Mission Brief

State & Federal Agencies are Digitizing Public Infrastructure Programs

With large funds available & a need to make infrastructure equally accessible, agencies are modernizing programs, technologies & collaborative networks

Tehe Infrastructure Investment and Jobs Act (IIJA) is bringing a ton of funding for construction projects, and with that comes opportunity to digitize the industry to bring the flexibility and transparency needed to manage large public projects. And to successfully complete these projects, agencies need to collaborate from multiple locations in real-time, predict problems before they derailed projects, report statuses to the public, track costs and more.

Government and industry leaders spoke at a recent FedInsider event to discuss how they’re using digital technologies to manage large public works projects across the country. The following are some of the most important aspects of their discussion.

Rolling Out The Infrastructure Investment & Jobs Act Fairly

The COVID-19 pandemic revealed disparities in certain areas of the nation’s infrastructure that the IIJA will tackle. Xochitl Torres Small, undersecretary for rural development in the Department of Agriculture, said his office is focused on ensuring every citizen has access to high-speed internet no matter where they live. Funds from the legislation will support the Reconnect project, which holds $2 billion to connect rural areas and local communities, expand broadband and provide technical assistance along the way, according to Small. And making sure these funds are equally dispersed is critical.

“When it comes to high-speed internet and how we are planning to make these decisions and prioritize places, it goes back to the fact that rural development was chosen to have this investment because of our experience in real communities,” Small said. “We know that sometimes those maps that claim that there’s coverage all across the country don’t fit rural places.” The rural development office within USDA has a way to identify those areas and ensure they’re included in the funding application process.

Lee A. Jones, executive director of the Rural Prosperity Network at USDA, also explained how the funds will support sustainable, economic growth for rural communities by ensuring these locations have equal opportunity to pursue funds through the Rural Partners Network.

“We seek to ensure that rural communities can access these funds if they need and desire to do so based on their priorities. So we will help them with the planning that’s needed,” Jones said. This recently launched project revealed that most of the communities identified rural broadband as a significant issue in their area, so the network will provide a sustained commitment to technical assistance and capacity building to move forward.

Featuring:

- **Xochitl Torres Small**
  Under Secretary, Rural Development, USDA

- **Elizabeth “Biza” Repko**
  Director, Physical Infrastructure, U.S. GAO

- **Dr. David Mussington**
  Executive Assistant Director, Infrastructure Security, CISA

- **Ryan Anderson**
  Commissioner, Alaska Dept. of Transportation & Public Facilities

- **Lee Jones**
  Executive Director, Rural Prosperity Network, USDA

- **Doug Brenning**
  Chief of the Construction Inspection & Management Branch, California Dept. of

- **Dr. David Raff**
  Chief Engineer, Bureau of Reclamation

- **Sandra Benson**
  Global Head of Industry Transformation, Procore Technologies
Coordinating Infrastructure Projects
Considering infrastructure projects can span multiple states and agencies and the IIJA is providing so much funding, accountability will be critical.

“You're going to want to be able to quickly understand what was agreed upon, what the timeline is, who has the ball in court, and who is accountable that you can stay on top of risk and mitigate threats to your schedule and budget,” said Sandra Benson, global head of industry transformation at Procore. “You’re going to need control over processes, control over data, and the ability to see exactly where your projects are at any given moment to monitor their health and report on their status.”

This can be realized with digital tools that allow organizations to track project management and finances for full visibility and oversight.

Alaska, for instance, is leveraging geographic information systems to communicate and coordinate with its communities, which is critical because of the geographically vast and rural nature of the state. A GIS-based app survey allows state residents to take pictures of public works-related problems no matter where they are, upload those photos into the state’s cloud GIS framework to allow state officials to visually see a map of resident needs. The state is using a GIS-based tool for asset management.

“For us, the needs are so great in Alaska, and the funds are so important, we really want to spend a bit of upfront time doing that good planning work to make sure that we understand and are leveraging technology,” said Ryan Anderson, commissioner for the Alaska Department of Transportation & Public Facilities.

And a branch in California transitioned from a paper-based system to a digital one to complete tasks like code compliance, contract compliance and quality assurance inspection for projects across the state.

“We were experiencing real delays in communication and transmitting these records to stakeholders,” said Doug Brenning, chief of the construction inspection and management branch for the California Department of General Services, of the office’s older manual processes. With Procore, daily log entries are now created using smartphones and tablets, inspectors have apps they use in the field, project delays are reduced, data accessibility increased and customer service has vastly improved.

The Bureau of Reclamation is heavily concerned with droughts happening in the western U.S. and its water infrastructure. As part of IIJA, the bureau is authorized for $8.3 billion in spending over five years for water infrastructure, according to David Raff, the bureau’s chief engineer.

“It is the single largest investment in western water infrastructure in the history of the United States,” Raff said, “$3.2 billion of that is going to aging infrastructure where we are going to be modernizing and ensuring that the systems that we’ve relied upon for 100 years continue to deliver water and power into the future.”

Data will be critical to this project, so the bureau hired a chief data officer, is investing in data-driven decision making methods, and is working to make its data open and machine-readable.

IIJA Funds & Logistics
It is evident states are utilizing infrastructure funds for large public works projects and adopting new technologies to make them run smoothly and more efficiently. But with massive projects and massive amounts of funding, also comes the need to avoid waste, fraud or abuse.

Elizabeth “Biza” Repko, director of physical infrastructure at the Government Accountability Office, said that's where performance measures come in, “so you can track outcomes and targets both for the department and for recipients of the awards to be able to assess whether the goals are being met.”

Spending for surface transportation programs hasn’t always effectively addressed key challenges, for instance, and part of that is because federal goals or roles may be unclear, programs may have lacked links to performance or they may not have used the best tools to track performance. That’s why the GAO advocates for a performance-based approach where grantees establish targets and report those to DOT. “We think continued use of those tools by the department could help them monitor whether IIJA is meeting its broad goals and help ensure accountability of funds,” Repko said.