FORESIGHT
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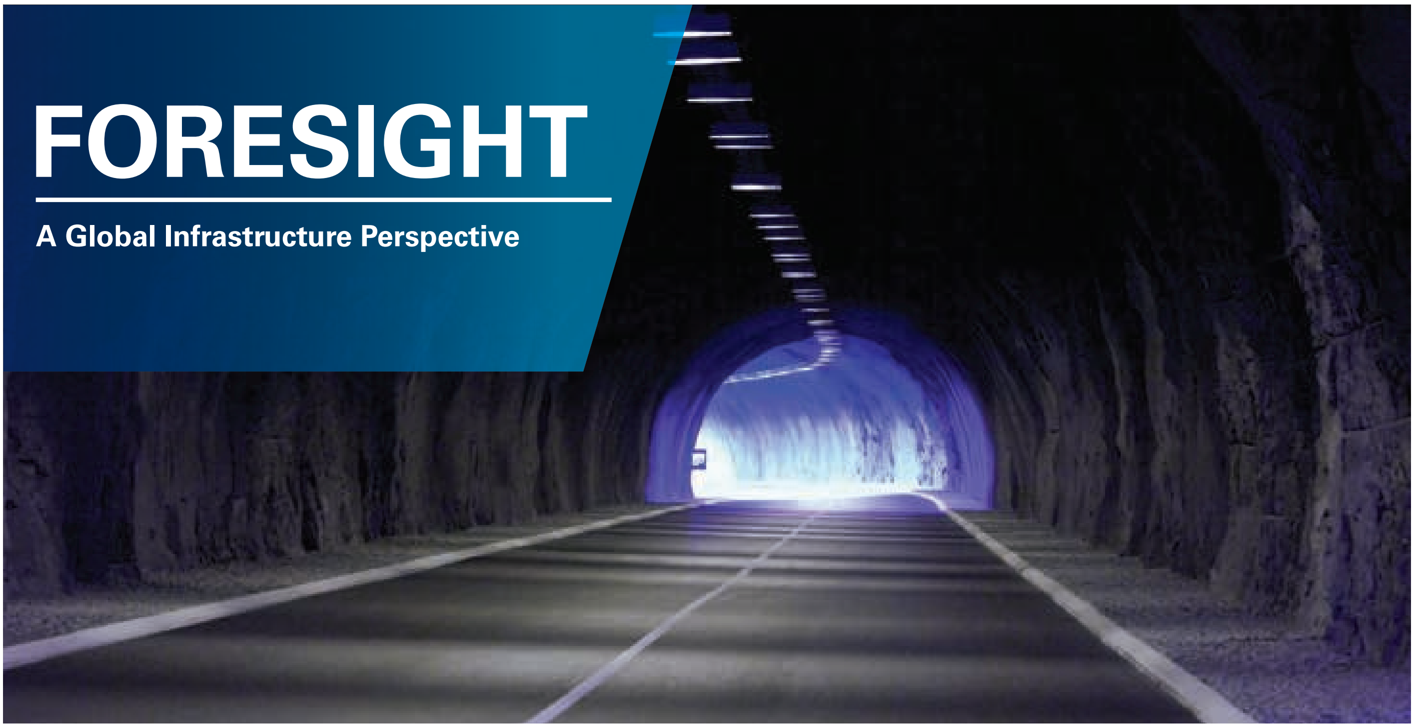
Emerging trends in 2014

Trends that will change the world of infrastructure over the next 5 years



Many of the challenges we saw in 2012 carried over into 2013. However the hottest topic has been the continuing inability of governments to bring projects to the market. The public discussion has evolved and the conversation about infrastructure has become more coherent. There is an emerging consensus from the general public that more money needs to be spent on infrastructure although people are still reluctant to dig into their own pockets to pay for it. However, the most important challenge for 2014 is taking that critical next step and improving the flow of projects from a robust pipeline of development into procurement, construction and ultimately operations when the benefits will be felt.

In this special edition of Foresight, four of KPMG's Global Infrastructure leaders (Nick Chism, James Stewart, Julian Vella and Stephen Beatty) sit down with John Kjorstad to look back on their 2013 predictions and outline some additional trends that are expected to change the way infrastructure will be delivered over the next 5 years.

Population drives demand

Execution is paramount for progress in 2014. If governments intend to stay ahead of increasing demand, they need to take action now and commit investment decisions. The underlying need for infrastructure never changes – with 7.2 billion people having welcomed a New Year in 2014, the need for services is undoubtedly led by population growth. Looking ahead, the United Nations projects the world's population will increase another billion by 2025 and reach 9.6 billion by 2050.

Urbanization is the norm in developing countries, and many are ill-equipped to deal with it. Rapidly growing cities populated by an enriched and expanding middle class in parts of Asia, Africa and Latin America will further accelerate the demand for infrastructure in these regions. At the other end of the spectrum, getting people out of the poverty of urban slums is an equally important priority. Any lack of clarity on how to pay for investment in infrastructure will result in projects lingering in the development pipeline when they should be moving forward.

Investment leads to growth

The world believes that infrastructure is a path to economic growth. At the end of 2013, Global Chairman and CEO of KPMG Michael Andrew commented that the "Infrastructure Revolution" is upon us. The World Bank has calculated that a 10 percent increase in infrastructure provision can result in a 1 percent increase in output.

The need is great. Asia will likely require US$11 trillion in basic infrastructure investment between now and 2030.[1] In Sub-Saharan Africa, the supply of bankable projects has steadily increased and it is now the International Finance Corporation's (IFC's) largest region in terms of infrastructure lending.

For international businesses active in infrastructure, new markets continue to be the focus for growth outside of Europe and North America. Supported by domestic export-credit, regional development and other multilateral finance institutions, the race to compete is intensifying in Asia, Africa and Latin America as companies push the boundaries of their traditional markets to develop projects and sell materials in faster developing jurisdictions. We've seen increasing outbound capital from investors in Japan, South Korea and China making a strong push into lucrative global markets, and we expect this to continue in 2014 and beyond.

One of our trends from 2013 that has not occurred yet is the emergence of new infrastructure models to better recognize long-term objectives and lifecycle value. While asset ownership is diversifying and outlined in our trends, we have yet to see many new funding mechanisms that effectively expand revenue sources for projects. New funding and finance models have been slow to develop. The institutional debt market has made less progress than anticipated. If deal flow increases as expected, capacity in the financial markets will come under significant pressure. This coupled with the need to finance complex assets such as nuclear power and high speed rail will force new models to emerge.

Emerging powerhouses beyond 2014

The emerging powerhouses of the global economy are not yet the powerhouses of infrastructure, but their day will come. Here is a short breakdown of markets that will be ones to watch beyond 2014:

Brazil

Brazil has invested heavily in stadiums, transport and urban regeneration in the run-up to the 2014 World Cup. The impressive scale and pace of public investment will continue in the near term as the country also prepares for the 2016 Olympic Games in Rio de Janeiro.[2] The challenge is to transfer this momentum to the wider infrastructure program while international investors wait for the much anticipated market reforms to be implemented.

Africa

There are several rapidly emerging markets for infrastructure investment in Africa. Following the resource boom of the past decade, many countries on the continent are enjoying long periods of political and economic stability. Affordable power and clean water remain critical issues that need to be addressed, with improved education and healthcare not far behind. However, it is clear that the continent has turned a corner in recent years with countries like Nigeria, Kenya and South Africa carving out expanded roles in the global economy.

[1] http://www.linkedin.com/today/post/article/20131211014357-265091024-10-trends-that-will-affect-business-in-2014?trk=mp-reader-card
[2] http://www.austrade.gov.au/Export/Export-Markets/Countries/Brazil/Industries

Emerging powerhouses beyond 2014

India

India has also made solid commitments to infrastructure, creating a robust domestic market for private investment. However, the country is facing a critical election in 2014 that will shape its future for the next 5 years. With the cloud of political uncertainty lifting, people are beginning to look beyond the election. The new government is expected to come with a strong mandate to get the slowing Indian economy back on track. We expect an uplift of business sentiment, pro-growth policy reforms by the government and fast decision making by the bureaucracy. This biggest impact is likely to be seen in the infrastructure space. 2015 may see a slew of new projects across all infrastructure sectors most notably power, highways, ports and airports.

China

China has invested heavily in its own infrastructure and is currently exporting that capacity internationally. The country's sphere of influence continues to grow, and it has developed a more collaborative approach to outbound investment showing a greater willingness to invest alongside other foreign institutions. However, inbound infrastructure investment opportunities for foreign companies in China remain limited and difficult to execute although there may be some light at the end of the tunnel as discussions about a domestic PPP programme develop.

Infrastructure is a global story

We hope that these insights provide a new perspective on key trends and opportunities facing the sector in 2014. To discuss these trends and their impacts in more detail, we encourage you to contact your local KPMG infrastructure team.

Nick Chism
Global Chair of Government and Infrastructure

James Stewart
Chairman of Global Infrastructure

Julian Vella
Asia Pacific Head of Global Infrastructure

Stephen Beatty
Americas and India Head of Global Infrastructure

Trends that carry over and are still relevant **in 2014**

Last year, we identified 10 trends that are changing the world of infrastructure. To reflect the evolving nature of this industry, we have structured our 2014 list to show those trends that are still relevant and new trends that have emerged and will have an impact this year.

Trend 1 People will pay, but what can they afford?

More money needs to be spent on infrastructure, but there are only so many ways to pay for it. Tolls, taxes, rates, fares and fees are the most common. The affordability of infrastructure continues to be a major issue as governments strive to shift the cost burden to the end user and cost reduction continues to come more sharply into focus.

Difficult political decisions need to be made in 2014 as rising household energy prices and above-inflation tariff increases have heightened the public's awareness of infrastructure-related costs. Consumers in recovering economies are still feeling the pinch and struggling to keep up. By contrast, the growing middle class in faster developing markets like India and Nigeria is beginning to make infrastructure more affordable in those countries and opening up new delivery models.

In their struggle to cope with increasing demand and get the funding balance right (i.e. how to pay for infrastructure), many governments concede that they cannot go it alone. This is where the private sector can lend support by proactively identifying potential solutions. Communication is also important. Governments and the media still struggle with the difference between funding and financing. Helping the general public to understand the nuance will move the discussion forward.

Globally more work needs to be done to accurately reflect the long-term benefit and value of developing infrastructure – particularly analysing all of the wider economic impacts and providing that critical link to economic growth. Robust data will give governments more confidence to invest as they seek greater visibility on the performance of the money that is spent on public infrastructure in-turn giving the public greater confidence in political decision-making. This will improve accountability, the quality of the public debate on infrastructure, and allow for greater long-term thinking.

Developing case studies

Canada

In Toronto, a provincial government-appointed industry panel supported by the private sector has recommended raising local gasoline and corporate tax rates to fund congestion-reducing transit improvements.[3] This is similar to the structure in place for London's Crossrail in the United Kingdom, where ongoing work on Europe's largest construction project is funded in part by a business rate supplement and community infrastructure levy. Public authorities around the world are looking for creative ways to sustainably pass the cost of building infrastructure on to those who will directly benefit the most.

United States

California Governor Jerry Brown has proposed using a cap-and-trade emissions program to fund his state's US$68 billion high-speed rail project.[4] In another example of creative thinking, the private sector is helping cities on the route to recognize the economic opportunity presented by station development. Where rail companies once had to pay for the right to develop stations, city planners now want to promote regeneration and commercial development turning the "wrong side of the tracks" into productive real estate and the right kind of community investment.

[3] http://www.theglobeandmail.com/news/toronto/panel-recommends-gas-tax-hike-to-help-fund-toronto-area-transit/article15910196/
[4] http://www.latimes.com/local/la-me-cap-budget-20140113,0,6446379.column#axzz2qGjiFR5E

Trend 2 Release the projects

There are plenty of published pipelines around the world but many of the projects they contain are stuck in the development and approval stages. Greenfield opportunities in particular have been difficult to progress as experts explore new ways of accelerating projects and getting them into procurement.

In 2013, KPMG interviewed global executives from 165 engineering and construction companies and 66 percent of respondents felt that national governments' infrastructure plans were the single biggest driver of market growth. We have seen many more infrastructure plans appear at a national, state and city level with much more emphasis placed on prioritization of projects within an overall investment program.

Multilaterals and other public sector finance institutions have stepped in and increased their support. For example the Asian Development Bank has completely changed its engagement model to focus more on assistance during the development stage of a project. In Latin America and Africa, development finance institutions have offered project development facilities to support feasibility studies and other early stage development in emerging markets. In Europe, the European Investment Bank deployed its Project Bond Initiative in Spain drawing institutional investors to a gas storage facility, and Infrastructure UK has actively promoted a new British government guarantee scheme targeting similar long-term capital.

Politics and infrastructure

United Kingdom

The decoupling of infrastructure and politics is a widely debated topic in many countries and very few have found an effective solution. Countries like China and Singapore with strong political regimes enjoy the benefits of stable long-term planning. In the UK, the Chairman of the Olympic Delivery Authority, Sir John Armitt, authored a Review of infrastructure planning in September 2013 stating that Britain should set up an independent commission to plan long-term infrastructure and keep major projects from being derailed by political infighting.[5] Sound advice, but ironically muffled by the fact that the report was commissioned by the shadow government.

Trend 3 Cities are still the future

One of our trends from last year that continues to evolve in 2014 is the focus on cities as the crucibles of a nation's economic activity. With urbanization as the norm in many developing countries, the prominence of cities is once again driving the infrastructure development agenda for regional and even national governments.

The debate here is shifting from the fashionable concept of smart cities driven by technology to sound planning practice with viable housing and employment opportunities woven into the urban fabric. This is an integrated discussion about creating effective and efficient urban environments and placing sustainability, strong transportation links, and an improved quality of life at the core of the conversation.

Blue tarpaulins are not a long-term roofing solution. Governments must focus on three key aspects to avoid shanty towns and runaway urbanization – smaller cities (satellites as opposed to megacities), protecting work/life balance and developing rural economies.

Infrastructure will continue to play a critical role in cities as linkages to economic growth are better understood. This is high on the agenda of civic planners who are exploring more funding models to get things done cheaper and quicker. Development programs are becoming more coordinated to secure long-term funding and promote efficient skills transfer from project to project.

Developing case studies

India

With incredible foresight, recognizing the need for a coordinated regional approach to development, the Mumbai Metropolitan Region Development Authority was created by the state government in 1975. The organization takes a lead role in preparing infrastructure development plans, formulating policies and programs, implementing projects and helping to direct investments in the region. The agency owns large tracts of valuable land that are leased out and the resulting revenues are then used to finance infrastructure projects. The MMRDA's main focus today is improving connectivity across the city through mass transit investments and efficiencies.

[5] http://www.yourbritain.org.uk/uploads/editor/files/The_Armitt_Review_Final_Report.pdf

Trend 4 The war for talent is more pronounced

The more successful governments become at unlocking projects, the greater the demand will be for project managers, engineers and a wide range of other infrastructure skill sets. With an emphasis on execution in 2014, the war for talent is more of a problem today than it was 12 months ago and it will only get worse.

The issue simply is not being addressed well enough and will remain one of the greatest drags on the world's ability to fulfil aspirations of its youth and meet growing infrastructure challenges. Countries need to invest in people by supporting and promoting appropriate skills training.

As we highlighted last year, targeted training programs are being established in both corporate and academic campuses. Meanwhile, successful countries like China are looking to export their talents internationally. There is a growing global shortage of leadership and skills in infrastructure, and it is clear that some countries are more proactive than others developing capacity and managing it forward.

Developing case studies

United Kingdom

The Tunnelling and Underground Construction Academy (TUCA) in London was opened in 2011 by Crossrail and supported by the British government.[6] Although Crossrail is already midway through its construction, the developer recognized that the volume of tunnelling and underground construction work planned for the city was unprecedented and demanded a unique skill set that was in short supply. With other major projects like the Thames Tideway Tunnel and potentially High-Speed 2 expected to break ground over the next decade, TUCA represents both incredible foresight and solid long-term investment planning.

India

Rapidly growing economies are challenged to meet the demand for highly-trained, quality labor. India will soon have a third of world's working age (15-45) population, thereby becoming a global supplier of labor.[7] With skill development efforts spread across 20 separate ministries, 35 local governments and the private sector, the Indian government sought to coordinate efforts and set up the National Skill Development Agency (NSDA) in 2013.[8] NSDA addresses the skill deficit through the development of occupation standards and sector skill councils. It also provides guidance for activities undertaken by the National Skill Development Corporation (NSDC), which was set up in 2008. NSDC aims to promote skill development by funding and catalyzing creation of large for-profit vocational institutions. Its mandate is to enable support systems such as quality assurance, information systems and train-the-trainer academies either directly or through partnerships.

India has a rich history of academic partnerships that address the skills gap through the establishment of specialist academic institutions such as the IITs (Indian Institute of Technology) and IIMs (Indian Institute of Management). In recent years, the government has promoted these institutions through various ministries. Prominent among them are the Rajiv Gandhi Institute of Petroleum Technology through the Ministry Of Petroleum, and the Indian Institute of Information Technology with multiple campuses supported by the Ministry of Human Resource Development. This great tradition continues in 2014 with the ongoing development of the Rajiv Gandhi National Aviation University by the Ministry of Civil Aviation.

[6] http://www.crossrail.co.uk/careers/tuca
[7] http://www.skilldevelopment.gov.in/
[8] http://nsdcindia.org/

New emerging trends expected to make an impact in 2014

Trend 1 Asset ownership is diversifying

Historically, governments have been the principal owners of infrastructure with very few exceptions. Over the last 20 years, privatization programmes have transferred ownership to a range of privately held utilities – typically with a diverse group of relatively passive shareholders. With the emergence of direct pension investors and dedicated infrastructure funds, a new breed of strategic long-term financial investor and asset manager has emerged.

This trend is particularly noticeable in more mature private investment infrastructure markets like Australia, Canada and the UK, where cross-border investment from global institutions is on the rise. However, we expect the trend to spread to other markets as primary investors look to sell into secondary markets. Ownership is diversifying with unknown consequences as long-term buy-and-hold investors build market share alongside infrastructure funds, traditional owners and shorter-focused private equity investors. Government and regulators will be challenged to stay ahead of such a diverse set of owners.

The positive side of asset diversification is stronger competition and better asset management. The new owners want to be more active in their portfolio of investments and are hiring infrastructure management expertise to drive operational and capital efficiency. This should lead to better maintenance and utilization as long-term investors seek to maximize the usable lifespan of a project.

With an increased awareness of specific project risks, this new breed of asset manager should have a better grasp on resilience planning, which we highlighted last year. Unfortunately, 2013 brought further examples of natural and manmade disasters impacting the availability and performance of infrastructure. Protecting valuable assets from the impact of disasters remains critical for economic and political stability. This is an ongoing issue for owners and governments alike.

Trend 2 Energy goes back to the future

Energy generation and distribution has traditionally been the domain of big power companies and monopolistic utilities. The model was simple – generate big lumps of electricity (slightly more than demanded) and distribute it to consumers. Naturally, the industry was regulated and the cheaper a company could generate its power the more money it made. This led to the development of massive power stations and bulk distribution: nuclear because it was efficient, coal because it was cheap to burn, gas because it was flexible and hydro because it was reliable and easy to maintain long after it was built.

Then came renewables, adding wind farms, solar panels, carbon-neutral biomass generation, and efficiency-driven smart grids to the equation. The concept of distributed energy generation with local power sources integrated into buildings became plausible, and new technologies threatened to challenge traditional business models as the urgency of climate change demanded political action supporting incentives to alter the game.

What we have learned through these two experiences is that energy is not an either or. Coal and gas fired power stations will coexist alongside wind farms and solar projects. Smart grids will be rolled out and, as energy sources fragment and diversify, new types of distribution and companies and retailers will shake up the market.

A lot of long-term power commitments need to be made in 2014 and slow global economic recovery and eroding political support for expensive subsidies will favor cheaper more traditional forms of energy. Coal is abundant and remains a massive part of new generation almost everywhere in the world outside western economies. Shale gas has already caused dramatic disruptions in international energy markets, and will continue to alter new generation developments in North America. Governments from the United Arab Emirates to the United Kingdom will continue to pursue nuclear energy, and large-scale hydro remains attractive wherever power demand and unexploited resource coexist. Meanwhile, carbon capture and storage is no more a reality today than it was 10 years ago. Although climate change is set to rise back up the political agenda, investment decisions will continue to be driven by cost and the economy in 2014.

Trend 3 Transparency rises up the agenda

Corruption touches every country. In the search for growth, global investors are entering new markets, and encountering new risks. What may seem like part of the fabric of doing business in one culture could be considered illegal in another. What should be black and white is often grey. It is not just about procurement; it includes the potential abuse of market power (monopoly), degradation of the environment and so on.

Managing this complexity is one of the many challenges facing governments, investors and their advisors in 2014. Corruption (broadly defined) is a barrier to developing a consensus on the need to invest, how to invest and attracting infrastructure investment. Attitudes against it are hardening. This alongside the need to demonstrate value-for-money drives the political agenda for greater transparency in infrastructure.

The pitfalls of corruption are many. At a basic level it can make infrastructure more expensive, and in more extreme cases it can also lead to criminal behavior. At least two major global infrastructure companies have recently been embroiled in corruption crises. Yet, this is only part of the drive for greater transparency. While debating the merits of potential projects, transparency is an important ally for building a stronger business case for infrastructure investment.

As the pace of technology quickens and our interface with infrastructure evolves, the drive for transparency and access to data will increase. Governments and the private sector are collecting more data than ever related to the performance of infrastructure. However, big data and intelligent analytics have yet to truly hit this market. We have yet to really see anyone bring data and analytics together and effectively utilize them to better plan, deliver, operate and maintain infrastructure. The value of data is no longer in the ability to create and store it. The true value lies within the insights which can be derived from it using the right analytics to generate clarity and transparency.

KPMG
cutting through complexity

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A Global Infrastructure Perspective

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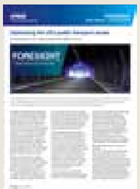

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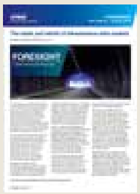

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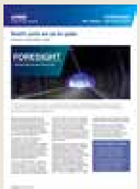

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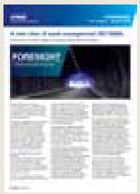

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Contact us

Laura Jablonski
Sr. Marketing Manager
Global Infrastructure
KPMG International
T: +1 416 777 8849
E: ljablonski@kpmg.ca

Dane Wolfe
Marketing Manager
Global Infrastructure
KPMG International
T: + 1 416 777 3740
E: dmwolfe@kpmg.ca

kpmg.com

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