

INFRASTRUCTURE BRIEFING 2014

BusinessNZ 



INFRASTRUCTURE IS CRUCIAL – WE NEED TO GET IT RIGHT



Policy predictability is required to unlock greater investment in infrastructure.

Businesses which supply the infrastructure sectors, or provide infrastructure services themselves, need a clearer sense of the overall direction in order to ensure that their investment delivers the best value to the country as a whole. Businesses which use infrastructure services need to understand what it is that they can plan on.

Enhanced public-private collaboration is needed now more than ever.

Infrastructure leaders in the public and private sectors agree on many of the actions necessary to deliver more aligned preferences and outcomes, but significantly are not aligned on the nature, value and importance of political and institutional risks and their critical impact on investment. Urgent action is needed to address this, and recognition that ongoing effort will be required.

CONTENTS

- 02 ____ Understanding the problem
- 03 ____ Looking at the issues and solutions
- 04 ____ The infrastructure sector
- 05 ____ Ensuring expectations are aligned
- 06 ____ Business interests
- 07 ____ What business is telling us

- 08 ____ A: Communicate the vision
- 09 ____ B: Improve governance arrangements
- 10 ____ C: Access to an appropriately skilled workforce
- 11 ____ D: Improve procurement processes and approaches
- 12 ____ E: Better data collection and use
- 14 ____ F: Improve the regulatory system
- 17 ____ G: Support for innovation in infrastructure investment

DELIVERING INSIGHTS TO UNLOCK INVESTMENT



BusinessNZ's members are major participants across all spheres of infrastructure provision, financing and use. We believe that we have valuable insights to offer on infrastructure-related policy matters. This briefing provides an overview of several policy matters on which we can offer a useful perspective.

This briefing is not prescriptive or exhaustive, but raises some issues for debate and discussion.

Most importantly, it offers real solutions that can be acted upon to unlock investment and begin to achieve the delivery of much-needed infrastructure in New Zealand.



John Carnegie
Manager Energy, Environment and Infrastructure

UNDERSTANDING THE PROBLEM

A myth exists that there is a shortage of capital. Governments don't want to take on more debt, but investors such as sovereign wealth funds and pension funds are complaining of a lack of projects to invest in, while at the same time we have infrastructure deficits.

What is causing this mismatch and what needs to be done to unlock the capital required?

There are a number of challenges that stand in the way of overcoming the disconnect. Addressing these will unlock the necessary funds and enable crucial infrastructure projects to get underway.

The importance of infrastructure as a driver of economic growth, productivity, competitiveness and social well-being is well established. Infrastructure can help deliver a more cohesive society. By ensuring global connectedness, for example, and the ability to move our people between home and work and the goods and services produced by our businesses efficiently from farm gate and factory to point of embarkation, good infrastructure creates clear economic and social value for the country.

Countries around the world face an acute need for new or modernised infrastructure. New Zealand is no different in this regard.

Yet needed infrastructure projects are not proceeding, while global capital is looking for projects to invest in.

This points to a gap, or misalignment in expectations or preferences

between the conditions business needs to invest and thrive, and the investment environment that currently exists. Growth opportunities are being missed as a result.

We welcome the progress made on infrastructural planning and implementation over the past five to ten years, but much more needs to be done.

The loosely organised planning and implementation of infrastructural projects has let New Zealand's transport and other infrastructure fall behind the demands being made upon it by our economic expansion, and positioned us poorly, relative to our trade competitors, to weather future economic conditions.

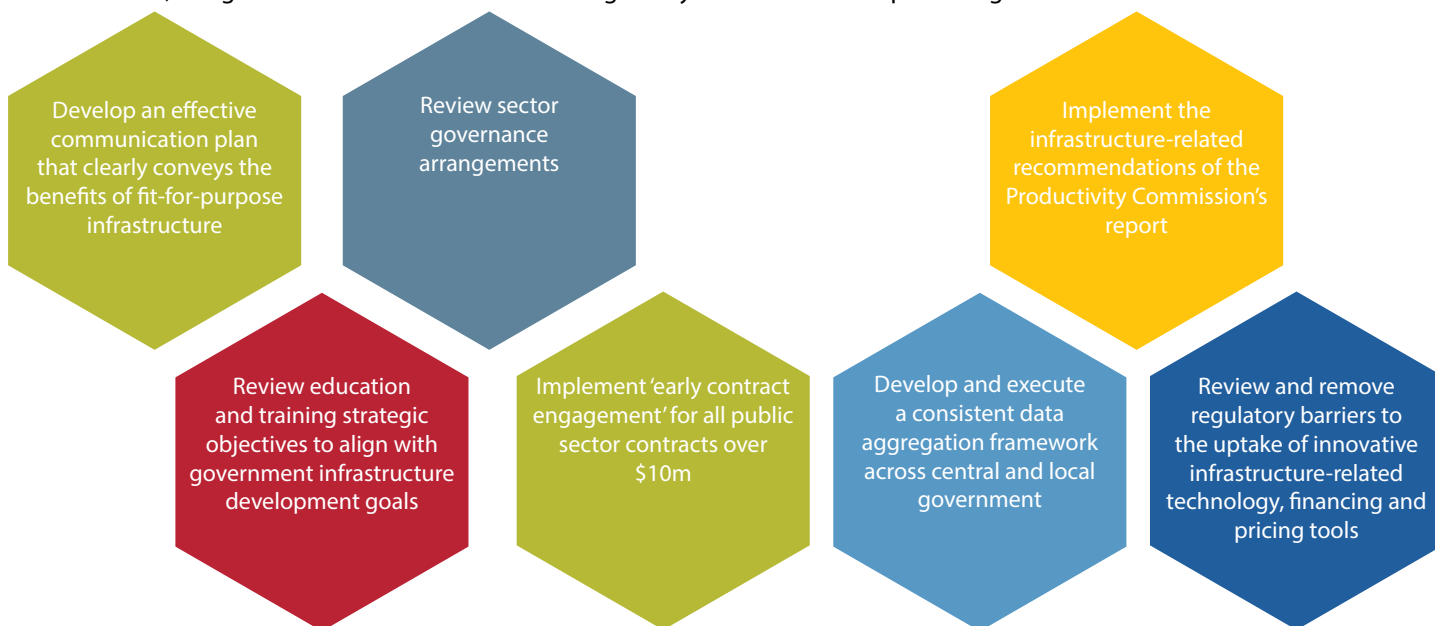
This briefing outlines what improvements are available in the New Zealand policy and regulatory spheres, across seven key areas, to help unlock the investment required:

- Communication
- Governance
- Skills
- Procurement
- Data
- Regulation
- Innovation

We also make a number of recommendations to help achieve better alignment of expectations or preferences and enhance the bankability of projects, encourage efficient infrastructure investment and support future economic growth.

LOOKING AT THE ISSUES – AND SOLUTIONS

The diagram below shows **seven key recommendations** that should be prioritised within the first 100 days of government and will have an immediate positive impact on the infrastructure sector. Further recommendations that need to be an ongoing focus are outlined below, along with a brief overview of the challenges they relate to. Each is explored in greater detail later in the document.



Communicate the vision

A credible vision can help overcome investor uncertainty and public scepticism, and trigger productive collaboration between government and investors but it needs to be clearly communicated and carefully executed.

- Provide more visible communication channels
- Clearly communicate the alignment between the national plan and goals, and the delivery processes

Sector governance

Confused governance between central and local government hinders transparency, accountability and investment.

- Support local body service consolidation
- Pass a National Infrastructure Act to secure the independence of the National Infrastructure Unit
- Improve coordination within and across central and local government, and across infrastructure types

Skilled workforce

Infrastructure is a labour-intensive sector. Workforce policies that deter investors from committing capital to infrastructure projects have a detrimental impact on the costs and supply that is felt throughout the economy.

- Review labour market and immigration policies to support the need for an appropriately skilled labour force in the coming years

Procurement processes and approaches

Costly, overly prescriptive and non-value adding procurement processes, and inconsistent approaches across and between central and local governments stifle innovation and diminish local supply chain capability.

- Implement an ‘earned autonomy’ system with regard to application of the procurement guidelines
- Develop a plan to lift the capability of the public sector staff handling infrastructure procurement decisions
- Maintain a watching brief over officials’ work to simplify and improve procurement processes and promote these across the public sector
- Work with business to improve the design of procurement processes to:
 - accommodate more innovative approaches that better address the long-term needs of end users
 - enhance flexibility, combined with uniformly high operating standards across all government agencies

Data collection and use

The improved collection and use of data will help grow understanding of infrastructure needs, future trends and the ability to determine ‘whole-of-life’ performance based on better asset management.

- Remove barriers (within accepted privacy constraints) to the collection and use of data for more efficient delivery of infrastructure
- Collaborate with business to share knowledge on data analytics

Infrastructure regulatory system

Incoherent, complex and duplicate regulatory frameworks raise the risk-adjusted return required by investors. This makes infrastructure more expensive and dampens the desire to invest, while reducing New Zealand’s international competitiveness through higher cost infrastructure.

- Pass a Regulatory Responsibility Act
- Implement measures to make transparent the implications of unforeseen changes in government policy that can result in stranded assets
- Abandon plans to review Section 36 of the Commerce Act 1986
- Review and streamline the Resource Management Act, including its consenting processes

Support for innovation

Improved processes combined with better information will help reduce investment risk. This will reduce project costs and allow businesses to enhance investment in innovative solutions, including demand-management tools. The greater use of these and other innovative technologies will facilitate better use and management of infrastructure.

- Create policy frameworks that are adaptable to new technologies, markets and business models

THE INFRASTRUCTURE SECTOR

There is no clear definition of what makes up infrastructure. It is sometimes defined as the fixed, long-lived structures that facilitate the production of goods and services. More often, it refers to network infrastructure, principally transport, water, energy and communications. But it can also refer to social infrastructure, such as schools, hospitals and prisons.

Regardless of where the boundaries fall, two things are clear. First, the sector makes a substantial contribution to the economy and to future growth. Second, the infrastructure sector is everywhere and policies that touch on its various component parts, such as telecommunications and energy, or its inputs, such as labour and capital availability, matter a lot to New Zealand's future prospects.

- In 2011, the total asset value across the infrastructure sector was around \$140 billion.¹
- Treasury estimated that in 2012/13, infrastructure capital expenditure was over 3.8% of GDP.
- The December 2012 Half Year Economic and Fiscal Update (HYEFU) projected central government capital expenditure to be \$2.5 billion on commercial assets and \$7.5 billion on social assets.
- Local government forecast \$2.07 billion of capital expenditure and the Top 10 NZX companies \$2.71 billion, also in 2012/13.
- While not all of this will be infrastructure, they total \$14.78 billion – or 6.84% of GDP (HYEFU projects nominal GDP at \$216 billion).²
- Expenditure by local authorities on infrastructure over the period 2013-2022 is projected to be \$111.1 billion (\$30 billion in capital expenditure and \$81.1 billion in operational expenditure), a large proportion of which will be in Auckland.³
- Approximately 210,000 full-time equivalents (or around 15% of total workforce) are working in the infrastructure sector.⁴

¹ National Infrastructure Unit report entitled 'National Infrastructure Plan 2011', pages 6-7. Includes data from the transport, telecommunications, energy, water and social infrastructure sub-sectors.

² National Infrastructure Newsletter (#5), dated April 2013.

³ Report of the Local Government Infrastructure Efficiency Expert Advisory Group Report, dated 22 March 2013, page 3, paragraph 13.

⁴ Statistics New Zealand, Quarterly Employment Survey: March 2014 Quarter, Table 3, Full-time equivalent employees (FTEs) by ANZSIC06 industry.



ENSURING EXPECTATIONS ARE ALIGNED

A number of changes have improved the outlook for infrastructure provision in recent years. These include the establishment of the NIU, the general acceptance that there is an infrastructure deficit (especially in the transport sector) and an acceptance of the role of markets and private providers in the provision of infrastructure, including the greater use of different forms of public private partnerships.

Improvements have also been made in procurement practices such as Better Business, and evaluation tools and approaches such as Alliances.

Much progress has been made over recent years in growing the knowledge and evidence base of New Zealand's current and future infrastructure needs

Each of these is a step forward, and has contributed to an overall lift in the performance of the economy. But more is needed.

As outlined in the preceding section, we need substantial amounts of new infrastructure and will continue to do so in the future.

Yet questions still remain about whether the infrastructure being planned is actually required, and

if it is, who will deliver it and how it will be paid for. Infrastructure projects that should be built are not proceeding. This raises some serious questions.

Many put this down to a shortage of available capital. It is true that central and local government budgets are tight and that there is limited appetite to increase debt levels. They are reducing debt, and optimising asset performance and portfolio configurations to maximise their overall contributions.

However, while it does contribute to the infrastructure deficit, this 'funding gap' characterisation is too superficial.

Decisions on which projects should proceed are always going to be contentious due to different priorities, costs and strategic choices.

But this doesn't mean that there is a shortage of project finance. Investors such as sovereign wealth funds and pension funds are keen to invest - and have the funds readily available to do so - but struggle to find appropriately configured projects that match their risk appetites and portfolios.

Debt and equity capital are not scarce, nor have they ever been as cheap. Neither is there a shortage of

pricing tools to allow infrastructure providers to recover project costs efficiently.

Yet investor uncertainty remains and there is public scepticism about the benefits the private sector can bring to bear, or the need for user-based prices or demand-side tools.

Put simply, no-one wants to pay for new infrastructure.

The upshot of such uncertainty on the one hand and scepticism on the other is that promising infrastructure investments are not advancing.

Directing policies at the issues that are preventing the available capital flowing to the required projects will help to address the misalignment in expectations or preferences, unlock a better public understanding of the role of infrastructure in a modern economy and help to secure New Zealand's future economic prosperity.

A desire to address this misalignment must be underpinned by a supportive policy and regulatory environment.

BUSINESS HAS A RANGE OF INTERESTS IN THE INFRASTRUCTURE SECTOR

Infrastructure is the platform on which business operates – moving employees to and from work, goods and services to market, or shifting energy in the form of electricity or gas from their source to where they are used by industry and households. Ineffective infrastructure hinders commerce.

Business also finances and builds infrastructure. Impediments to getting the infrastructure where it is most needed hinder economic growth. Over-crowded schools, inadequate housing, and a poor transport network create undesirable frictions that dampen economic activity.

Business seeks the efficient provision of infrastructure. In practical terms this means the implementation by government and business of policies and practices that support the development of the right infrastructure in the right place, at the right time, for the right price.

Getting this right requires coherent, well-aligned, joined-up policy

frameworks across local and central government, and focussed conversations between government, business, customer, taxpayer and community stakeholders.

To lead, or to follow...?

Much column space has been devoted to this issue. One implies the identification of lead projects whilst the other the timely removal of infrastructure deficits (preferably before they occur). But this is ultimately an arid debate. Business wants a delivery approach that allows infrastructure users to signal their preferences and facilitates the efficient allocation of resources to those projects that are highest value/greatest contribution.

This suggests that in the first instance the emphasis should be on removing regulatory and governance bottlenecks, gathering and effectively using data, and incentivising private markets to flourish in response to consumer demand where there is no clear rationale for government

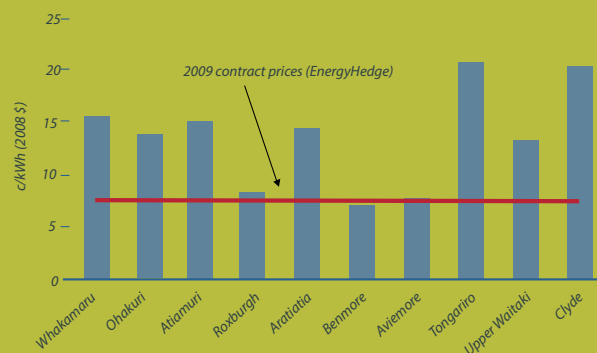
involvement. This should allow for the delivery of necessary infrastructure before the deficits appear.

This does not preclude the government from using investment or procurement initiatives to lead growth in areas such as social housing, roads and prisons. But the risks associated with such an approach need to be well understood.

This was well demonstrated in the provision of public infrastructure in the electricity sector, pre-market reforms.

Most stations constructed between 1950 and 1992 (pre-market liberalisation) were so expensive to build that they have been unable to recover their full costs, even at more recent, much higher electricity prices. The difference has been borne by the investors in those stations (in this case, taxpayers).

ESTIMATED BREAK EVEN PRICES FOR POWER STATIONS



Source: Improving Electricity Market Performance, Appendix Two, page 58, from Treasury (1985), Concept Consulting Group estimates.



WHAT BUSINESS IS TELLING US

When asked to rate what infrastructure type had most or least to contribute to New Zealand's future economic prosperity, respondents to the Deloitte-BusinessNZ Election Survey 2014 considered on average that telecommunications/broadband had the most potential (3.91 out of 5). In 2011, it was transport (roads, rail & ports), which has now fallen to third, behind energy (electricity & gas).

26.9% of respondents thought the government's current infrastructure spending plans will deliver the best economic outcomes for New Zealand, up from 19% in 2011. Just over 50% were unsure.

66.3% thought the private sector could play a greater role in the delivery of essential infrastructure, down from 81.6% in 2011. Close to two-thirds (61.8%) thought public

private partnerships (PPPs) would deliver infrastructure that is better value for money and within a shorter timeframe, down slightly from 73% three years ago.

However, there is much more to do across a range of spheres.

This is reflected in the World Economic Forum's Global Competitiveness Report, 2014-2015.

While New Zealand's overall ranking has improved slightly to 17th out of 144 countries, the ranking of our infrastructure has dropped to 29th and inadequate supply of infrastructure has once again been listed as the most problematic factor for doing business.

In the sub sectors, New Zealand was ranked 29th for quality of electricity supply, 35th for road and 39th for rail.

A gap also remains between the official data and public perception of our overall infrastructure ranking.

This gap has been closing, but its continued presence highlights the need for better communication as this perception directly impacts our ability to unlock investment funds.

A: COMMUNICATE THE VISION

Better communication by government is needed to help overcome investor reticence and public scepticism about the need for infrastructure or its provision by the private sector.

The NIU is doing invaluable work to move progressively from an inventory of national infrastructure and its condition, to a plan setting out future investment priorities. But further work is required to more clearly and consistently communicate infrastructure goals, gaps and the choices involved.

As noted, there's no shortage of investment dollars. It is the choices - or self-imposed constraints - around private ownership and/or delivery of infrastructure, and around risk allocation and regulation, combined with an unwillingness to pay that are limiting the quality and quantity of New Zealand's infrastructure.

Yet the public's understanding about the need for infrastructure, its ability to facilitate export-led growth, the trade-offs involved, the circumstances in which the roles of government in infrastructure may change, and the relationship between cost, who pays and how, remains poor. For example, a public conversation about service quality standards, especially in the road transport sector on a regional and inter-regional basis, is largely absent.

Neither are the interdependencies and linkages between projects often well understood by the public. The Basin Reserve Flyover, in the broader context of the Levin to Wellington airport roading network, is a case in point.

This requires more than the intermittent production of a National Infrastructure Plan or its annual updates.

Carefully executed communication can help reduce investor uncertainty and public scepticism.

It is needed to show why infrastructure is important and how specific projects fit into the big picture. It also helps engagement and the alignment of goals and responsibilities.

A national approach to communications can help slay the sacred cows of infrastructure development. For example, measures such as toll roads, congestion charging and user-pays principles for infrastructure need to be aired and explained in such a way that the community understands the issues and sees the benefits.

The government needs to better explain its diverse roles in infrastructure and how these

roles are influenced by the nature of the services they deliver. For example, how the government acts as a regulator of contestable markets in some areas, such as the electricity market, while in other areas the government acts as infrastructure funder and/or owner and is only rarely a provider. Unfortunately the demarcation between the public and private ownership of infrastructure appears to be as much determined by the public sector deciding not to own infrastructure, rather than the public sector stepping in to provide what the private sector cannot.

This makes it extremely difficult for business to understand the triggers for greater government involvement in private markets, which in turn results in uncertainty and deferred private sector investment.

We agree with the NIU where it says:

"All things being equal, the Government will favour the distributed decision-making power of private markets for the provision and ownership of infrastructure. Private providers subject to the disciplines of the product and capital markets are generally accepted as achieving greater efficiency and better outcomes."

and

"Given the downsides and risks of government provision, such [government market] interventions will be rare and any government should transparently set out why and when it is departing from favouring market provision. This approach is consistent with the overall purpose of the Plan to improve investment certainty for business."

Unfortunately, a social consensus around these points that is durable across political cycles has not yet been reached. The constant policy flip-flops on the private financing and operation of prisons is a case in point. Legislation providing for the private management of prisons became law in 1995, but was later repealed, ending the private management of the Auckland Central Remand Prison.

However, the new National-led government then passed the Corrections (Contract Management of Prisons) Bill 2009 into law, allowing competitive tendering for the contract management of prisons on a case-by-case basis.

This contrasts with the experience in other countries such as Australia and the UK, where the private provision of infrastructure has reached a greater level of public acceptance.

1 National Infrastructure Unit report entitled 'Infrastructure 2013: National State of Infrastructure Report', October 2013, page 5.

Financially prohibitive cancellation clauses are one way to address this absence of consensus but do not address the underlying problem.

There is a need for ongoing communication by government around the 'pipeline' of future infrastructure developments. Where the government plays a direct investment role, such ongoing communication would help achieve robust governance accountability and increase the likelihood of private providers competing to deliver what is required for least cost. A clearly communicated pipeline in those areas where government is the purchaser is a critical first step to maximise investors' overall participation in infrastructure investment.

This approach is consistent with the goal of the National Infrastructure Plan to improve investment certainty for business.

Finally, while the 'why' is important, so is the 'how'.

More work is needed on the development of clearly visible communication channels. For example, the NIU could develop a snapshot table of the state of infrastructure by region and infrastructure type, and publish it in their next infrastructure plan to aid and inform the conversation. We also recommend one central government-endorsed website showing all current and proposed procurement opportunities, especially those involving alternative (non-traditional) financing projects such as PPPs, with links to respective sites containing the key details. This could be a first place of call, where business and investors could go to get a quick understanding of where matters are at with respect to procurement projects, whether they know New Zealand well or not.

RECOMMENDATIONS

- Develop an effective communication plan that clearly conveys the benefits of fit-for-purpose infrastructure
- Provide more visible communication channels
- Clearly communicate the alignment between the national plan and goals, and the delivery processes

B: IMPROVE GOVERNANCE ARRANGEMENTS

Good governance brings transparency and accountability in public sector infrastructure decision making.

Unclear governance arrangements between central and local government and poorly aligned objectives hinder transparency, accountability and investment.

While substantial improvements in this area have been made recently, further improvements are needed to unlock infrastructure investment.

The recent Productivity Commission report noted that regulatory agencies at central government level are doing similar activities differently, creating costs for cross-infrastructure businesses that are often required to deliver competing objectives, with limited guidance on how to consider any trade-offs between these objectives.

The fine balance by the Commerce Commission between investment in infrastructure resilience and lines company regulated prices is a case in point.

This means that rather than applying a common set of principles to its consideration of a particular industry, the Commerce Commission faces the complication of a variety of different statutory tests (or, in the case of water, no tests at all).

Even within sectors, there are overlapping accountabilities. For example, the gas market regulator, the Gas Industry Company (GIC) and the Commerce Commission have similar objectives in the gas transmission sector to promote innovation and investment and reduce prices to end consumers. While the GIC is able to mandate investment in capability through order in council, this mandating is not reflected in the regulated pricing provisions of the Commerce Act.

We are supportive of the broad thrust of the Productivity Commission's recommendations as they relate to the infrastructure sector, but they do not go far enough. A resetting of legislative and regulatory frameworks is needed. The regulation of network infrastructure, for example, is incoherent. The government's priority should be to consolidate and align regulatory regimes and regulators.

The NIU was established in 2009. Its goal was to deliver the government's infrastructure objectives (to ensure that, by 2030, New Zealand's infrastructure would be resilient and coordinated, and contribute to growth and increased quality of life). It was intended to provide strong central governance and coordination. But the NIU has gone from a semi-autonomous unit within the Treasury,

with its own executive director, to a line function within the Treasury. Other than the voice of its minister – the Minister of Finance – the NIU's influence rests solely on its ability to convince its public sector peers to follow its lead. Its continued existence rests on government fiat. But with responsibility for the national infrastructure plan resting purely with the government of the day, it is inevitably seen as a political document. It is difficult for decision makers in the public and private sectors not to be influenced by the political risk around the document.

This places at risk the goal of NIU infrastructure planning – to improve investment certainty for businesses.

It is also unclear what standing the NIU's Advisory Board has.

A robust, clear set of governance arrangements that are resilient across the electoral cycle will reduce operating uncertainty and lower risk in a way that makes New Zealand more globally competitive.

While clarity of governance is an issue at central government level, opportunities for improvement are also present at the boundaries between central and local governments.

The interface between central and local government on the implementation of the Resource Management Act and the absence of Commerce Commission oversight of local government monopoly water businesses are two cases in point.

More effective governance co-ordination across agencies, regions and sectors is desirable to reveal infrastructure interrelationships and interdependencies.

There is infrastructure interconnectedness at all levels - rail investment decisions influence ports, road investments feed into requirements for water and power infrastructure, and so on. It is obvious that regulatory decisions by central and local governments and their infrastructure investments have far-reaching consequences for private developments (such as the location of offices and factories). Yet there is insufficient transparency about how intermodal transport trade-offs are resolved.

Getting these things right (particularly the interplay between the levels of government and commercial interests) will help unlock investment proposals in a timelier, more efficient manner.

A good example of the interplay between central and local government and commercial interests is the proposal by

Tainui Group Holdings for an inland port and industrial/commercial centre at Ruakura. This has been a fraught process.

Local government should also stick to its knitting. A recurring theme in local government is the need to defer investment in vital infrastructure such as roads or water because of budget blow-outs. But rather than deferring infrastructure projects, local government needs to continue to improve the quality of its decision making. Its focus should be on reducing spending to only those core areas where it's needed and on the more efficient use of existing assets, including freeing up capital in low performing assets for higher priority uses, such as storm water improvements.

Business wants to be more closely involved in the development of key local government infrastructure decisions, such as the Auckland inner city rail loop, to ensure that preferences are more closely aligned.

The greater encouragement by central government of alternative procurement methods such as alliances and PPPs should also be actively considered. This can allow retention of political control at the central level, but the devolution of delivery to regional entities.

A central government assessment of the gains achieved following the Auckland Council reforms of Auckland Transport, a council-controlled organisation, and whether they have broader (regional) applicability could be undertaken. Region-wide transport organisations could greatly enhance the efficiency and consistency of transport infrastructure maintenance and delivery.

Recent progress in the Canterbury region should be supported and carried through to other regions where applicable.

RECOMMENDATIONS

- Review sector governance arrangements
- Support local body service consolidation
- Pass a National Infrastructure Act to secure the independence of the National Infrastructure Unit
- Improve co-ordination within and across central and local government, and across infrastructure types

C: ACCESS TO AN APPROPRIATELY SKILLED WORKFORCE

Access to a sufficiently skilled workforce is a critical determinant of whether required infrastructure projects proceed or are deferred.

The infrastructure sector has a skilled and adaptable workforce and places a high importance on investment in training and development. But demand for labour is set to surge in coming years as the economy continues to grow.

Quality deficits and cost blow-outs can result if projects commence without the appropriate human capital to plan and successfully execute projects.

This is heightened by an ageing workforce.

Also, there is a global market for technical skills, and global demand is likely to continue to grow due to other countries facing similar challenges to those here.

As a result, firms' confidence to invest in growth and therefore create jobs can be constrained.

Infrastructure businesses need more young people emerging from our educational institutions with world-class trade training, engineering, ICT and management skills.

These skills play a key role in major infrastructure projects and also underpin innovation in other sectors, including exporters.

We support the Tertiary Education Commission's work, for example, to prioritise investment in engineers and recently established work to increase the supply of engineers, both technical and professional, through a demand-led approach.

However, coordinated efforts, rather than one-point actions, need to occur right across the education-to-employment pipeline.

Sometimes, government creates skill demands in the private sector (for example, through increased spending on roading and other infrastructure) that are not adequately supported through allocations to industry training or the wider education and training system. This is further complicated as government separately determines the number of students funded through a particular tertiary education organisation (for example, a university, polytechnic, private training establishment, or industry training organisation). Therefore, the ability of the Tertiary Education Commission to link funding decisions to industry need has been hampered by a lack of coordination between

government agencies as well as inadequate funding mechanisms, price controls, weak incentives for high performance, and a focus on the internal metrics of the system rather than investing for outcomes.

The quality of education and training continues to be an ongoing concern for business. Care must be taken to ensure that skills provision is focused on quality (for example, education and training that produces value for business and employees).

This includes refreshing the school curriculum, particularly in secondary schools, strengthening teacher capability to support science achievement, continuing to support Future in Tech (a national coordination mechanism for outreach to schools with strong employer support) and improving access to quality careers advice.

Firms also have a role and should take a more systematic approach to the attraction, retention and utilisation of skills.

Skills in high demand for infrastructure projects are also in high demand from firms across the economy. This is exacerbated by expansion in the infrastructure sector and the demand for workers driven by the reconstruction of Christchurch.

In telecommunications, there is the need to adapt and expand assets to suit an increasingly interconnected and ultra-fast world.

In construction, there is a large forward book of projects with more to come.

If New Zealand is to make the most of its oil and gas reserves, demand for technically skilled labour will also grow within that sector.

There will be an ongoing need to recruit skilled workers from overseas. An internationally competitive immigration system is important to offset skills and labour shortages.

If New Zealand's infrastructure needs are to be met in a timely fashion, ensuring an adequate supply of technically skilled labour is a matter of strategic importance.

RECOMMENDATIONS

- Review education and training strategic objectives to align with government infrastructure development goals
- Review labour market and immigration policies to support the need for an appropriately skilled labour force in the coming years

D: IMPROVE PROCUREMENT PROCESSES AND APPROACHES

Procurement practices alter incentives on business, which in turn affects the performance of markets.

Government is a major purchaser of goods and services, spending approximately \$30 billion every year.¹

Its procurement power has significant influence over how businesses and sectors organise themselves, and how competitive markets are.

How the government purchases its goods and services has, in some areas, undergone fairly radical change, with the move to more centralised procurement under the all-of-government procurement process. The contracts created under this process establish a single agreement between the Crown and approved suppliers for the supply of selected common goods and services. The expectation was that these contracts would deliver a range of benefits including cost savings to agencies, the government and taxpayers, productivity gains for agencies and suppliers, and improved competition.

However, there is growing frustration at the failure of the new procurement process to deliver on its promise. This frustration stretches beyond the all-of-government process into the contracts associated with the Christchurch rebuild and transport infrastructure.

Rather than lowering compliance costs and delivering more competitive outcomes, it would appear that the reverse is often true. Tender processes intended to promote competition and drive down overall costs are - due to the increased bureaucratisation of the process - having the opposite effect. Costs have increased to a point where fewer businesses are participating, with an adverse impact on long-term business capability and capacity. Promises to introduce partnerships and strategic alliances are falling victim to traditional pressures to shed risk and reduce operating costs.

This is beginning to affect how participants in the various markets behave, as procurement in the first instance relates to bidding strategies, market entry, competitive behaviour and the like. Ultimately, if not corrected, this will start to play out in the structure of the various markets (for example, in terms of factors such as concentration and integration).

For those businesses participating in government tenders for infrastructure delivery it is no longer clear that the benefits of the new procurement system outweigh the costs. While changes were required to ensure that competitive pressures were brought to bear and value for money demonstrated, feedback suggests they have in fact made business harder and more expensive to do.

Good businesses are walking away from even the largest of contracts. While they are doing this for the reasons outlined above, the absence of a pipeline of these projects is one of the most telling factors. Given the size of the investment (both in the tendering costs and the project itself) a pipeline of procurement financing projects, such as PPPs, is required otherwise the additional transaction cost associated with disbanding and reconstituting coalitions makes participation prohibitively expensive.

Public sector procurement is stifling business incentives to invest in research and development, value-added services and innovation.

Unfortunately, somewhere along the way a simple reality has got lost in translation: at its heart, purchaser-supplier arrangements should be win-win. If government is a good partner then the best businesses will want to work with it. A good process with a reasonable cost of engagement will be one in which innovation and creativity have room to flourish, there is an equal sharing of risk based on who is best able to manage and mitigate it, and where decisions are not based on a cheapest price mentality but instead on the least cost value over the whole of life.

Public sector agencies, especially those responsible for the provision of social infrastructure such as housing and prisons, who would otherwise provide the service or asset, should be required (if they are investigating non-traditional methods of delivery) to quantify the total avoided costs over the life of the service or asset in determining their willingness to pay.

Ignoring such factors, including the wider set of benefits that can transpire from contracting over the whole of an asset's life, rather than in the traditional way, can constrain the willingness of the private sector to participate.

We understand that officials recognise these issues as problems and have work underway to improve their procurement processes. But more is required to be done. For example,

the ability for public sector entities to not apply the procurement guidelines should be removed, with autonomy needing to be earned. Similarly, how agencies perform relative to each other should be ranked, and the ranking made public.

Business has much to offer given its wealth of experience in contracting. This is available to be drawn on to assist with the development of a capital and asset management process that can deliver improved long-term value.

RECOMMENDATIONS

- Implement 'early contract engagement' for all public sector contracts over \$10m
- Implement an 'earned autonomy' system with regard to application of the procurement guidelines
- Develop and execute a plan to lift the capability of the public sector staff handling public sector infrastructure procurement decisions
- Maintain a watching brief over officials' work to simplify and improve procurement processes and promote these across the public sector
- Work with business to improve the design the procurement processes to:
 - a. accommodate more innovative approaches that better address the long-term needs of end users
 - b. enhance flexibility, combined with uniformly high operating standards across all government agencies

¹ Across government agencies, local authorities and schools (MBIE note entitled 'Government Procurement Business Survey 2014', page 1)

E: BETTER DATA COLLECTION AND USE

Data lies at the very heart of our lives. While its increasingly ubiquitous nature raises privacy issues on the one hand, it is also going to mean quite dramatic shifts not only for the way we live, but also for the way we do business. Its impact on the ownership, provision of and payment for infrastructure is likely to be profound over the coming decades.

The improved collection and use of data will increasingly facilitate a growing sophistication in the understanding of infrastructure users and their needs, based on better assessments of current and future trends, and the whole-of-life performance of infrastructure.

In turn, this will facilitate better day-to-day asset management and the ability to improve decision-making from project inception to decommissioning.

It is widely acknowledged that in many cases across central and local government underlying data quality and asset management is inconsistent. In the context of the projected expenditure by local government of \$111.1 billion through to 2022, the opportunity cost of getting this wrong is high.

Improved data collection and use can help public funds stretch as far as possible. But all infrastructure owners and providers – including private business – are under pressure to meet the seemingly contradictory goals of minimising costs while meeting escalating regulatory requirements and maintaining or improving reliability.

The need to act may seem too far away to be immediately relevant. However, it is worthwhile bearing in mind that what might have been thought improbable a decade ago is increasingly within reach because of advances in computing power and personalised data. For example, we now carry more computing power in our pockets (~ 64GB Apple iPhone 4S) than the Apollo astronauts carried to the moon (~ 4kB) and, depending on the model, there can be over 15 sensors on a smart phone.

It has never been more possible to reveal end-user preferences with such accuracy, enabling better targeted infrastructure solutions.

While private infrastructure providers face capital and product market disciplines to ensure that they identify these trends and the risks and opportunities they imply, the same

is not true of central and local government. But the benefits of doing so now are wide and varied, for example, the ability to:

- a. Underpin the communication required and facilitate greater collaboration between infrastructure providers, central and local government, and users at both practical and strategic levels
- b. Defer capital projects by extending the useful life of assets and improving project planning and priority assessment
- c. Improve capital and operations and maintenance effectiveness with more accurate and informed targeting of investments
- d. Defer capital spending requirements through the identification and unloading of poorly-performing assets
- e. Gain efficiencies in regulatory and compliance activities by providing the precise, auditable information increasingly requested by regulators, and make it easier for them to approve funding for infrastructure investments where relevant
- f. Design procurement systems that facilitate efficient business investment and competition that creates value for money from the funds invested
- g. Optimize life expectancy for new assets
- h. Facilitate better governance and lower the risk of stranded assets
- i. Provide a more sophisticated understanding of where market failures occur and therefore warrant government rather than private investment
- j. Reduce the cost and effort of equipment maintenance through better knowledge about equipment condition

In striving to gain a country and company competitive edge, infrastructure providers in other jurisdictions are increasingly recognising that the ability to aggregate, integrate and analyse data from a wide range of sources¹ helps decision-makers shift their focus from pulling together historical data to leveraging asset analytics in support of their strategy, investment planning, risk management and asset performance

¹ For example, from structured to unstructured sources such as from the more traditional demographic information to information about consumers to content on social media sites, reviews and blogs, through to data streamed from mobile devices.

management.

This will not happen without some central government direction.

What is required is a new way of accessing, sharing and using infrastructure user data that enables far more comprehensive analysis of data to help decision makers choose the best courses of action. The development of a consistent data aggregation framework across central and local government could produce significant savings. The goal would be to reduce duplication of effort among agencies, improve quality and reduce costs related to infrastructure information, make data more accessible to the public, increase the benefits of using available data, and establish key partnerships with local government, the private sector and academia to increase data availability.

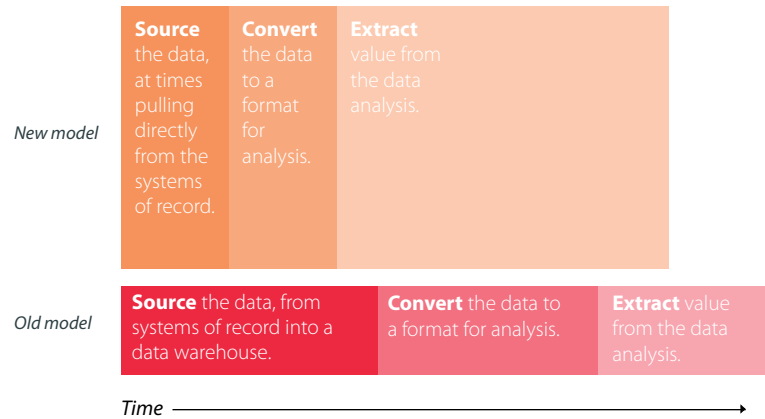
Data collection can assist with the development of national and/or regional infrastructure standards. An example where this might be particularly helpful is in the improved delivery of New Zealand's small-scale and siloed water systems (waste, storm and potable).

The greater availability and transparency of data can bring increasing transparency and openness of government, and a focus on the development of a high-performance culture. The ability for all stakeholders to better understand shifting trends and their impacts on existing and new infrastructure will support evidence-based decisions that will deliver better, more productive infrastructure outcomes.

RECOMMENDATIONS

- Develop and execute a consistent data aggregation framework across central and local government to improve understanding of the needs of infrastructure users and contribution towards national goals
- Remove barriers (within accepted privacy constraints) to the collection and use of data for more efficient delivery of infrastructure
- Collaborate with business to share knowledge on data analytics

DIFFERENCES BETWEEN THE TRADITIONAL AND NEW APPROACHES



Note: Big Data enables organisations to spend less time on the first two steps in the diagram above and more time on the third step: extracting value. Time spent on each step will vary by organisation.

Source: PwC note, FS Viewpoint, "Where have you been all my life?" Point of View, page 3



F: IMPROVE THE REGULATORY SYSTEM

Nowhere is the issue of aligning divergent preferences between governments, infrastructure investors and end-users to facilitate the unlocking of the appropriate level of infrastructure investment more keenly felt than in the regulatory sphere. And nowhere is the ability to correct this misalignment more completely within the government's control.

The problems with the infrastructure sector regulatory ecosystem are relatively well known and widely acknowledged by officials. For example, in its 2011 New Zealand Infrastructure Plan, the NIU somewhat timidly recognised that progress in improving New Zealand's infrastructure settings is impacted by regulatory design and implementation:

"Better regulation is a key principle for improved delivery of infrastructure. The government is seeking to further develop effective infrastructure markets and reduce uncertainty for infrastructure providers through regulatory reform."¹

By 2012, however, the NIU had strengthened its message by saying:

"It is not clear that the current regulatory settings facilitate the level of investment needed to meet long-term infrastructure needs."²

More recently, the Productivity Commission reviewed the components of New Zealand's regulatory system and found system-wide deficiencies. It described New Zealand's system as 'muddling through'. Such comments are an indictment of the regulatory system within which both government and business are attempting to deliver the infrastructure that New Zealand needs to grow.

We continue to see inconsistent policy making and poor regulatory decisions within and across sectors, particularly those in which private markets operate.

The recent Productivity Commission's report on regulatory institutions and practice looked to address these issues, and we support its work in these areas, but its work also contained some puzzling omissions and details.

¹ National Infrastructure Unit report entitled 'National Infrastructure Plan 2011', page 4.

² National Infrastructure Unit report entitled 'Infrastructure 2012. National State of Infrastructure Report: A year on from the National Infrastructure Plan'. Dated November 2012, page 4.

The absence of support for a Regulatory Responsibility Act in the Productivity Commission's final report on regulatory institutions and practices is a glaring omission. While most of the conclusions of the Productivity Commission's report pointed to the need for such a piece of legislation, it veered away from this conclusion on the basis that it was prevented from looking at the actions of legislators (rather than the performance of regulators) in its terms of reference.

A Regulatory Responsibility Act is needed...

The Regulatory Responsibility Taskforce's Regulatory Responsibility Bill provided a benchmark for good regulation through a set of principles that all regulation should comply with. It provided for transparency by requiring those proposing and creating regulation to certify whether it was compatible with the Bill's standards, providing also for monitoring of the certification process by creating a new declaratory role for the courts.

Government will change policy settings over time and this inevitably increases project or provider risk. This risk occurs irrespective of the infrastructure provider (public or private sector) or whether it is explicitly recognised by government, and increases costs or reduces infrastructure outcomes. Failing to recognise such risk, however, results in a significant bias against private sector investment where such risks are explicitly recognised in investment business cases.

The clear definition and enforcement of property rights is critical to well-performing regulatory systems. It can provide confidence to invest and reinforce belief that returns from investment will not be arbitrarily expropriated by regulatory fiat. A clear set of principles that can be used to constrain the inappropriate use of the law (via regulation) by legislators is desirable.

Such principles should include the provision of compensation for the loss of private property rights.

A number of jurisdictions mitigate the risk of policy change through, for example, measures that make transparent the full costs of policy changes and compensation for impacted providers. These mechanisms do not necessarily add cost but simply make transparent a risk that is already there, and remove a bias against private investment.

Therefore, we consider measures that make transparent and mitigate the implications of unforeseen changes in government policy that strand assets to be vital in underpinning

New Zealand's infrastructure-related regulatory systems.

The government should seek to identify the benefits of such mechanisms as they relate to the provision of infrastructure, as part of the NIU's work programme. A core element of this would be the passage of a Regulatory Responsibility Act into law.

This is strongly supported by respondents to the Deloitte-BusinessNZ Election Survey. In 2011, 53.8% supported an Act, and 32.1 said they were unsure. This increased to 63.1% in 2014, with 29% unsure.

...But a review of Section 36 of the Commerce Act is not

Similarly, we strongly oppose the Productivity Commission's support for a review of Section 36 of the Commerce Act 1986 (taking advantage of market power) as set out in its final report on Boosting Productivity in the Services Sector.³

In a number of high-profile cases, the highest New Zealand courts have found for defendant firms rather than the Commerce Commission which had viewed them as taking advantage of their market power. Dissatisfaction with court decisions is not a good reason to amend the law.

On more substantive grounds, in light of the potential upset to the New Zealand economy, we do not believe that a shift from the 'counterfactual' test to an 'effects' test is warranted given the widespread recognition that it is tricky to get it right and is contentious in many countries. Changing Section 36 could create uncertainty for large firms and discourage them from innovation and other desirable competitive activities. If the law creates uncertainty or sets a low threshold for judging that a dominant firm has acted anti-competitively, then large firms (bearing in mind that New Zealand has many duopolistic markets) may be deterred from vigorously competing and striving to outperform their rivals, to the detriment of dynamic efficiency and long-term consumer benefit.

We believe it is up to the Commerce Commission to pursue and argue each new case on its merits, and therefore differentiate them sufficiently from the factual situations on which the cases lost by the Commerce Commission were determined.

³ Dated May 2014, page 22.

Is the RMA delivering the right outcomes?

Questions need to be asked regarding recent adverse regulatory decisions based on the Resource Management Act.⁴ At the heart of these decisions is the issue of government on the one hand being ambitious for business to prosper and grow the economy through greater exports, yet on the other hand having regulatory settings that stifle this objective from being achieved.

We do not wish to comment on the specifics of these cases (on the basis that some are still proceeding through the regulatory process), nor do we wish to question the validity of the decisions made. However, the level of the risks that they raise with regard to future investment decisions (primarily, whether the risk in New Zealand is greater than the risk in other jurisdictions) is concerning.

Complex and often siloed or disconnected consenting processes, that unnecessarily extend the reach of local government regulatory powers and lack co-ordination and predictability, limit investor interest even for the most financially attractive projects.

More can be done to identify and consider the wider economic benefits of proposed infrastructure projects, including the wider supply chain/logistical elements rather than just the single discrete projects under consideration.

This is supported by our members. When asked in the Deloitte-BusinessNZ 2014 Election Survey if they thought that the RMA was fundamentally broken and legislators should go back to first principles, 36% of respondents agreed. A further 30% also agreed that it could be made to work if it constrained what local councils could regulate in its name (in other words, a significant narrowing of its scope with greater reliance on private arrangements). Only 6% thought it didn't require any further change.

In addition, there often appears to be a misalignment in strategic objectives where the resources being allocated are Crown-owned and where applications for consents are declined despite approval having already been granted to access the resource. This effectively requires businesses to run the gauntlet twice or face double-jeopardy by having to justify their right to use a resource to one part of government where the right to use has already been granted previously by another part of government.

The upshot is that expensive (for both the business and the objector) and disruptive objections proceed when in reality, the objection is less with the specific environmental effects of the specific use of the resource than with the more generic use of the resource per se.

There needs to be a clearer, more evidence-based conversation between the Crown and the public leading to a consensus about the acceptability or not of resource use, and (if acceptable) any limits or constraints to be placed on the use of the resource.

This approach will allow greater predictability at the approval step for potential business investors, as they would be better placed to make informed judgements about whether the investment should proceed, and if it does, whether any resource use constraints can be innovated away.

If the business decision is to proceed with the investment, then the next stage would involve an uncontested private process whereby the investor demonstrates whether or not the pre-determined environment impact and health and safety rules can be met (in other words, a more technical, rules-based process). The ability to comply should automatically see the project proceeding.

This process is used to varying extent in a number of overseas jurisdictions.

Summary

Effective regulatory systems matter. Countries with more effective systems reduce misalignment of expectations and preferences and are more likely to attain investment at a lower overall cost.

Effective regulation can help overcome the conundrum of the plentiful availability of project finance exceeding the supply of bankable infrastructure projects.

But matching the regulatory frameworks in overseas jurisdictions is insufficient. New Zealand needs to offer a better regulatory environment than can be found elsewhere if we are to overcome the economic disadvantages of our small size and geographic isolation, and attract and retain increasingly mobile talent, skills, capital, technology and entrepreneurship. This especially applies to infrastructure as investors compare opportunities across multiple jurisdictions.

RECOMMENDATIONS

- Implement the infrastructure-related recommendations of the Productivity Commission's report on regulatory institutions and practice that seeks to provide greater coherence, consistency and clarity within and across regulatory regimes
- Pass a Regulatory Responsibility Act
- Implement measures to make transparent the implications of changes in government policy that can result in stranded assets
- Abandon plans to review Section 36 of the Commerce Act 1986
- Review and streamline the Resource Management Act, including its consenting processes

⁴ This diverse range of decisions relates to King Salmon, United Fisheries, the Ruataniwha Dam, Horizons, Bathurst, Trans Tasman Resources and the Basin Reserve Flyover.



30

NO ENTRY

NO ENTRY

HWYWAY

G: SUPPORT FOR INNOVATION IN INFRASTRUCTURE INVESTMENT

Innovation is relevant to the entire infrastructure lifecycle. With pressure on public funding, there is a need for innovation in the use of existing infrastructure and in the development of new infrastructure.

Some progress on innovation is being made with the **Better Business Case** work and the focus on whole-of-life asset management including greater demand management, but much more needs to be done.¹ In any case, what government can do needs to be kept in context - business has much more to offer.²

But first, business needs blockages to greater innovation removed. Some of these have been canvassed in the preceding sections - improved processes and better regulatory systems combined with better information will help.

Some blockages might be less obvious. For example, CEOs say talent-led innovation is the number one driver of competitive advantage.

Other blockages are more basic, and relate to the circumstances in which demand management tools (for example, congestion pricing and tolls) can be used and by whom.

Such tools can reduce project costs and allow businesses to enhance investment in innovative solutions. This can drive a mutually reinforcing virtuous circle. Where information and innovative financing and pricing solutions are available that allow for the appropriate risk-return trade-offs to be made most efficiently, infrastructure investors will be more willing to invest and further innovate.

Everyone benefits from this process. Users get the high-quality infrastructure they want, when they need it; government gets the infrastructure it wants for a lower cost; and the provider delivers its innovative project for a reasonable return.

Innovation may come from new sources. The growing need for innovative financing and pricing solutions coincides with new,

¹ With regard to the NIU's Better Business Case work, see <http://www.infrastructure.govt.nz/publications/betterbusinesscases>

² For example, Siemens alone has 29,000 R&D scientists globally looking for solutions across a range of infrastructure sectors. Its annual R&D spend in 2012 was €4.2 billion (NZD\$6.96 billion). The New Zealand government's total expenditure on R&D is approximately \$1.25 billion.

mobile-based technologies that can support innovative markets and business models for infrastructure.³

The use of phase traffic lights at the entrance to parts of the Auckland motorway system which has lowered congestion and deferred investment by a non-trivial amount is a successful innovation. However, in contrast to the bow wave of technology-driven innovation on the horizon, this is at the low end of the tools potentially available and may be made redundant depending on the speed of technological uptake in New Zealand.

The advance of social media, mobile, and cloud computing – combined with escalating financial and regulatory pressures – is also pressuring infrastructure providers to rethink the way they operate their business model. For example, Tony Seba, a Stanford University energy expert who was in New Zealand recently, thinks that hours stuck on our car-clogged city motorways could be just a memory by 2030. By then, he claims, self-drive vehicles will be the dominant form of transport. All mass market cars will be electric, self-driving and handily hailed by smartphone. Importantly, the main debate seems to be on the timeframe, not the idea.

Choices that traditionally get made by politicians on behalf of voters may soon be made directly by infrastructure users to providers via their smartphones.

The risk of asset stranding or obsolescence may soon be minimised through the use of new technologies in transport as well as in other infrastructure sectors.⁴ In the electricity sector, the rise of the prosumer (consumers who also produce electricity via a distributed source of generation such as solar PV) is an example where new technology combined with new business models (electricity as a service offered by solar panel lease companies) can revolutionise elements of the sector.

³ For example, Uber (www.uber.com) and the Google autonomous car. As an aside, Google's mission statement "to organise the world's information and make it universally accessible and useful" might have seemed both overly prosaic and unrelated to infrastructure technology at the outset of the company, but nothing could seem further from that now.

⁴ The greater use of smartphones for the self-diagnosis of minor ailments, deferring investment in hospitals, is an example of the potential impact of technology on social infrastructure.

The key question is how to unlock access to new technologies, markets and business models to enable change to occur. Policy frameworks need to be adaptable to such change.

An approach to infrastructure delivery that allows users to signal their preferences and facilitates the efficient allocation of resources to projects that are highest value to the economy will be a good starting point.

RECOMMENDATIONS

- Review and remove regulatory barriers to the uptake of innovative infrastructure-related technology, financing and pricing tools
- Create policy frameworks that are adaptable to new technologies, markets and business models

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