

INFRASTRUCTURE UPDATE

An Occasional Newsletter from the National Infrastructure Unit

Issue #2 March 2012

Welcome to the second *Infrastructure Update*. While a lot has changed since we last published a newsletter, there has been no reduced focus or commitment from Ministers to infrastructure and the contribution it makes to economic growth, meaning that the National infrastructure Unit is busier than it has ever been. A key highlight, and the product of a lot of hard work from a lot of people, was definitely the release of the 2011 *National Infrastructure Plan* and the overall favourable response that it received - noting your expectations that the 2014 Plan will be another step up. No pressure!!

Alongside developing and implementing the Plan, the Unit has been assisting the Government's response to Christchurch and had a specific focus on the Auckland Plan – recognizing the challenges relating to infrastructure we are facing in our two largest cities. Two Public Private Partnerships (PPP) projects in procurement, including the announcement last week on the Wiri Prison, have stretched the capacity of the NZ market and additional guidance material we will be releasing later this year is shaping up very well. The Capital Asset Management Team has also released new guidance material and we are working with Local Government to extend the use of the Better Business Case methodology. Across all of our work, the National Infrastructure Advisory Board has provided strong governance and we welcomed three new members to the Board last year. A feature of the Units work has been the high level of engagement with the infrastructure sector and I look forward to this continuing, along with more frequent newsletters in the future. I hope you find it informative.

Richard Forgan

Executive Director NIU and Deputy Secretary Infrastructure and Public Services

Implementing the Plan

With the release of the Plan in July last year, we have shifted our focus into implementation mode, focusing on two key areas:

- ▶ delivery of the priority workstreams drawn from the sectors and eight specific actions contained in the Plan, and
- ▶ ongoing engagement with Stakeholders, both raising awareness of the Plan but also discussion of specific actions, sectors and issues.

Alongside this work, the Unit continues to engage with the agencies responsible for each infrastructure sector, both in terms of specific projects or issues but also in a more general policy function.

Underpinning the implementation is a focus on ensuring that by the time the next edition of the Plan is due, the range and quality of information about the infrastructure network is better advanced to strengthen future infrastructure planning and investment decisions, and that it is an increased collaborative effort between central government, local government and the private sector.

The eight specific actions contained in the Plan have been developed into a three year work programme. Our initial focus is on four actions: 10 year Capital Intentions Plan, Resilience, Demand Management, and the Performance Indicators Framework. These will be our priority for the next period, along with the delivery of the first national infrastructure report in the middle of this year.

A copy of the latest implementation plan is available on our website under the *Implementation of the 2011 Plan*.

Website Update

Those with sharp eyes may have noticed that the NIU website has undergone a few tweaks recently. This will hopefully make it easier for you to find the most recent content. Keep an eye on the new *Implementation of the 2011 Plan* index as this is where we will be posting relevant implementation documents, both to keep you informed of progress and for you to review and provide feedback.

www.infrastructure.govt.nz

Newsletter and Publications Mailing List

If you would like to be added to the mailing list for this Newsletter and other NIU publications, please send us an e-mail at:

info@infrastructure.govt.nz



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Public Private Partnerships (PPPs)

The Government continues to embrace greater use of private sector expertise in asset procurement and management, such as Public Private Partnerships (PPPs), where they deliver better value for taxpayers through enhanced services and/or lower overall costs.

All Government department projects at or above a \$25 million whole-of-life cost need to be considered for alternative procurement models. The value-for-money proposition of PPP is most compelling where they:

- ▶ Act as a catalyst for public sector change
- ▶ Offer significant opportunities to innovate in asset design and improve whole-of-life asset management
- ▶ Offer significant opportunities to innovate in terms of the services delivered from the assets, and
- ▶ Offer real opportunities for risk transfer.

We have an active role in both actual and potential PPP projects (from assistance with business case preparation through to assistance with procurement).

There are currently two PPP projects in procurement:

- ▶ Wiri Prison (a Design, Build, Finance, Maintain and Operate model), and
- ▶ Hobsonville Schools (a Design, Build, Finance and Maintain model).

Other sectors actively considering PPP include: communications, defence, health, social housing and transport.

Guidance Material

We are also continuing to develop detailed practitioner guidance material with a view to this being approved by Cabinet and live on the website during the course of 2012.

The guidance material is intended to streamline and improve the consistency of PPP procurement processes across the public sector and provide the market with some transparency and comfort around the practice implemented and messages issued during the procurement process.

We have developed a draft PPP Standard Contract (available on our website) and this has been used as the basis for the first two live projects. Other guidance material being prepared includes:

- ▶ NZ PPP objectives, approach and philosophy
- ▶ NIU role and link with Better Business Case process
- ▶ Identification of PPP candidates
- ▶ Public Sector Comparator (PSC) and Value for Money (VFM) analysis
- ▶ Procurement process
- ▶ Probity
- ▶ Project resourcing
- ▶ Conflict of interest management
- ▶ Contract management, and
- ▶ Accounting and tax implications.

We will bring you further updates as decisions are made and the new guidance material is published.

Performance Indicators

Gaining a stronger evidence base for the next Plan in 2014 is a key plank of the implementation programme of the 2011 Plan.

As part of this work programme, we are looking at performance data already collected in New Zealand and abroad. We are identifying where there needs to be further work to produce additional measures and considering how indicators could be used to support better decision making by both the public and private sector.

Our priority over the next few months is on designing a framework around the outcomes and principles of the Plan. It seeks to identify indicators that will support infrastructure investment decisions. Keep an eye on the website as we will post our latest thinking for your feedback.

Water Policy Work

Recognising the large amount of policy work underway in the Water sector, we completed a stocktake in late 2011 to help us better understand the work underway, the areas of focus, what it will deliver and the timing. This has informed our implementation work programme. A copy of this stocktake is available on our website under the *Implementation of the 2011 Plan* index.

[www.infrastructure.govt.nz/
plan/2011implementation](http://www.infrastructure.govt.nz/plan/2011implementation)



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Demand Management

The Plan presents “better use of existing infrastructure” as one of two key outcomes to be achieved. Demand Management strategies are those designed to better balance people’s need to use infrastructure with the facilities available to efficiently handle them. In this way, demand management supplements investment decisions and encourages optimal network use. This concept applies to most infrastructure sectors, but our current focus in this workstream is on transport, due partly to current proposals for additional network investment, and partly due to the need to deal with the perennial issue of congestion. We are working with the New Zealand Transport Agency and the Ministry of Transport to better understand the potential for demand management techniques to be used in New Zealand.

Resilient Infrastructure?

With the Christchurch earthquakes and the outage of the Maui pipeline last year, the resilience or otherwise of New Zealand’s infrastructure has been the topic of many conversations recently. A key difficulty with any conversation about resilience is ensuring that everybody is talking about the same thing, not apples and pears and all the confusion this can bring. To help progress the discussion, we have been working to unpack ‘resilience’ and better define and understand what we are referring to.

This recognises that resilience is a key component of the long term vision for New Zealand’s infrastructure as set out in the Plan.

By 2030 New Zealand’s infrastructure is resilient and coordinated and contributes to economic growth and increased quality of life.

The Plan makes it clear that resilience is more than just protection against earthquakes and natural disasters, but includes other disruptions and circumstances, eg, changing demographics or economic shocks.

To help achieve a common understanding, we have developed a series of eight resilience attributes and are progressively testing these with stakeholders. As an example, one attribute is:



Comprehensive and Integrated - resilience needs to be comprehensive, incorporating interdependencies and inclusive of all elements (eg, weakest link vulnerabilities). Vertical and horizontal integration (coordination) contribute to resilience.

We are also working with infrastructure providers and planners to develop a series of indicators for each of the infrastructure sectors to help measure or determine resilience. This will help with further identification of issues and consideration of possible solutions.

A key component of this will be considering the costs and benefits of resilience improvements. A recent independent report completed for Orion (the Christchurch electricity distribution company) determined that the \$6m it had spent specifically seismicly strengthening its network over the past 15 years had saved between \$30m and \$50m of extra repair work that otherwise would have been required after the recent earthquakes.

Our thinking on resilience is constantly evolving and we will keep you updated on the latest developments through our website. Feel free to download the Resilience paper from the *Implementation of the 2011 Plan index* to see our current thinking. Feedback welcome.

Smart New Zealand Energy Futures – Meridian Energy

Meridian Energy Limited recently released a report looking at the implications of Smart Grid technologies for New Zealand. The report is from a study Meridian commissioned from Professor Goran Strbac of Imperial College, London, and includes Meridian’s view on the key messages from the study. The report is available on the Meridian website.

www.meridianenergy.co.nz

Transport, Energy and Urban Form: The Future

An MSI funded programme being undertaken by Opus Central Laboratories.

For a number of reasons New Zealand needs to reappraise its transport energy. These include: rising and volatile energy prices, which because of the coupling between energy cost and food prices rapidly impact on household expenditure; international treaties to respond to climate change, both current and under negotiation; and global trading imperatives that require New Zealand to remain a competitive and acceptable trading partner. As the world moves from a global single priced energy source (petroleum) to local sources, such as electricity and bio-fuels, a country's energy profile will increasingly define its economic success.

The goal of this research programme, Transport Energy and Urban Form: The Future, is to enable New Zealand cities to seize the opportunities that arise from needed changes to our transport energy profile, and from the related transformations in transport; to once again transform our cities so as to greatly increase the wealth and liveability of our cities. Because transport is intertwined not just with how the cities function but influences the form of the city, shaping spatial economics about where people, industry, retail and business, and government services prefer to locate, the research takes an approach of considering this dynamic interaction across a range of scenarios.

The scenario being researched is one of a very low transport energy profile based around electrified public transport for a future period 10-15 years ahead, when petroleum fuel prices are much higher (2 to 3 times) than they are now: electrified, because it is an indigenous energy over which we have more control of the price and could be 90% renewable; and public transport, because it can be 80 to 90% more energy efficient than private motor vehicles with internal combustion engines, but also public transport is associated with more concentrated urban forms that generate economic growth.

The research is identifying how, in a high priced energy future, households will choose to reallocate their household budgets and the thresholds around which relocation as a means of off-setting transport costs will occur. The programme is particularly identifying, how in a metropolitan city, a high quality Public Transport system may, in this future high energy cost context, influence a much greater acceptance of high density mixed use living around transport nodes and the willingness for household to surrender one or more household vehicles and even live by public transport alone.

The research is then identifying consequent business and retail location choices, as well as the impacts of new forms of retail that are arising as a result of new technologies. We must transition from our existing cities and this research is also identifying how land use is transferring to higher value profiles. The research is also identifying the economic and liveability gains of mixed use and the critical mass of mixed use coupled with recreational and night-time economy of the arts, culture and entertainment and the critical mass needed for this to be a location of preference over a suburban lifestyle. Research components on governance are identifying economic instruments that will bridge the temporal gap between investment in future urban forms that are desirable, but ahead of the market, and the point at which they are commercially viable.

This understanding of choices and behaviours in a changed future will therefore underpin a far more robust economic analysis of lead investment in changed futures than would be possible from extrapolations of historic behaviours. Reports and papers from this research can be found on the programme website www.successfulcities.co.nz

New National Infrastructure Advisory Board (NIAB) Appointments

Since the release of the Plan the government has appointed three new members to NIAB, and re-appointed three existing members, bringing it up to full strength as a nine-member board. A warm welcome to the three new members: Margaret Devlin, Kathryn Edmonds and Edward Guy. They join existing NIAB members: Dr Rod Carr (Chair), Lindsay Crossen, Dr Arthur Grimes, Dr Terence Heiler, John Rae, and Alex Sundakov.



National Infrastructure Advisory Board members listen to a presentation on Christchurch infrastructure from Richard MacGeorge, (General Manager Infrastructure, CERA) in February 2012

NIU Irrigation Field Trip

NIU members Brian Hallinan, Ingrid Van Elst and Robert Barton spent a day in mid-Canterbury in late February, building their knowledge of irrigation infrastructure. By learning more about both irrigation schemes themselves and the associated on-farm equipment and costs, we will be better placed to give advice on future irrigation investment proposals. We also learned that cows are scared of government officials, to the point of not wanting to walk past us. We had a useful and informative day, thanks to Kevin and Murray from MAF, Francis from ECan, Ben from the Rangitata Diversion Race and local farmers John and Mark.



First Successful Applicant to the Irrigation Acceleration Fund

Hawke's Bay Regional Council is the first successful applicant to the Ministry of Agriculture and Forestry's Irrigation Acceleration Fund.

The Irrigation Acceleration Fund provides for \$35 million over five years to support the development of smart irrigation infrastructure proposals to the investment-ready prospectus stage. The Fund's primary focus is on the development of rural water infrastructure proposals that are consistent with regionally agreed strategies for the sustainable use and management of water.

Announced in January, the IAF will contribute \$1.67 million to the Ruataniwha Plains Water Storage Project Feasibility Study. This Study will support a decision about whether, or not, a water storage option for the Ruataniwha Plains is feasible and commercially viable. This contribution will be matched by the Hawke's Bay Regional Council. When combined with the investment in the pre-feasibility stages already completed, the Project's total investment is \$4.8 million.

The completed feasibility study will enable the Hawke's Bay Regional Council to decide whether or not to proceed with development of a storage dam on the Makaroro River that would provide for up to 22,000 hectares of irrigation in Central Hawke's Bay while also improving water quality and summer flows in the Tukituki River and its tributaries.

Further information on the IAF is available on the MAF website: www.maf.govt.nz

Electricity Market Review 2010-11

The Electricity Authority has released the first of what will be annual market performance assessments *Electricity Market Review 2010-11*. As noted in the review, the purpose of producing these reviews is to highlight important events and trends during the year and to summarise the work of the Authority in monitoring and facilitating market performance.

Electricity generation and distribution is a key area of focus from a national infrastructure perspective and we will be working closely with this sector in achieving the outcomes of the Plan.

The *Electricity Market Review 2010-11* can be downloaded from the Electricity Authority website www.ea.govt.nz

Resilience and the Challenge of New Zealand's Geography

State Highway 3 (SH3) through the Manawatu Gorge has been closed since a large slip 17 October 2011. More than 80,000 cubic metres of soil and rock fell from the hillside, closing a major transport route and forcing vehicles to use less suitable alternatives. With the road not likely to be open until the middle of the year, the slip has highlighted the impact our geography can have on important freight routes. Weekly updates on the slip are posted on the NZTA website.

www.nzta.govt.nz



State Highway Traffic Volumes

The State Highway Traffic Volume Indexed growth measures the change in the yearly average traffic volume compared to 1989 when systematic traffic data records begun.

- ▶ 2011 All Vehicles - There has been a decrease of 1.2% in the all vehicles index, compared to 2010. The 2011 data shows with an overall increase of 67% since 1989.
- ▶ 2011 Heavy Vehicles - There has been a decrease of 1.0% in the heavy vehicles index, compared to 2010. The 2011 data shows with an overall increase of 108% since 1989.
- ▶ This traffic data is gathered from 104 telemetry sites across the country that are monitored 24/7.

www.nzta.govt.nz/resources/state-highway-traffic-growth/index.html

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UK Infrastructure Plan

On 29 November, 2011, Infrastructure UK released the latest version of the UK's National Infrastructure Plan (UK Plan). The Plan contains similar underlying principles to the New Zealand National Infrastructure Plan (NZ Plan) but diverges to include an "infrastructure pipeline". The pipeline details over 500 projects, totalling in excess of £250b in infrastructure investment. A new Cabinet Committee, chaired by the Chief Secretary to the UK Treasury, will provide leadership in the implementation of this Plan.

Forty of the UK Plan's projects have been identified as key areas of infrastructure investment and are designated as priority projects. Priority projects were recognised based on three main criteria:

- ▶ Potential contribution to economic growth (enable productivity and innovation)
- ▶ Nationally significant investment that delivers substantial new, replacement or enhanced quality, sustainability and capacity of infrastructure, and
- ▶ Projects that attract or unlock significant private investment.

The majority of priority programs and projects are in the transportation sector, specifically road and rail, although there is some discussion on communications and energy projects. The UK Plan expects significant progress on the priority projects within the next three years.

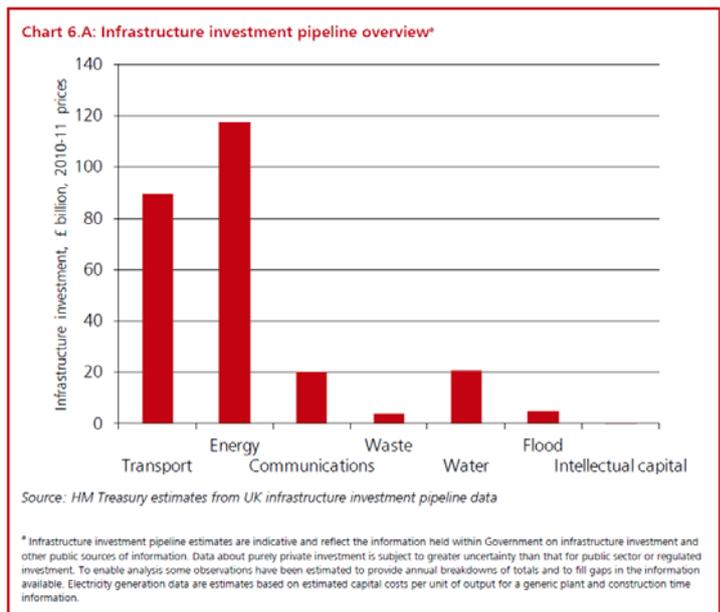
Similar to the NZ Plan, the UK plan identifies and discusses five key infrastructure sectors. However, it differs by considering intellectual capital and environmental sectors (which includes water supply), but not social infrastructure.

The UK Plan reviews the recent trends in service levels across key infrastructure networks, using performance and cost indices as common measures to allow for some comparison. In addition, it uses a number of indicators which are specific to the individual infrastructure networks, eg, average broadband speed (Mbps). Sector performance is compared against international benchmarks such as the performance of comparable OECD countries.

Although the UK Plan differs from the NZ Plan in using a "pipeline" approach, it describes many of the same underlying principles: coordination, resilience, alternative funding mechanisms, robust investment analysis in decision making, and improvements in regulation and consenting.

Alongside the UK Plan, The Scottish Government has also released an infrastructure plan. Titled *Infrastructure Investment Plan 2011*, it sets out why the Scottish Government invests, how it invests and what it intends to invest in up to 2030 by sector.

Links to both the UK and Scottish Government Infrastructure Plans are on our website.



Upcoming events

- ▶ Irrigation NZ conference, Timaru, 2-4 April, www.irrigationnz.co.nz/events/conference/
- ▶ NZ Wind Energy Conference and Exhibition, Hamilton, 2-4 April, www.nzwec.com
- ▶ New Zealand Transport 2012, Wellington, 11-12 April, www.informa.com.au/nztransport
- ▶ INGENIUM Conference, Rotorua, 21 – 23 June, conferenceteam.co.nz/ingenium2012/
- ▶ Local Government New Zealand Conference, Queenstown, 15-17 July, www.conference.co.nz/lgnz12
- ▶ Building Nations Conference, NZCID, Wellington, 21 – 22 August, www.nzcid.org.nz/buildingnations.html
- ▶ WaterNZ Annual conference, Rotorua, 26 – 28 September, www.waternz.org.nz/annualconference_current.html