Infrastructure That Delivers the Highest Public Good

3 strategies to help maximize the impact of government spending

America's public infrastructure is aging, and it will require a huge investment to renovate or replace it. In fact, the American Society of Civil Engineers estimates a $2 trillion investment will be necessary by 2025 for new and upgraded infrastructure across the country. This eye-opening level of need continues to drive the public sector's focus on infrastructure projects that produce high levels of financial value and public benefit. Whether receiving funds or financing, these types of projects can be easier to sustain when government leaders apply three strategies for project selection, financing, and delivery.

STRATEGY 1: CREATE A PORTFOLIO VIEW OF PROJECTS

Government entities often struggle to develop a comprehensive portfolio view of infrastructure needs, making it difficult to prioritize competing projects. Due to this, the projects that proceed are often those with the most powerful political support. In contrast, a portfolio view enables governments to prioritize projects based on factors such as critical need and anticipated economic benefit.

Developing a full view of the infrastructure portfolio is challenging because typically no single agency looks at all infrastructure within a jurisdiction. This means the government or agency cannot optimize overall infrastructure spending or maximize the use of available federal funding. However, overcoming the challenge is worth the benefit of having a portfolio view that enables stakeholders to identify the big picture of infrastructure needs and best areas for investment.

Once the portfolio view is in place, the next step is to create a business case analysis for each infrastructure project. The business case should include a quantified scoring of project risks and benefits.

Running comparative analytics on the business case data also helps officials prioritize the projects for planning, funding, and delivery. These analytics encompass cost modeling and an objective assessment of business case factors to identify the projects that will likely achieve the best investment objectives.

Together, the assessments produced by the business case and comparative analytics help decision-makers evaluate tradeoffs and improve resource allocation among projects. These activities also help governments select and prioritize projects in an outcome-focused process that is transparent to the public.

Virginia uses a portfolio-based process to score transportation infrastructure projects. State officials have replaced politically driven wish lists with an objective, data-driven, and transparent decision process, making the best use of limited state funding. Projects are scored and evaluated objectively based on improvements to safety, congestion reduction, accessibility, land use, economic development, and the environment. The criteria for prioritizing projects and the scoring results are available to the public online.

STRATEGY 2: IDENTIFY POTENTIAL FUNDING AND FINANCING

The question of funding has delayed many infrastructure projects in recent years as governments focus on serving increasing citizen needs with limited growth in budgets. To move forward on infrastructure projects, governments can look to new options for funding such as private global investment funds and private equity markets.

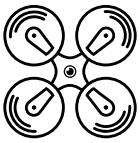
To leverage capital investments from the private sector, infrastructure projects need to generate a certain and robust funding stream. In many cases, that funding will require some type of tax increase. A strong business case may help leaders educate the public about the project need and gain support for new taxes, fees, or tolls.

Whether the initial funding comes from a tax levy or private investors, the next step is to arrange the project financing, traditionally by issuing municipal bonds. Future infrastructure projects will increasingly rely on innovative financing, including equity involvement through design/build contracts and public/private partnerships (P3s). Governments can also discover financing options by taking a new look at how project roles, risks, and rewards can be allocated among multiple partners (see figure 1).

SPOTLIGHT: LEVERAGING NEW TECHNOLOGIES

Once construction is underway, several new technologies can help agencies improve project tracking and ROI:

Construction analytics tools can gather information from multiple systems and public data to identify issues and predict risks early.



Drones enable managers and workers to see details of the project that were not previously visible.

Wearables such as glasses and safety vests collect and upload valuable project data, including safety metrics and construction progress.

3D printing boosts jobsite productivity and improves worker safety.

Figure 1. Elements for designing new project structures

STRATEGY 3: CLEAR A LEADERSHIP PATH FOR PROJECT DELIVERY

Governments need to increase public confidence about their ability to deliver an infrastructure project without delays and cost overruns. As a starting point, agency leaders need practical resources and political backing to clear a leadership path for accomplishing the project according to plan.

An ever-growing suite of tools is available to support this path through renewed capabilities for:

- Improving the organizational structure, systems, and controls in planning and managing capital projects
- Implementing alternative procurement practices
- Adopting innovative methods for construction planning and management

These tools can help complete projects faster, with better quality, and at a lower cost. In turn, the success of one project improves public confidence about subsequent projects in the pipeline.

EXPANDING THE VIEW TO MAXIMIZE THE BENEFIT

By viewing infrastructure projects as a whole, all stakeholders can participate in meaningful discussions about priorities and the trade-offs of financial costs and investment for economic benefits. This approach can help governments move beyond selecting projects based on what is politically palatable to decisions based on obtaining the greatest public good. Using new tools such as construction analytics can give government the confidence it needs to promote critical infrastructure projects, and help deliver them on time and budget.

AN INFRASTRUCTURE PLAN FOR MICHIGAN

Michigan, like most states, is working on its long-term infrastructure planning. To accelerate action on addressing critical infrastructure needs, Governor Rick Snyder created the 21st Century Infrastructure Commission in 2016. In a parallel effort, the CEO roundtable in Michigan, Business Leaders of Michigan, commissioned Deloitte to study the state's infrastructure performance and practices in comparison to other governments, then recommend strategies for improvement.

The study findings should help Michigan leaders across the public and private sectors understand the overall level of infrastructure investment needed, prioritize projects, coordinate project planning and procurement, and explore new approaches to project funding and financing.