

10 Minutes on the US Infrastructure*

What you need to know about emerging topics essential to your business. Brought to you by PricewaterhouseCoopers.

May 2009

Massive need sets the stage for action

Highlights

- The US faces a major need to renew its infrastructure. Dedicated public and private capital may be poised to set the wheels in motion.
- For investors and service providers, challenges begin with fragmented governance and the need for careful structuring, due diligence, patience and local focus.
- Key infrastructure project risks include skills shortages, hidden costs, vulnerable supply chains, misaligned controls, obsolete contracts and inadequate performance reporting or planning.
- Control, accountability, transparency and a good audit trail are needed for managing projects to avoid real or perceived waste.

Bridge collapses and breached levees only touch the tip of the iceberg on the challenges presented by a decaying national infrastructure. Problems stretch from choked transit networks to hazardous dams, an aging water system and an inefficient, technologically lagging energy grid.

In its 2009 report card, the American Society of Civil Engineers grades US infrastructure a “D” and estimates investment required to attain good condition at \$2.2 trillion over five years, only half of which is covered by budgeted spending.

The call for private sector collaboration has never been louder, while scrutiny on spending has never been closer. The economic crisis and focus on waste and efficiency have intensified attention on managing costs and demonstrating accountability, transparency and control.

While infrastructure demand has been growing for years, forces now seem to be converging to make long-awaited initiatives happen:

1. The American Recovery and Reinvestment Act is injecting \$787 billion into the economy, of which the Brookings Institution estimates \$152 billion is going to infrastructure. And over \$180 billion in private investment is targeted toward infrastructure projects, according to a report by a consortium of banks and law firms.¹
2. A vast majority of Americans want to see infrastructure improved: 81% are willing to pay 1% more on their federal income tax to do so, reports a January 2009 poll commissioned by the bipartisan Building America’s Future.
3. Most compelling in the long term, US competitiveness in a globalized world demands a strategic national focus to build and renew infrastructure—something many of our trading partners possess.

¹ Benefits of private investment in infrastructure, Kearsarge Global Advisors et al., 2009.

At a glance

Participants in capital projects face a new landscape for infrastructure development, which features:

- A renewed focus on US infrastructure repair and development, given the urgent need for near-term economic stimulus and long-term global competitiveness
- A substantial and unprecedented need for private sector investment and participation, given the scale of improvement required
- The dual challenge of working within a patchworked national infrastructure system but an increasingly interconnected global economy—a driver of increasingly complex project management issues for public and private sector participants

Leaders in the private and public sectors must take a new approach to participation, characterized by:

- A new vigilance to opportunities for investment and participation in capital projects
- A new willingness to participate in public-private partnerships and collaborate on creative solutions to resolve issues that have traditionally blocked the successful implementation of such arrangements in the US
- A new focus on the operational risks inherent in capital projects today, such as skills shortages and complex supply chains
- A new approach to the risk management, information management, governance and oversight systems necessary to ensure that resources are not wasted

“Regardless of what is scrutinized, in the end it all adds up to the same very despairing result: The aging of our nation’s infrastructure has lessened our productivity, undermined our ability to compete in the global economy, shaken our perceptions about our own safety and health, and damaged the quality of American life.”

Felix Rohatyn, Bold Endeavors²

² Felix Rohatyn, Bold endeavors: How our government built America, and why it must rebuild now, 2009.

Roadblocks crisscross the capital projects landscape

Today's environment of pent-up need, economic crisis and stepped-up public oversight adds to the traditional layers of risk and accountability faced especially by energy, utility, healthcare, engineering and construction companies as well as governments and investors.

Critical on-the-job, professional and traditional skills are in short supply. Decades of underinvestment in infrastructure limited growth of the talent pool. Though demand for their skills is on the rise, the professionals needed to build and run projects can be hard to find.

Supply chains are increasingly vulnerable amid the worldwide economic crisis. Key suppliers may go out of business. Global sourcing of materials requires tight supervision to ensure timely delivery.

Contract provisions are growing obsolete in light of the downturn and need rethinking or flexibility to help navigate a riskier environment. Deals done during the long postwar economic boom are often proving out of sync with today's economic realities.

Variable national governance and local pressures make planning difficult. Projects can be stalled

or derailed at any of the layers of federal, state, county, city or municipal government by regulators, ratepayers, unions, politicians and civic groups.

The sudden scaling up of any project radiates risk—to systems, scheduling, quality control, contracting, people, HR and culture. Operating a utility plant that serves millions is a massive job in its own right, but building or retrofitting at the same time introduces a network of pressures on capabilities.

Plus, there's a long list of threats that capital projects always face: inaccurate records; excessive requirements and scope creep; property/casualty losses, claims and disputes; and misaligned funding, to name a few.

Oversight is increasing, either directly or indirectly, through provisions of the US stimulus package or as agencies, state and local authorities, taxpayers and other stakeholders demand airtight assurances that monies are being used efficiently and effectively.

Overall, when projects run off track the fallout can include unanticipated costs, reputational harm, public safety problems and lingering litigation.

Job one: Tailor tactics to the US patchwork

“In the real world, families know that issues like transportation and housing and education are inextricably linked. It is in the specialized, stovepiped universe of federal and state bureaucracy where these issues are broken apart and kept separate. And efforts to link up these disparate areas run into countless roadblocks... so we fail to seize opportunities to improve outcomes through integrated problem-solving.”

Bruce Katz, Director
Metropolitan Policy, Brookings Institution³

A fragmented approach to US infrastructure presents key difficulties.

Compartmentalized governance hinders the nation’s ability to innovate and compete with many other countries where infrastructure is approached on one strategic plane, often facilitated by national metrics and progress reporting.

Public private partnerships (PPPs) offer a case in point. These contracts, which capture synergies between government agencies and private companies, have been widely used around the world to manage various elements of capital projects, with some countries establishing national units to expand PPP opportunities.

PPPs are also gaining ground in the US: 25 states have passed enabling legislation and others allow them on an exception basis. But problems are notable. In Texas, a last-minute change in 2007 gave final building and maintenance of State Highway 121 in Fort Worth to a local authority after a nearly \$3-billion deal had been agreed to with Spanish firm Cintra.

Pennsylvania shelved an effort to lease its turnpike to private investors, prompting a March 2009 report by the Pew Center on

the States to cite lessons including overly ambitious financial assumptions, short-term focus, lack of a clearly articulated state investment plan and questions about transparency, accountability and planning.

“Our governance system is a 19th century model that is archaic and broken,” Stuart Rogel, CEO of Tampa Bay Partnership, explained.⁴ “It’s based upon cities and counties and states when, in fact, our economic basis is not built on those jurisdictions.”

Businesses face challenges navigating this patchwork. Local considerations can easily trip up deals. Companies and investors must understand and carefully manage the myriad social, political, regulatory and governance layers.

Careful due diligence, patience and attention to local needs are all required—for instance, communicating a project’s benefits and demonstrating use of local resources to win popular backing. Achieving and showing transparency, accountability and control are also especially important today.

³ Strengthening our infrastructure for a sustainable future, National Governors Association meeting, 2/22/09.

⁴ Invest in infrastructure for long-term prosperity, Brookings Institution forum, 1/12/09.

Understand and manage today's environment

Particularly important for capital projects today are the needs to:

Cope with skills shortages: During the past few decades, the US lost a generation of experts such as tradespeople, engineers and project managers. Now, they're scarce. Finding or retaining skilled professionals demands new tactics, such as collaborating with competitors to share skills or actively supporting professional associations.

Assess hidden costs in the project life cycle: Environmental, scientific, political and commodity-price changes are highly dynamic. All need to be understood and managed in a project's 3- to 10-year life cycle from planning through operations.

Anticipate and plan upfront for project turnover: At contract time, it's easy to lose sight of the critical transfer of knowledge and information that will occur when the project is done. Lack of planning can prove costly.

Align IT controls: Synchronized IT strategy throughout the project life cycle—whether properly aligning best of breed or using a single enterprise resource planning

(ERP) system—affects the ability of a project to be delivered cost-effectively.

Sharpen performance reporting: Managing both day-to-day business and US stimulus projects requires real-time performance reporting. A 1% fluctuation in a metric such as dollar cost/megawatt constructed can mean millions of dollars lost on interest and rate recovery.

Create assurances throughout the supply chain: The pressure for quality control on worldwide supply chains is great. PwC research ties supply chain disruptions to long-term loss of shareholder value and profitability.⁵ A severe downturn just raises the risk of one failure crippling a project. Supplier contracts must anticipate the risks.

Maintain regulatory compliance as requirements evolve: The regulatory landscape is undergoing tectonic shifts as a result of the financial crisis. Companies and state and local agencies must stay abreast of changes to maintain critical levels of compliance.

⁵ From vulnerable to valuable: How integrity can transform a supply chain, PricewaterhouseCoopers, 2009.

The Washington watch gains new importance

It is important for companies and government agencies alike to stay on top of new requirements for accountability around infrastructure spending, and to explore new approaches to performance reporting.

Safeguards are being engineered into the use of stimulus funding.

All involved need to understand that success will be measured, rigorous review will touch everything, and short-term benefit and speed of action must be balanced with strong controls.

The Office of Management and Budget published initial guidance for all Executive Branch departments and agencies that presents critical action steps. Multiple levels of reporting are required to meet accountability and transparency objectives, including mandated weekly and monthly reports and development of a public website—recovery.gov—to provide full transparency on use of taxpayer funds. The Recovery Act Accountability and Transparency Board is responsible for conducting and coordinating all oversight.

The accountability risk framework identifies specific areas where risks need to be monitored and mitigated under each phase of the funding life cycle. The Act imposes unique transparency requirements that change the presolicitation and award notice process.

A US infrastructure bank is also taking final shape. The Administration's budget contemplates establishing a National Infrastructure Bank to coordinate investment among states, localities and private interests and to deliver financial resources to priority infrastructure projects of significant economic benefit. A \$5-billion annual set aside for the bank is under consideration. The bank signals a new beginning for infrastructure as a national priority and an innovative, ongoing commitment to renewal.

In overview, company executives and agency heads need to appreciate that success in infrastructure projects today demands fine-tuned awareness of dynamic changes, risks and opportunities across the national, regulatory and operational landscape.

Upcoming 10Minutes topics

Toward a simpler, smarter supply chain

Global networks have delivered efficiencies but also led to a proliferation of suppliers, intermediaries—and risks. This 10Minutes discusses how companies can rationalize their supply chains in this economic downturn by identifying their most critical partners and strengthening those relationships for long-term advantage.

Recently published editions

Help your company manage through the downturn and, at the same time, position it better for the long term with recently published 10Minutes editions on these topics:

- Rethinking pivotal talent
- Sustainable cost reduction
- Making divestitures successful
- Finance & accounting shared services
- Bolstering corporate liquidity
- US stimulus package
- Realizing ERP value

Subscribe to 10Minutes at
www.pwc.com/10Minutes.

How PwC can help

To have a deeper discussion about
infrastructure issues, please contact:

Dennis Nally
US Chairman and Senior Partner
PricewaterhouseCoopers LLP
Phone: 646-471-7293
Email: dennis.nally@us.pwc.com

Stephen Lechner
Capital Projects
PricewaterhouseCoopers LLP
Phone: 415-498-6596
Email: stephen.p.lechner@us.pwc.com

Michael McHale
Infrastructure Investing
PricewaterhouseCoopers LLP
Phone: 646-471-2628
Email: michael.w.mchale@us.pwc.com

Peter Raymond
Public Sector (Public Private Partnerships)
PricewaterhouseCoopers LLP
Phone: 703-918-1580
Email: peter.d.raymond@us.pwc.com

Melanie Thomas Armstrong
Public Sector (American Recovery and
Reinvestment Act)
PricewaterhouseCoopers LLP
Phone: 703-918-1170
Email:
melanie.thomas.armstrong@us.pwc.com

Kristen Vieira
Capital Projects and Infrastructure
Operations Leader
PricewaterhouseCoopers LLP
Phone: 267-330-2530
Email: kristen.vieira.traynor@us.pwc.com

Tell us how you like 10Minutes and what
topics you would like to hear more about.
Just send an email to:
10Minutes@us.pwc.com



10% total recycled fiber

This publication is printed on Cougar recycled paper. It is a Forest Stewardship Council (FSC) certified stock using 10% post-consumer waste (PCW) fiber and manufactured in a way that supports the long-term health and sustainability of our forests.

© 2009 PricewaterhouseCoopers LLP. All rights reserved. "PricewaterhouseCoopers" refers to PricewaterhouseCoopers LLP, a Delaware limited liability partnership, or, as the context requires, the PricewaterhouseCoopers global network or other member firms of the network, each of which is a separate and independent legal entity. This document is for general information purposes only, and should not be used as a substitute for consultation with professional advisors. *connectedthinking and 10Minutes are both trademarks of PricewaterhouseCoopers LLP (US). NY-09-1304