The Executive's Guide to IIJA Funding for Technology

How to maximize a historic opportunity to modernize physical and digital infrastructure

Introduction

Infrastructure Investment and Jobs Act (IIJA) funding represents a once-in-a-generation investment in the nation's infrastructure. But this investment isn't just targeted for physical infrastructure. IIJA also provides billions in funding to help state and local governments modernize their technology infrastructure.

"With the Infrastructure Act, we've gone beyond the tipping point where technology is now infrastructure, too — not just technology infrastructure in terms of fiber networks and data centers, but also critical applications and data," says Don Ingle, industry executive advisor for state and local government and education at SAP, a leading provider of data-driven solutions for the public sector.

To Ingle's point, governments must start thinking about technology as part of their core infrastructure. However, national research from the Center for Digital Government (CDG) indicates state and local agencies aren't capitalizing on the massive infusion of federal aid over the past two years to make much-needed technology improvements. An April 2022 CDG survey conducted for SAP shows only about a quarter of respondents have spent federal stimulus funds on technology projects so far.[1] Just 39% of respondents said their jurisdiction is at least somewhat likely to use IIJA funds for technology upgrades, and more than a quarter of respondents said they don't know if their organizations will do so.

These results indicate state and local government decision-makers lack information on how IIJA funds can be deployed to drive technology modernization and why they should consider prioritizing these investments.

To help government leaders overcome these barriers, this guide provides actionable steps state and local agencies can take to leverage federal funding not just for physical infrastructure upgrades, but to invest in open, modern and secure cloud-based systems that drive long-term value. These investments will enable faster technology implementations and accelerate agencies' transformation into digitally enabled, data-driven organizations.

How likely is your organization to use IIJA funds for technology improvements?

Not very likely 17%

Somewhat likely 23%

Not at all likely 18%

Very likely 16%

Don't know 26%
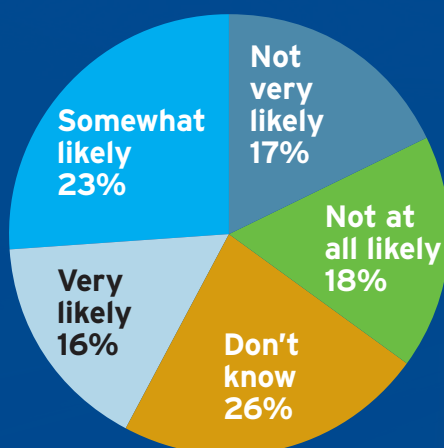
Source: CDG Modernization Survey, April 2022

Important IIJA Funding Streams

IIJA authorizes $1.2 trillion in spending on infrastructure over the next 10 years, including $550 billion in new funding that must be spent over the next five years.

Funding is divided between competitive and formula-based grants.

■ **Formula Funding:** The U.S Department of Transportation (DOT) distributes a portion of IIJA funding to state DOTs based on formulas established by Congress. Formula-based grants have pre-determined allocations, but states and localities must still apply for these funds in most instances. State DOTs will provide more information to local governments on the funding distribution process in their jurisdiction.[2]

Some examples of formula-based programs within IIJA include the Tribal Broadband Connectivity Program, a $2 billion program designed to help tribal governments build out broadband infrastructure. There's also the Broadband ReConnect Program, a $2 billion loan and grant program for broadband deployment in rural areas.[3]

■ **Competitive funding:** IIJA also includes competitive grant programs in which states, localities and other eligible public sector organizations must compete with one another for funding. Specific federal agencies will oversee each competitive grant program and application requirements and deadlines will vary by program.

Competitive grant programs within IIJA include:

■ **Rebuilding American Infrastructure Sustainably and Equitably (RAISE) grants:** A $7.5 billion competitive grant program that awards funding based on how well proposed projects advance safety, sustainability, equity, economic competitiveness, mobility and community connectivity.

■ **Digital Equity Competitive Grant Program:** A five-year, $1.25 billion combination competitive and formula-based grant program that supports the implementation of digital equity projects.

■ **Advanced Transportation Technologies & Innovative Mobility Deployment:** A $900 million

program for projects that improve safety, mobility, efficiency, system performance, intermodal connectivity and infrastructure return on investment.

■ **"Megaprojects" Program:** A $5 billion program that provides funding to support multi-modal, multi-jurisdictional or regional infrastructure projects.

This is just a snapshot of formula-based and competitive funding within the infrastructure law. The consistent theme across IIJA programs is that the federal government wants to lay the groundwork for state and local governments to build the nation's infrastructure for the future. Technology will be a key enabler of this vision, says Bill Greeves, a state and local government and education industry advisor at SAP and the former chief information and innovation officer for Wake County, North Carolina.

"IIJA funding will help government organizations modernize their systems," Greeves says. "That's crucial because it will enable governments to be nimble and responsive to changing needs and citizen demands and complete updates incrementally as their needs evolve, as opposed to struggling through massive implementations."

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Key Technology Use Cases

State and local governments can use IIJA funding to strengthen technology capabilities in multiple areas, including integration, business process automation, workforce transformation, enterprise asset management, analytics, and wireless and broadband connectivity.

■ **Integration:** State and local governments can use IIJA dollars to invest in cloud-based business technology platforms capable of connecting multiple disparate applications and acting as an integration hub to facilitate data sharing.

Chris Atkins, vice president of digital government transformation at SAP, says integration has become paramount for governments because of the quality, volume, sensitivity and complexity of the data these organizations collect.

"Governments have some of the richest data stores in the world, but too often they don't get great value out of that data. Agencies have healthcare data, education data, transportation and infrastructure data, and rich finance data," says Atkins, former commissioner of the Indiana Department of Revenue and director of the Indiana Office of Management and Budget. "There are a lot of transformative initiatives governments can engage in if they manage that data well and if they focus on making that data available for researchers and data scientists."

An integrated business technology platform gives governments more flexibility to meet their most critical business challenges. These platforms let agencies consolidate pro-cesses and activities related to enterprise resource management, procurement and spend management, human capital management, and citizen experience management into a single place. This increases operational visibility and efficiency and allows agencies to deploy and scale data in new ways.

As governments engage in new infrastructure projects leveraging IIJA funding, an integrated business technology platform will allow them to aggregate data and integrate applications across traditional silos.

"It's really about creating an intelligent enterprise model, which is why it's so important not to make siloed technology investment decisions," Ingle says.

■ **Business process automation and workforce transformation:** With a business technology platform as their foundation, state and local governments can drive automation and workforce transformation.

"Making the right investments is really critical for state and local governments in an era of inflation and possible economic stagflation," Atkins says, adding that cloud and software-as-a-service (SaaS) solutions will be important facilitators of this modernization.

For example, cloud-based tools and applications with integrated artificial intelligence (AI) and robotic process automation (RPA) capabilities can help agencies streamline routine and mundane tasks, such as processing construction permit applications and approvals and managing RFP documents and other forms. Greeves says many of SAP's

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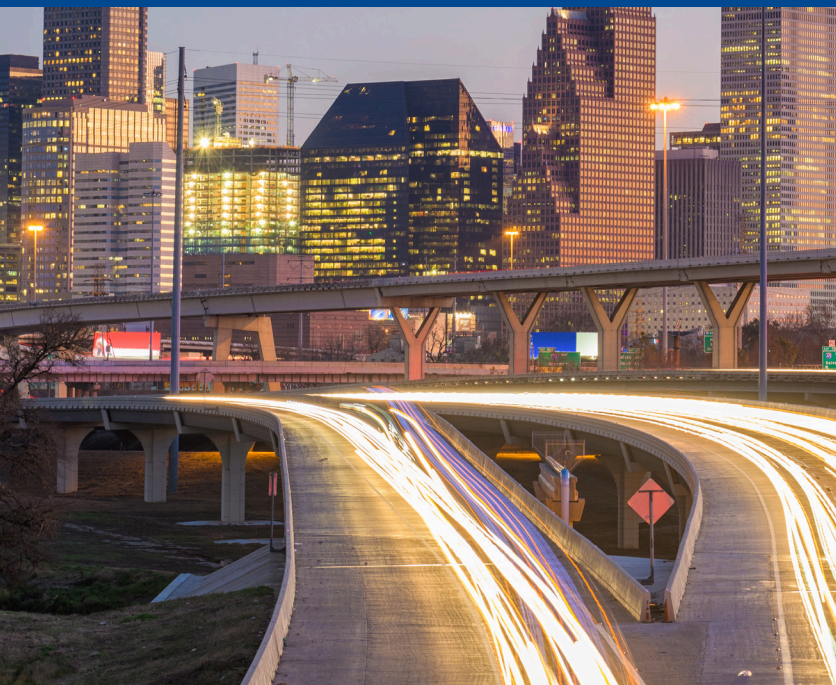
customers are already using the company's AI and cloud-enabled tools to identify and flag questionable procurements.

Smart automation will also help governments meet changing workforce requirements. Next-generation intelligent enterprise resource planning (ERP) and human capital management (HCM) systems can help governments support employees who have become accustomed to hybrid work, flexible schedules and access to versatile service delivery mechanisms that enable anytime, anywhere productivity.

These advanced systems give governments tools to build a workforce primed for the future, including embedded analytics, streamlined line-of-business processes, high-capacity data processing, built-in security that aligns with global standards and user-friendly dashboards that improve data accessibility.[4]

To become future-ready, state and local governments should consider investing IIJA funds into ERP and HCM system upgrades. These long-term investments will help agencies create a solid foundation for physical infrastructure modernization and manage the workforce that drives these projects.

■ **Enterprise asset management:** State and local governments can also use IIJA funding to invest in platforms that collect and analyze data for inspections, repairs and

Putting IIJA Dollars to Work in Houston

Houston METRO, the city of Houston's public transit authority, plans to use IIJA funding to better maintain existing assets and invest for the future.

More than a third of the agency's employees are dedicated to maintenance-related activities, and Houston METRO intends to use IIJA dollars to make this workforce more efficient. The first step was adopting a business technology platform to increase visibility across all the authority's infrastructure assets, including hybrid buses and light rail vehicles.

"We initially had multiple boutique MRO [maintenance, repair and operations] solutions that were with our user communities on the rail, bus and facilities maintenance side," says David Penninger, Houston METRO's IT program management director. "Those are all consolidated now into [a single] environment. That was the foundation for moving forward with our enterprise asset management solutions."

The integrated platform enabled the agency to break down data and operational silos and foster greater collaboration. Integration also let Houston METRO pair quantitative and qualitative asset data with financial information from its ERP system to help with project prioritization, forecasting and planning.

"Now we know what we have and what condition it's in, and we can capture other things like the expected useful life of that asset [and] the expected replacement cost of that asset," says Alexi Miller, Houston METRO's director of transit asset management.

With more federal funding on the way, Houston METRO plans to adopt mobile solutions to improve productivity for office and field workers. The authority will also implement GIS technology to improve asset visualization and mapping for more than 2,000 bus stops, and it will integrate data from IoT-enabled infrastructure into its backend systems.[5]

Houston METRO demonstrates the value of taking a platform approach to infrastructure modernization and shows how other agencies can build on this foundation to maximize the impact of federal dollars.

predictive maintenance, as well as data management solutions that integrate with intelligent infrastructure.

These solutions can be particularly useful for advancing smart city initiatives and improving pedestrian and traffic safety. They provide a central location to consolidate and act on data – whether it's determining where to install smart street lighting to reduce traffic accidents, proactively scheduling highway repairs and maintenance, or optimizing bus routes to reduce traffic congestion and advance sustainability goals.

Ingle, former CIO of Boulder, Colorado, says these technology investments enable governments to improve asset management and pave the way for more scalable infrastructure projects.

"When I was a CIO, I was always harping on my public works and transportation project leaders that anytime you have a road open, we should put fiber and conduit in the street," Ingle says. "The same approach applies to data. As we build new infrastructure projects, let's install sensors and applications that can collect the data, and use AI and ML [machine learning] to analyze the data and future-proof projects as they move forward."

■ **Analytics and data-driven decision-making:** State and local agencies should take advantage of IIJA funds to strengthen analytics capabilities and support data-driven decision-making.

Solutions with integrated analytics capabilities can help agencies improve forecasting, planning and spend management. The commonwealth of Pennsylvania, for example, uses analytics to find historical patterns in its financial and purchase card transaction data, pinpoint activities that are out of compliance and improve internal audits. This will save a significant amount of taxpayer dollars and help the commonwealth improve spend management and compliance.

"That's just one example of an investment governments can make right now to transform how they do business over the long term and prove out even better value for taxpayers," Atkins says.

■ **Digital equity and connectivity:** IIJA funding will also be invaluable for advancing digital equity and connectivity.

IIJA gives states and localities an unprecedented opportunity to remake physical and digital infrastructure to increase resilience and improve quality of life for residents.

IIJA includes billions of dollars for expanding broadband internet access, especially for underserved and rural communities. States and localities can use this funding to promote digital inclusion and strengthen infrastructure resilience. As we've seen in recent years, reliable connectivity is critical to business continuity and service delivery for government agencies. At the same time, it's also crucial for expanding constituent access to public services, including transportation, healthcare, education and social service programs.

With this influx of federal dollars, agencies can launch and expand broadband projects to support needs such as telehealth, distance learning and remote work. These investments will also support operational resilience within government, strengthening technology and communications infrastructure to withstand disruption as state and local governments increasingly become distributed organizations.

State and local agencies can deploy IIJA funding in multiple ways to advance technology maturity – if these uses align with federal funding guidelines. Fortunately, IIJA is so expansive, yet so attuned to the country's most critical future infrastructure needs, that state and local governments should have no problem leveraging this money.

As agencies gain access to billions of dollars in new federal funding, they can take several steps to put IIJA dollars to their highest and best use:

Best Practices for Modernizing

■ **Evaluate existing processes:** Agencies should examine and optimize their existing processes before investing in new technology.

"Don't just pave the cow paths," Greeves says. "Go back and document existing processes and really question the true validity of each process before settling on the requirements of a new system."

"Don't look at individual investments in operational silos," Ingle adds. Instead, adopt an intelligent enterprise mindset and approach.

■ **Hire or assign a grant coordinator:** Agencies will need a dedicated position to track grant deadlines and application requirements. This person — who could be an existing employee or an external grant consultant — is responsible for collecting and disseminating information that lets agencies assess funding opportunities and eligibility.

■ **Create a technology prioritization strategy:** Once agencies understand funding requirements, it's critical for them to connect their projects to a legislative purpose, Ingle says. That means agencies must ask the right questions to ensure projects align with eligible uses for IIJA funding. In most cases, state DOTs will be able to provide further guidance.

Agencies should also prioritize standard cloud platforms to make incorporating SaaS solutions and future upgrades easier, adds Greeves.

■ **Engage stakeholders:** Engaging early with employees, department leaders, community members and other key stakeholders strengthens alignment and maximizes the value of modernization projects. Agencies can use experience management tools to engage constituents and staff to identify potential process improvements before applying for funding.

Additionally, jurisdictions should look for opportunities to collaborate across agencies and departments and among government organizations, non-profit groups and technology partners. Forging these alliances early may help states and localities qualify for more funding and maximize the impact of infrastructure projects.

■ **Collect relevant data:** Before they apply for funding, agencies should collect all the pertinent data they need. For example, agencies applying for broadband funds should understand existing coverage gaps. Those seeking funds for enterprise asset management solutions should know the number of assets they currently manage. Compiling and organizing this information beforehand helps agencies minimize application delays and potentially accelerates funds disbursement.

■ **Invest in change management:** "It's crucial to invest in a strategic change management program to keep the organization comfortable with frequent changes and updates," Greeves says.

The structure of this program will vary by agency, but it should be guided by the organization's strategic vision and mission, and it should include regular communications, staff technology training, feedback loops and key performance indicators that allow the organization to gauge its progress.

■ **Collaborate with a trusted partner:** As the saying goes, if you want to go far, you can't go alone.

Agencies will need to lean on technology providers to create their infrastructure for the future. As they assess potential partners, agencies should look for companies with a proven track record in the public sector and a clear understanding of government operations.

Look for partners that can provide an intelligent enterprise solution with robust integration, AI and ML capabilities, and detailed roadmaps that show how the product will continue to evolve. Partners should also have highly qualified system integrators that can help agencies streamline implementation and reap the most value from their technology investments.
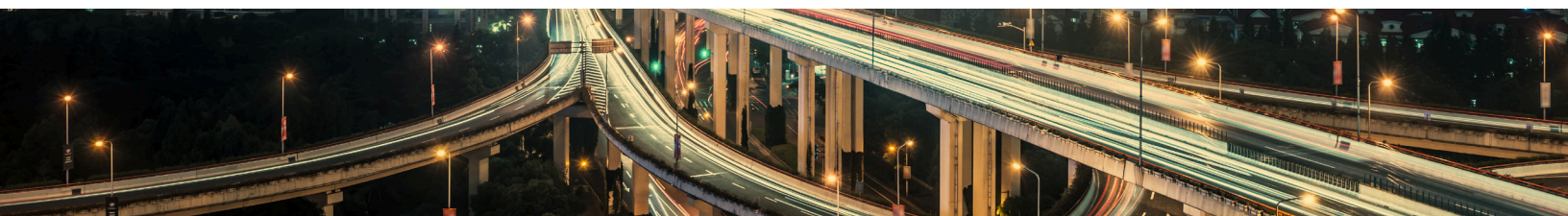
An Unprecedented Opportunity

IIJA gives state and local governments an unprecedented opportunity to remake the nation's infrastructure and improve quality of life for residents.

To fully harness this funding, governments must take a multi-faceted approach that includes physical and digital infrastructure. IIJA encompasses so much more than roads, bridges and tunnels. It's the country placing a big bet to build a modern, digitally connected future.

"Just based on the raw fiscal size of IIJA, it's not conceivable that the federal government will do this again," Ingle says. "Look at this as a once-in-a-generation opportunity to transform physical infrastructure and technology infrastructure."

This piece was written and produced by the Center for Digital Government Content Studio, with information and input from SAP.

[1] https://papers.govtech.com/Modernizing-Financial-Systems-Building-a-Foundation-for-Digital-Services-Transformation-141256.html

[2] https://www.whitehouse.gov/wp-content/uploads/2022/01/BUILDING-A-BETTER-AMERICA_FINAL.pdf, pg. 11

[3] https://www.whitehouse.gov/wp-content/uploads/2022/01/BUILDING-A-BETTER-AMERICA_FINAL.pdf, pg. 387-389

[4] https://www.sap.com/products/s4hana-erp.html

[5] https://www.govtech.com/transportation/houston-metro-unifies-transit-management-maximizes-funding

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