2024 NOFO in October, ferry service grants remain behind.82 That program opened its FY 2023 applications only in May and had yet to select projects for awards at the close of the fiscal year.83 According to Build.gov data, the ferry program has only announced 13% of its funding, in part because half of the program’s $2 billion needs to be appropriated annually.

Airports and federal aviation administration facilities
Total funding: $25 billion.
Total announced in Build.gov data as of September 7, 2023: $8 billion.

Airport funding in the IIJA is divided into three programs that supplement typical sources of funding for the Federal Aviation Administration (FAA), such as taxes and fees on air travel. Two of the programs are grant programs: $15 billion for Airport Infrastructure Grants, and $5 billion for the Airport Terminal Program. The FAA had announced $7.8 billion in IIJA funds between the two grant programs as of September. The IIJA also contains $5 billion for FAA facilities, with $2 billion made available for FY 2022 and FY 2023 dedicated to FAA priorities including replacing and improving air traffic control towers ($750 million) and updating power systems ($443 million).84 The totals announced are roughly in line with the intended five-year schedule.

Ports and waterways
Total funding: $17 billion.
Total announced in Build.gov data as of September 7, 2023: $6 billion

Ports and waterways funding in the IIJA is largely for federal government agencies themselves, rather than states or the private sector. The bulk of the funding is for the Army Corps of Engineers’ work on ports and waterways; $4.6 billion of IIJA’s total $8.8 billion had been announced as of September. Major projects include improvements to Soo Locks in Michigan, Montgomery Locks in Pennsylvania, Houston Ship Channel in Texas, and Norfolk Harbor in Virginia.85 The General Services Administration will receive $3.4 billion for land ports of entry. Both have already allocated funds to projects reported on Build.gov.
Transportation safety
*Total funding: $38 billion.*
*Total announced in Build.gov data as of September 7, 2023: $9 billion.*

The DOT is implementing transportation safety programs. Much of the safety funding is for preexisting programs, particularly the Highway Safety Improvement Program, which comprises $15.6 billion of the funds. However, there are also new competitive grant programs, including Safe Streets and Roads for All ($5 billion), Railroad Crossing Elimination ($3 billion), and Natural Gas Distribution Infrastructure Safety Grants ($1 billion). The DOT has posted a NOFO for all three items.

Electric vehicles, buses, and ferries
*Total funding: $18.6 billion.*
*Total announced in Build.gov data as of September 7, 2023: $3 billion.*

Funding for or related to EVs in the IIJA is concentrated in four new major programs: Low or No Emission Bus Grants ($5.6 billion), the NEVI Formula Program ($5 billion), the Clean School Bus Program ($5 billion), and the Charging and Fueling Infrastructure Grants ($2.5 billion). The EPA is responsible for the Clean School Bus Program, while the DOT is implementing all other major programs. The DOT awarded the Low or No Emission Bus Grants for FY 2023 in June, while the EPA has not yet announced FY 2023 awards after closing its applications in August.

The Federal Highway Administration approved all 50 states’ initial NEVI plans in September 2022, unlocking $1.5 billion in funds for FY 2022 and FY 2023. Annual state plans for FY 2024 were submitted in August 2023, keeping the program generally on schedule.

The Charging and Fueling Infrastructure Grants were initially delayed but have started to progress. Those programs’ first NOFO closed in June, with $700 million combined available for FY 2022 and FY 2023. However, with no awards at the close of FY 2023, this $3 billion program is still catching up to schedule.

Clean energy and power
*Total funding: $75 billion.*
*Total announced in Build.gov data as of September 7, 2023: $13 billion.*
*Total including subsequent agency action: $30 billion.*

The IIJA’s clean energy priorities include many new programs: the DOE is implementing the largest of these, as discussed above. Implementation of these new programs has been slow. Funding for some of the largest energy components of the act, a trio of electric grid programs, was announced in October: $3.5 billion for 58 selected projects under the Grid Resilience and Innovation Partnership Program and $1.3 billion for three interregional transmission projects under the Transmission Facilitation Program. In August the DOE announced $1.2 billion in funding for the first two of four Direct Air Capture Hubs in Texas and Louisiana. A significant portion of funds comes from the more than $6 billion announced across two programs investing in battery materials processing and manufacturing; a second-round announcement of $3.5 billion in August followed initial selection of projects in 2022 that received $2.8 billion.
While the $8 billion program for Regional Clean Hydrogen Hubs missed its initial NOFO deadline in Summer 2022, a funding opportunity for the bulk of the funding ($7 billion) closed applications in April and is currently in its selection process, with request for proposal responses for demand-side due in October. Another program for Regional Direct Air Capture Hubs announced the first two demonstration projects in August with funding of $1.2 billion.

In the past year, the DOE has largely caught up to its expected timeline of funding openings and distribution.

**Water**  
*Total funding: $64 billion.*  
*Total announced in Build.gov data as of September 7, 2023: $22 billion*

The largest component of water funding ($38.4 billion) consists of revolving funds for a variety of water quality projects, including drinking water safety, wastewater and stormwater treatment, lead removal, and other contaminant removal. The EPA, responsible for those funds, quickly distributed them to states, Tribes, and territories, though it remains up to recipients states to allocate that money quickly and effectively. Recipients receive a capitalization grant, with no state match required. Then they may use the funds to compensate or lend to eligible entities (typically utility companies) to implement the projects. The law includes requirements that the funds be used toward their stated purpose and that states can use up to 49% of these funds for grants or forgiving loans. It limits use on administrative expenses or salaries to 2% of the funds.

Additionally, the Department of the Interior implements some smaller programs under the water category, such as the Aging Infrastructure Account, which repairs water infrastructure and has disbursed $825 million thus far to specific projects.

**Resilience**  
*Total funding: $38 billion.*  
*Total announced in Build.gov data as of September 7, 2023: $14 billion.*

Resilience funding in the IIJA is well under way. The DOT’s distribution of funds for its largest program, the Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) formula grant, is on pace through FY 2023. The $7.3 billion fund is apportioned to states to help them shore up transportation infrastructure against disasters, especially evacuation routes, routes to hospitals, and modes of transportation that would be critical in a disaster. Funding for the Army Corps of Engineers for resilience projects and flood mitigation of $7.7 billion is also on schedule with $6.6 billion already announced.

A NOFO for FY 2023 for a third large ($3.5 billion) program, the Federal Emergency Management Agency’s Flood Mitigation Assistance, opened on October 12, 2023, missing the fiscal year. The program is running behind schedule, with only 15% of funds distributed after announcing FY 2022 awards in August. Other agencies administering resilience funding include the Department of the Interior and the Department of Agriculture for management of lands and forests, and the National Oceanic and Atmospheric Administration for forecasting and coastal security. Some resilience funding—about $1.3 billion—is dedicated to cybersecurity.
Environmental remediation

Total funding: $22 billion.
Total announced in Build.gov data as of September 7, 2023: $4 billion.

The abandoned mine reclamation fund ($11.2 billion for the Department of the Interior), the orphaned well site plugging ($4.7 billion for the Department of the Interior), and the Superfund program ($3.5 billion for the EPA) have all begun disbursing IIJA funding.

Broadband

Total funding: $64 billion.
Total announced in Build.gov data as of September 7, 2023: $46 billion.

Congress allocated most broadband funding in the IIJA to two programs: the National Telecommunications and Information Administration’s (NTIA) Broadband Equity, Access, and Deployment (BEAD) Program, funded at $42.5 billion; and the Federal Communications Commission’s (FCC) Affordable Connectivity Program, funded at $14.2 billion. Other programs include $2 billion for tribal broadband through the NTIA, a $2 billion rural broadband program through the Department of Agriculture, and $2.6 billion in digital equity grants through the NTIA.

The Affordable Connectivity Program, established through the Consolidated Appropriations Act of 2021 and initially known as the Emergency Broadband Benefit Program, was implemented in response to the pandemic, when many workplaces, commercial operations, and schools shifted online. However, the IIJA repurposed it into a longer-run broadband affordability program. The Affordable Connectivity Program provides qualifying households with up to a $30 per month discount toward internet service, payable to the broadband provider the customer chooses, and up to a $100 discount to purchase an internet-connected device. The program does not fund specific infrastructure projects; instead, it aids households in paying for broadband services in areas that have access to high-speed internet. The Administration is attempting to boost enrollment through outreach. As of September 21, 22 million households had enrolled.

By contrast, BEAD, the largest program, intended to expand broadband infrastructure more directly to improve access among unserved or underserved communities, and $42.5 billion is appropriated toward that end. BEAD funds will be distributed directly to states according to a formula that evaluates states based on unserved locations, with additional weight on unserved locations in high-cost areas. Before being released in June, the FCC’s maps threatened to delay the program rollout, keeping BEAD funds from being distributed to states last year. The announcement of the maps and state allocations now releases more than $40 billion to states to begin projects.
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