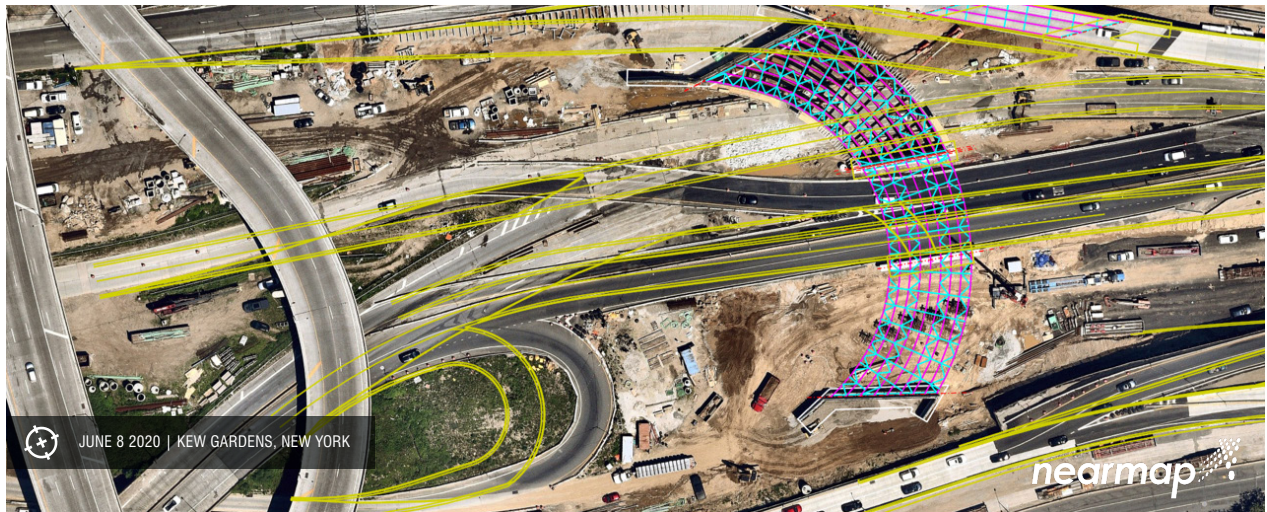


Gaining a Digital Edge in the Infrastructure Decade

JAY SINGH, PRODUCT MARKETING MANAGER



Ortho imagery was used for the virtual design of the Kew Gardens, N.Y., interchange phase 4 design-build project.

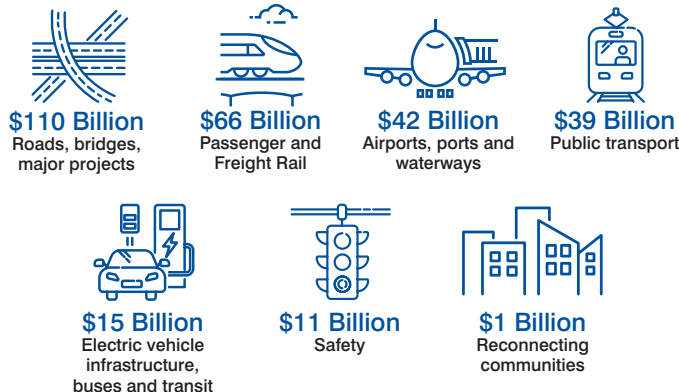
The Infrastructure Investment and Jobs Act (IIJA) of 2021 will pump significant public investment into U.S. infrastructure in the foreseeable future, including transportation networks, ports, utilities, water infrastructure, electric grid modernization, airports and more. The bill adds \$550 billion in new spending during the next five years, divided between improving the surface-transportation network (\$284 billion) and enhancing other core infrastructure (\$266 billion).

These charts provide a brief breakdown of how the fund will be allocated:

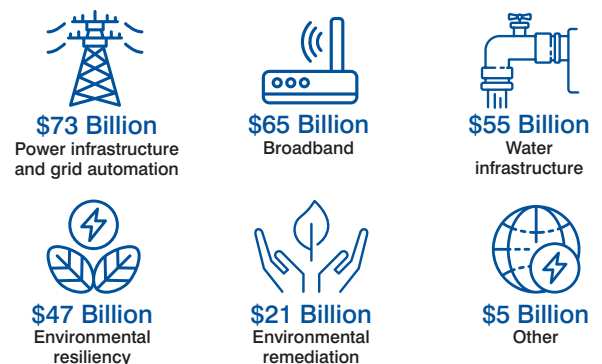
How Modern AEC Firms Are Rising to the Challenges and Opportunities

The IIJA provides major opportunities for AEC firms to bid on federally funded infrastructure projects. The bill contains unique requirements that will need to be considered during the proposal, bid, and build phases, including the analysis of project profitability, development of procurement strategies and the contracting method in which the work is carried out and invoiced. Digital transformation will provide a competitive and pragmatic

Transportation - \$284 Billion



Core Infrastructure - \$266 Billion



edge during each phase for participating companies and the government departments for which they serve.

Five Digital-Transformation 'Must Haves' to Win Infrastructure Contracts

1. Interconnected Data for a Single Source of Truth

Data is just as essential in the field as it is in planning, design and high-level decision making. This is especially true for large-scale infrastructure projects, which require teams to be more data-driven to meet their goals and schedules. The sheer scale and velocity of infrastructure projects that need to be completed as part of the IIJA will require a higher level of data harmonization among different government departments and private-sector companies.

2. Automation

The IIJA funding will enable increased processing power and speed of enhanced connectivity for data processing. Companies that automate workflows and manual processes such as data entry, site surveying, assessments or scope changes within their systems—will significantly improve productivity and cost savings.

3. Interoperable Digital Solutions

The COVID-19 pandemic massively accelerated the integration of daily digital workflows—from onsite field visits to asset monitoring to project reporting and analytics. Interoperability among new and existing systems enhance a firm's digital ecosystem and create efficiencies, having a unified single source of truth in their data sets for project teams during each phase of the project lifecycle.

4. Access to Digital Talent

Skilled employees are vital for technology-led margin expansion. New roles such as chief digital officer, data strategist and BIM product manager will need to be created for companies to properly manage and implement a digital transformation strategy. Forward-thinking engineering and construction companies should ideate and execute partnerships with local universities to create an immersive and pragmatic training course to enhance recruitment pipelines. This will be critical as the talent and labor shortages brought forth by the pandemic persist long into the future generation of workers.

5. Cybersecurity Competence and Compliance

The construction industry is known to be behind the curve in data security; and with more companies moving to remote work, the risks of falling victim to cybersecurity breaches are higher than ever. Companies that don't invest in smart internal controls and cyber hygiene around data privacy may not be able to survive modern request for



proposal (RFP) vetting processes put forth by government departments as mandated by the IIJA. From a national-security perspective, engineering and construction firms involved in the building of sensitive and critical infrastructure for emergency management, energy grids or airports need to be highly resilient against cyberattacks that may jeopardize their functionality.

Digital Edge Through Location Intelligence

Fed by aerial imagery and geospatial analytics, location intelligence technology is driving digital transformation for every AEC firm's daily workflow, from virtual site surveying to optimizing construction bids, BIM and accelerated post-disaster response for communities.

High-quality aerial imagery with geospatial location intelligence from industry leaders such as Nearmap remotely provides historical vertical and 3D views as well as AI layers that can be integrated into leading GIS and CAD platforms. This integration helps organizations in the architectural, engineering and construction space accelerate their digital-transformation journeys. Nearmap's comprehensive suite of feature-rich aerial imagery drives project efficiency by reducing unnecessary site visits in the early stages of the project lifecycle. This technology can be utilized for a wide range of other digital-transformation initiatives, including:

- Feasibility studies
- Remote field assessment
- Concept development
- 3D visualization
- Project estimation and proposal
- Construction document and reports
- Project logistics and site planning
- Stakeholder communication

Scan this QR code to learn how Nearmap technology helps more than 11,000 companies—including top architecture, engineering and construction firms—and how you can use the Infrastructure bill funds to your advantage (<https://bit.ly/37A9QV>). **II**

