



NATIONAL INFRASTRUCTURE UNIT

# Infrastructure 2013

## National State of Infrastructure Report



# Introduction and publication details

## Introduction to this report

The 2013 National Infrastructure Report is the second annual “State of the Nation Report” the National Infrastructure Unit (NIU) has prepared. Producing an annual report was a commitment made in the 2011 National Infrastructure Plan (the Plan). The purpose of this report is to look at progress and happenings over the past year, identifying key areas of progress against the outcomes and principles of the Plan. The report also briefly looks at some of the outstanding opportunities and challenges ahead and identifies the priority areas for focus from a Plan perspective. Building on the development of a more robust evidence base, the report also includes a short numbers section where using the ‘Pressure – State – Response’ framework, we highlight some of the data and metrics.

The format of the report is similar to the 2012 report and the Plan with a separate page on each infrastructure sector and special reports on Auckland and Christchurch.

## National Infrastructure Unit

Located within The Treasury, the NIU has the overall responsibility for the Plan, working with the various agencies responsible for the different infrastructure sectors and ensuring a coordinated work programme is in place to deliver the Plan’s vision. The NIU has a particular focus on the national perspective, looking across the different infrastructure sectors at the networks and interdependencies between them. The NIU recognises the critical role that local government and businesses play in the Plan and has extensive networks throughout the infrastructure community. The majority of the work the NIU does is with the responsible agencies at the policy stage, focusing on the Plan’s principles. The NIU leads a small number of items on the work programme, usually in conjunction with others, and typically where the issues cross infrastructure sectors and involve multiple agencies. The NIU also supports the National Infrastructure Advisory Board and being located within The Treasury, provides advice to the Minister of Finance on spending and policy proposals.

Further information on the NIU, the Plan and the work programme is available at: [www.infrastructure.govt.nz](http://www.infrastructure.govt.nz)

In putting this report together, the NIU acknowledges the contributions and support provided by our colleagues from The Treasury, National Infrastructure Advisory Board, Ministry of Transport, Ministry of Business Innovation and Employment, New Zealand Transport Agency, Department of Internal Affairs, Ministry of Primary Industries, Ministry for the Environment, Land Information New Zealand, Canterbury Earthquake Recovery Authority, Local Government New Zealand, IPWEA NZ, Society of Local Government Managers, BusinessNZ, NZ Council for Infrastructure Development, Water New Zealand and many other infrastructure businesses.



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# Overview from the National Infrastructure Advisory Board

## Overview

The National Infrastructure Advisory Board is pleased to present the 2013 National State of Infrastructure Report.

Infrastructure is fundamentally important to economic prosperity and improving living standards for all New Zealanders, and it is pleasing to see that a year on since the last National State of Infrastructure Report, progress has been made across all five sectors: transport, telecommunications, energy, water, and social infrastructure. Of course, New Zealand continues to face challenges to its infrastructure; all forms of infrastructure are long-term investments, and change does not come about easily or quickly. Further developments in our infrastructure will require a wide range of cross-cutting issues to be addressed.

## The year - issues and progress

The Board has discussed many of these issues over the past year, and will continue to push for progress. Some of the issues and areas of progress we have seen over the past year include:

There have been some improvements to **planning legislation** but nothing driven from a ground up and fresh start perspective. The misalignment and duplication of planning legislation hinders development and adds significant cost. We hope that the recently announced resource management reforms that will require councils to work together on a single plan and introduce a national planning template will help improve this.

**Demand management** is often discarded as inappropriate as it is thought of narrowly in terms of pricing and user pays. This is overly simplistic and misses out a lot of the potential demand management offers. As it is crucial that we both increase and decrease demand on our infrastructure, to ensure we are getting the best possible value from it, we have just published a discussion document to highlight the excellent examples of demand management already delivering in New Zealand. It is time to be bold and have an objective debate about the relative merits of demand management. This discussion document is the start of this process. We challenge industry to consider utilising these tools more to drive value from our assets.

We have continued to follow with interest the development of the **Capital Intentions Plan**, which will be published later this year. From a private sector perspective, this view of infrastructure intentions is critical to forward planning. The progress of the **Public Private Partnerships** (PPP) is a real achievement, as is the progression of the first transport PPP (Transmission Gully) and the expanding use of the Better Business Case methodology.

More concerning is the market feedback from the rebuild of the vertical infrastructure in **Christchurch**. We are on track for sub-optimal outcomes unless coordination can be improved and a well sequenced pipeline of prioritised projects is developed and available. In contrast, the horizontal infrastructure rebuild is a real highlight, notwithstanding questions over the standard it is being built to and who should pay for this.

**Sustainability and resilience** continue to feature in conversations and come through in investment decisions. There is a need to avoid over-investment and over-engineering but also ensure the required levels of service can be delivered following disruption, as well as having the flexibility to meet changes in demand. A national picture of resilience is currently being compiled.

As we reported last year, we see a strategic disconnect within the Auckland Plan. Disappointingly, the pre-draft Auckland Unitary Plan and the Integrated Transport Plan show this disconnect still exists. We expect to see an **Auckland Transport Plan** where the investment is timely, affordable, delivers real benefits and is well integrated with housing and land use.

It is great to see the progress being made on productive water and the **freshwater policy** programme, with a note of caution that there is a lot of work still to be done. In the meantime, irrigation continues to expand, posing a number of challenges, while becoming more efficient.

Finally, it is really encouraging to see the developments underway in the **Local Government** sector, especially the plans for the Centre of Excellence, the range of new initiatives to deliver a stronger evidence base for **Urban Water**, and the innovation and improved investment analysis that are coming out of discussions and management of roading and maintenance.

### About the National Infrastructure Advisory Board

The National Infrastructure Advisory Board consists of members from the private sector and outside central government. It was established to advise the National Infrastructure Unit and the Minister for Infrastructure and to act as a conduit between infrastructure stakeholders and the government. The Board provides advice on infrastructure project appraisal, capital asset management issues and the development of the National Infrastructure Plan and interim publications.

In the past year the Board has twice accompanied the NIU around New Zealand's regions with workshops on Performance indicators and Trend and scenario modelling, and has continued to connect the NIU with local interest groups.



## Looking ahead

Many of these topics are on-going and will continue to be areas of focus for the Board. In the upcoming year, we would particularly like to see an increased depth of discussions on demand management and also on the future demands on New Zealand infrastructure and the best way to meet these demands. The costs and opportunity cost are so large that not being bold and not having these discussions has a significant consequence. For example, being bold may mean having a national discussion about our future transport requirements and the benefits of a national ports strategy.

The evidence base that the National Infrastructure Unit is due to publish in early 2014 will provide opportunities for these discussions to happen.

We would also expect to see tangible and measurable progress on the infrastructure plans for our two largest cities – Auckland and Christchurch. The costs involved are once in a lifetime investments and we cannot afford to be uncoordinated and making poor decisions.

## Purpose of this report

We hope that this Report provides an interesting and useful update on the state of New Zealand's infrastructure, and upcoming developments; however, it is not an end product in itself, but an update on the journey towards efficient and effective infrastructure throughout New Zealand, enabling economic growth and increased productivity. This report highlights areas that are of interest or in particular need of attention, and we welcome feedback on these.



**Dr Rod Carr**

Chair, on behalf of the National Infrastructure Advisory Board

### Members of the National Infrastructure Advisory Board

**Dr Rod Carr** (Chair) is Vice-Chancellor of the University of Canterbury and a former managing director of Jade Software Corporation. Dr Carr Chairs the Reserve Bank of New Zealand Board and has held senior executive roles with the Reserve Bank, BNZ and NAB. Dr Carr is a director of the Canterbury Employers' Chamber of Commerce, Lyttelton Port Company Ltd and Taranaki Investment Management. He is a trustee of the Christchurch Earthquake Appeal Trust.

**Lindsay Crossen** (Deputy Chair) comes from a civil engineering background. He has had an Executive leadership role in engineering infrastructure over the past two decades, both in local government and engineering contracting. He is a Distinguished Fellow of IPENZ and a Fellow of NZIM. Lindsay has been on the Board since 2009 and is a member of the CERA Risk and Audit Committee. He is a Director of Lyttelton Port Company Ltd, NZ Institute of Highway Technology, Crown Irrigation Investment Limited and Chairman of the NZ Board of Engineering Diplomas.

**Matthew Birch** is a Wellington-based consultant who has spent considerable time working in Hong Kong, Singapore and Sydney with a focus on foreign exchange, investment lending, corporate and government bond trading, and a wide range of other capital markets services.

**Margaret Devlin** is Chair of Equity Partners Infrastructure Company Ltd (EPIC: a New Zealand-based infrastructure fund), Chair of the Institute of Directors (Waikato Branch), Deputy Chair of WEL Networks Ltd (and Chair of the Audit Committee) and director of City Care Ltd. She has particular involvement with issues relating to water.

**Kathryn Edmonds** is a Wellington-based former practising barrister and solicitor, and currently holds the position of Environment Commissioner for the Environment Court (first appointed in 2004). Ms Edmonds previously worked for Opus International Consultants.

**Edward Guy** is based in Arrowtown, where he is the founder and Managing Director of the infrastructure consultancy Rationale Ltd. He provides advice over a wide range of Crown, local and privately own infrastructure assets. His core capability sits within the local government, water and transportation sectors.

**Dr Terence Heiler** is an engineer with many years' experience as a consultant and engineering researcher (NZAEI Lincoln College Director). He has management and governance experience including seven years as a director of Landcare Research Ltd.

**John Rae** has been involved in banking in New Zealand and London in various treasury and capital market roles and has a background in private equity, venture capital and corporate finance transactions. Mr Rae is a former Managing Director of the Stevenson Group and is currently Chairman of the New Zealand Council for Infrastructure Development.

Previous Board members include **Dr Arthur Grimes** (2009 – 2011) and **Alex Sundakov** (2009 – 2013).

# Overview from the National Infrastructure Unit

Two years on from the Plan, progress has been made across a number of sectors and on the overall work programme building towards the next iteration of the Plan in 2015. Significantly, a real highlight has been the developing relationships across central government, local government and the private sector – with strong engagement and collaboration to better understand the current state of our infrastructure and New Zealand's future infrastructure needs. This bodes well and needs to be a key priority to maintain and build on.

Progress has been made across both facets of the work programme – the Plan development and workstreams; and the infrastructure policy programme.

## Plan development and workstreams

In order to deliver on the expectations of the next iteration of the Plan, the NIU has developed a work programme around a 'Pressure-State-Response' model. This model provides a useful framework for considering some of the questions that drive to the heart of a long-term infrastructure plan:

- » Pressure – future infrastructure demands and drivers of this demand
- » State – the current state and performance of our existing infrastructure
- » Response – the policy, regulatory and financial settings

The work programme is by necessity multi-year, with the initial focus on building the evidence base around the 'Pressure' and the 'State' questions. This lack of evidence was a major constraint in producing the 2011 Plan and a barrier to holding effective conversations on how we are placed and where we need to respond differently.

Plan workstreams that contribute to building this evidence base are the Performance indicators (State); Trends and scenario modelling (Pressure); Resilience (Pressure and State); and the delivery of the first ten-year Capital Intentions Plan (Response).

Good progress has been made over the past year on these workstreams, sector workshops were held in December 2012 to refine the **performance indicator** framework accompanied by the commissioning of Covec and BECA to develop the indicators further. NIU has been coordinating across agencies to finalise the indicators and undertake the initial data collection and analysis.

A second series of sector workshops were held in June 2013 to develop the **Trends and scenario modelling** workstream, facilitated by members of the National Infrastructure Advisory Board. With over 130 people involved, the workshops have provided a solid platform to refine the significant trends and identify the key scenarios for further development.

The **Resilience** workstream has remained a priority, particularly in coordinating a large number of post-Christchurch projects across government agencies. A focus for us has been better understanding the interdependencies across the different sectors. Excitingly, we have seen a number of agencies look to implement the lessons from Christchurch and ensure that resilience is a key consideration when planning and operating infrastructure. The joint resilience operational policy project across NZTA, Kiwirail and Transpower is a good example.

We are on track to deliver the first **10-year Capital Intentions Plan** before the end of the year. Being able to publish this data reflects the major improvements that have been made across government agencies in the overall management, planning and allocation of capital.

All of these workstreams will come together early in 2014 when we will release the first cut of a collated evidence base and the initial story it depicts. This will provide the basis for the 2014 work programme – focussing on digging deeper into and refining this story, and starting discussions on the optimal 'Response'.

To advance discussion and widen the debate around the Response theme, we will shortly post an initial Demand Management discussion document from the Board on our website, including a number of examples. It is clear already that the appropriate 'Response' to meeting New Zealand's future infrastructure demands will need to be a combination of both demand side and supply side strategies

## Infrastructure policy programme

Led by the social and the urban water sectors, the past year has seen significant progress made against some very large policy work programmes. Many of the challenges identified in the Plan remain but it is pleasing to see the progress that has been made.

With the **social** sector including over \$108bn of assets, including schools and hospitals, there has been a sustained Capital Asset Management programme that is starting to deliver considerable benefits. These include a growing evidence base of how effectively capital is being used, a more robust multi-year allocation process involving the Better Business Case model, the consideration of further potential PPP projects following the first two pathfinder projects – the Hobsonville Schools and the Wiri Prison, new procurement rules and guidelines, and an emerging discussion around the assets we own and why. While there is still a long way to go, the progress made to date is really encouraging. Investment analysis and accountability and performance will continue to be a focus.

In the **urban water** sector, a number of projects have been launched that are aimed at improving the information base and enabling data to be aggregated and compared across local authorities. The increased level of analysis able to be done from the 2012-22 long-term plans shows some early benefits of these changes but highlight the importance of delivering the new projects. Of particular note is the ownership of the challenges demonstrated by the sector, exemplified by the work of Local Government New Zealand and their recently started 3 Waters project. A number of reports have been completed, including those by the Productivity Commission and the Infrastructure Efficiency Expert Advisory Group, undertaking valuable analysis and contributing to the discussion. Delivering the expanded evidence base, strengthening governance (decision-making) and reducing regulatory overlaps and compliance costs are key challenges to continue focussing on. Coordination across both water sectors remains a challenge.

With the continued progress of the freshwater reform programme and the next set of Resource Management Act reforms, a good base and direction has been set for **productive water**. Delivering these reforms and the following stages on allocation issues, including permit duration, transfer and trade are important for the Plan outcomes. Further investment is being encouraged through the Irrigation Acceleration Fund with over \$18m allocated to date. Crown Irrigation Investments Ltd (CIIC) has been established, following the Government's plan to invest up to \$400 million in irrigation schemes. Robust investment analysis by CIIC will be critical.

With the scale of spending and the significance of the projects, the **transport** sector has been highly visible over the past few years and this is likely to continue. The passage of the Land Transport Management Act in June has helped streamline the planning and funding framework. The 3 + 3 + 3 increases to fuel excise duties and road user charges helps to align what users pay with the true cost of providing the infrastructure. The commitment to fund the major Auckland transport projects poses some key challenges, both in terms of maximising the benefits of the projects to the overall Auckland transport network, and the timing and funding of the projects amidst a wider transport budget under pressure. The Upper North Island Freight Group continues to seek ways to better coordinate freight traffic to and from our major ports.



The Ultra-fast Broadband and Rural Broadband Initiatives continue in the **telecommunications** sector and preparations are well underway for the auction of the 700MHz spectrum. Discussion documents have been released on the reviews of the Telecommunications Act and the Telecommunications Services Obligations – it will be critical that these reviews strike the right balance between competition and the certainty to invest, and provide flexibility for technology progression.

The **energy** sector is facing some interesting dynamics with the flat outlook for electricity demand, increased certainty over gas supply as evidenced by the Methanex expansion, and progress being made on delivering a sufficient and a secure supply into Auckland. A review of oil security has been completed and a similar review is starting for gas. The regulatory environment is settling down for electricity with the default price path for electricity lines businesses in the process of being confirmed. A watching brief will be maintained on this sector and opportunities for improved utilisation of energy infrastructure.



Following extensive discussion with stakeholders, analysis of the latest international infrastructure plans, and discussions with Ministers and the National Infrastructure Advisory Board, the NIU has identified five key expectations that the next iteration of the Plan, due in 2015, needs to deliver on:

- » Reinforce the current strategic direction (the vision and outcomes)
- » Mature the debate around future needs and responses
- » Be a collective infrastructure plan by NZ Inc across the private sector, central and local government
- » Have increased specificity about the action plan and future investment programme required to achieve the strategic direction
- » Be underpinned by a more robust evidence base of future need and current performance

The two facets of the work programme are focussed on meeting these expectations, recognising a key purpose of the Plan is to improve investment certainty for businesses by increasing confidence in current and future infrastructure provision.

**Auckland**, driven by the projected growth outlook and the scale of investment planned, continues to be a particular focus. Good progress has been made on developing the proposed Auckland Unitary Plan (AUP), currently being consulted on. The AUP sets out how Auckland will be designed and developed for the future. It is fundamental that the AUP enables the effective coordination of land-use and infrastructure planning, facilitating the efficient allocation of land and infrastructure. While commending the Auckland Council on the work to date, we see that the AUP still requires a lot of work to deliver the optimal outcomes and integrate with the transport plan. A major announcement was the Government's commitment to the next generation of transport projects, although funding and timing details are still to be worked through. The Auckland Council's Consensus Building group has provided a good basis for further discussion on alternative sources of funding.

In **Christchurch**, the rebuild of the horizontal infrastructure is proceeding at pace and as the rebuild of the vertical infrastructure kicks off, coordination will be critical. There is not sufficient capacity in the national construction sector to handle all the projected activity unless it is sensibly sequenced. Market feedback is saying that to date, this is an area needing improvement. Work is underway across CERA, MBIE and Treasury on addressing this.

## Looking forward

As highlighted above, the NIU will be focussed on working across the sector to deliver the evidence base in early 2014. We expect this to enable a further depth to the conversations that are happening and to help inform the policy work underway. Investment analysis and coordination are still key principles that will be a continued focus along with an increasing willingness to discuss accountability and performance. Perhaps most significantly, we will be looking to see a maturing and shifting debate on the 'Response' to our future infrastructure demands – both using our existing assets more effectively and exploring alternative sources of funding where there is a robust case for new investment. It is the nature of infrastructure that it is designed to meet peak demand. Measures to smooth that demand and reduce the peak can delay the need for new investment and increase the productivity of our infrastructure.

In summary, the year has seen progress on both aspects of the Plan work programme. The challenges remain but we see things moving in the right direction with good collaboration and relationships developing, resulting in a strong willingness to engage in the hard discussions. Alongside the work programme and the developing evidence base, this bodes well as we look towards the next Plan in 2015.

Finally, a big thank you to the National Infrastructure Advisory Board for the challenges and support they have provided, to the agencies that have engaged with the Plan and shown a willingness to share and evolve thinking, and to the infrastructure sector peak bodies and wider sector that are driving innovation and supporting the Plan work. Thank you.



David Taylor  
Manager NIU

## The role of Government

Government has a number of diverse roles across the spectrum of infrastructure types. In some areas, government acts as a regulator of contestable markets, while in others it acts as infrastructure funder and/or owner.

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.

Government plays a supportive role in providing the legal framework for markets to operate efficiently so that providers can respond to changing preferences and allocate scarce resources over time.

Any government needs to take care when considering direct investment but in certain circumstances, a government can play a direct role through intervening in a market, funding services or owning infrastructure. Government has such a role where:

- » there is an unambiguous market failure (eg, where the private sector is unwilling to provide services). In some circumstances, the nature of the infrastructural goods and services are such that a private market cannot flourish (these circumstances are generally where the infrastructure has the characteristics of "public goods"), or
- » distributional and equity objectives are demonstrably better achieved through in-kind provision than through income support or other targeted measures.

Given the downsides and risks of government provision, such 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.



# The context and key points of the 2011 National Infrastructure Plan

Infrastructure refers to the fixed, long-lived structures that facilitate the production of goods and services and underpin many aspects of quality of life. Infrastructure is made up of physical networks, principally transport, water, energy, communications and social assets.

## Infrastructure context

- » Infrastructure forms the backbone of all New Zealand communities, and every New Zealander needs a greater level of confidence about infrastructure provision, costs and service levels.
- » Infrastructure is an important component of the Government's strategy for achieving economic growth – it provides the supporting networks demanded by a growing economy and it catalyses growth by creating new economic opportunities.
- » Local government is a significant owner of transport, water and social infrastructure. The private sector plays a critical role as investors in economic infrastructure and providing skills and expertise in planning and design, construction and asset management.
- » High-quality infrastructure attracts industry and business to New Zealand. A major focus of the Plan is on providing businesses with greater certainty and confidence about current and future infrastructure provision.
- » Infrastructure assets are typically long-life, costly and can take many years to plan, commission, build and bring into service. Projecting the future demand for infrastructure is critical to ensuring that the right level of investment is made in the right infrastructure at the right time.
- » Historically, investment in New Zealand's infrastructure has been lumpy with significant periods of under-investment.
- » In the latest World Economic Forum Global Competitiveness Report (2013/14), New Zealand ranked 27th out of 148 countries for the quality of our infrastructure, an improvement over 2012/13 where we rated 30th. However, further improvement is required as the 2013/14 report still rates "Inadequate supply of infrastructure" as the most problematic factor for doing business.

The NIU works with other government and private sector agencies to deliver the outcomes of the Plan, with the overall implementation approach a mixture of engagement and dialogue, developing partnerships, projects, research and reporting.



*The Plan is a strategic, future-focused document that places infrastructure in the context of economic and population growth. It seeks to provide common direction for how we plan, fund, build and use all economic and social infrastructure. It covers the transport, telecommunications, energy, water and social infrastructure sectors.*

VISION

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

*There are two outcomes the Government is looking to deliver through the Infrastructure Plan:*

OUTCOMES

### Better use of existing infrastructure

... Getting more from the current stock of infrastructure is about looking at how assets are used, identifying opportunities for improved management, finding better ways of managing demand and ensuring users' expectations are understood.

### Better allocation of new investment

New Zealand needs to be smarter about investing in new infrastructure. The Government will prioritise investment where there are adequate returns and these are underpinned by robust analysis through a well understood and transparent process.

## Key challenges identified in the Plan

- 1 Infrastructure investment is well analysed at the project level but there is insufficient consideration of how assets function as a network or address potential changes in demand.
- 2 New Zealand's infrastructure is vulnerable to outages, including through natural hazards, and we have insufficient knowledge of network resilience at a national level.
- 3 The volatile nature of infrastructure funding creates a lack of certainty and continuity for infrastructure providers. There is insufficient use of the tools available to generate revenue and manage demand.
- 4 The performance of infrastructure assets is not transparent. It is not always clear who is accountable for decisions.
- 5 The regulatory environment does not support long term infrastructure development and contributes to unnecessary costs and uncertainty.
- 6 Poor coordination between different infrastructure providers leads to suboptimal outcomes. Decisions over land use and infrastructure investment could be better integrated.

## Guiding principles from the Plan

### Investment Analysis

Investment is well analysed and takes sufficient account of potential changes in demand.

### Resilience

National infrastructure networks are able to deal with significant disruption and changing circumstances.

### Funding Mechanisms

Maintain a consistent and long term commitment to infrastructure funding and utilise a broad range of funding tools.

### Accountability and Performance

It is clear who is making decisions, and on what basis, and what outcomes are being sought.

### Regulation

Regulation enables investment in infrastructure that is consistent with other principles, and reduces lead times and uncertainty.

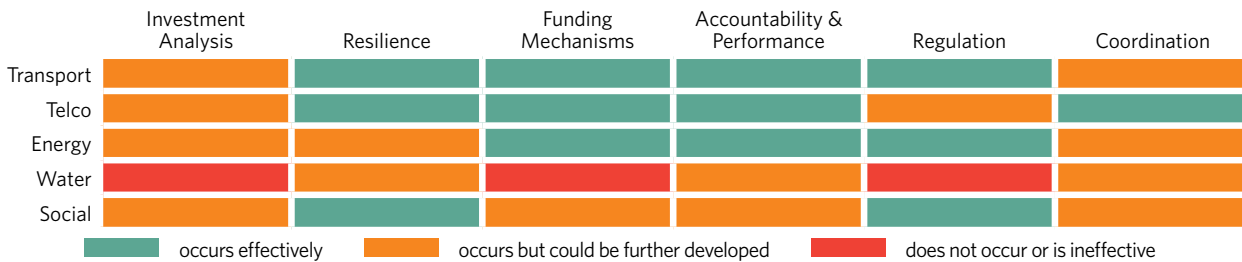
### Coordination

Infrastructure decisions are well coordinated across different providers and are integrated with decisions about land use.

## The Plan journey

2009	National Infrastructure Unit and National Infrastructure Advisory Board established.
2010	First National Infrastructure Plan released, providing the context and a snapshot of what infrastructure we have, settings, roles and responsibilities, immediate infrastructure priorities and a sound set of principles to consider for future investment.
2011	Second National Infrastructure Plan released, setting out a strategic vision and direction, the two key outcomes and the guiding principles that inform our advice and thinking. This Plan also included a multi-year work programme that we are part way through delivering.
2012-13	<p>Delivery of the multi-year work programme based on a 'Pressure-State-Response' model.</p> <p>The first phase of the work programme has been focussed on building the evidence base around the 'Pressure' and the 'State' questions. Plan workstreams that contribute to building this evidence base are the Performance indicators (State); Trends and scenario modelling (Pressure); Resilience (Pressure and State); Demand management (Response), and the delivery of the first ten-year Capital Intentions Plan (Response).</p> <p>These workstreams will come together early in 2014 in the first collated evidence base and the initial story it depicts.</p>
2014	Using the collated evidence base and initial story as a base for more in-depth discussions to both refine the story and develop an agreed and prioritised 'Response' (action plan). Focussing on the 'Response', 2014 will also complete the multi-year work programme including the Alternative funding workstream.
2015	This stage of the Plan journey will culminate in capturing the refined story and prioritised response into a New Zealand National Infrastructure Plan.

## Traffic lights assessments of each sector as they appeared in the 2011 Plan





# Report on three-year action plan (2011 to 2014)

Action	Progress report
1. Central government will commit to developing and publishing a 10 year <i>Capital Intentions Plan</i> for infrastructure development to match the planning timeframe required of local government.	On track to for publication in December 2013, the first 10-year Capital Intentions Plan aims to bring visibility of projected spend across central and local government and the private sector.
2. Increase understanding of and encourage debate on the use of demand management and pricing in infrastructure sectors.	Further work on understanding this complex area in the New Zealand context has been done. The National Infrastructure Board and NIU have just released a think piece/discussion document to encourage further debate. This will be a significant focus in 2014 as part of the 'Response' discussions.
3. Improve access to information on current infrastructure performance to create certainty about when, where and how infrastructure development is occurring, including consideration of whole-of-life costs.	Significant progress has been made on these actions, including regional workshops and research commissioned from Covec/Beca (available on the NIU website). The framework is currently being populated with the available data and the initial story being developed of what the data is telling us. This will form the basis of the evidence base due for publication in January 2014.
4. Develop performance indicators for each sector on the stock, state and performance of central and local government infrastructure assets as well as for those managed by the private sector.	
5. Work with regions to develop more strategic infrastructure planning at a macro-regional level. Consider where adoption of spatial planning would produce optimum outcomes, particularly in metropolitan areas.	The announced changes to the Local Government and Resource Management Acts facilitate the use of more streamlined planning processes and better coordinated plans within and across regions. Further time is needed to assess the Auckland and Christchurch situations to identify learnings that are of value for wider rollout and how best this is done.
6. Improve scenario modelling to more accurately project likely infrastructure investment requirements from the short to very long term.	The NIU with partner agencies are well advanced on developing scenario modelling and trends analysis to inform future infrastructure demands and drivers of this demand – the 'Pressure' component of the framework. Regional workshops were held in June 2013 and a report on these is available on the NIU website.
7. Use lessons from Christchurch to significantly enhance the resilience of our infrastructure network. This may include developing improved seismic design standards, reviewing organisation culture to improve performance in emergencies and identifying ways to quickly return services to full operational capacity.	A key priority over the past year, this workstream has seen increased coordination and consideration of resilience across central and local government. This has resulted in a number of specific projects and changes in agencies planning and operations. Resilience has also been a major focus of a number of research projects and work is underway on better linking these to policy and decision makers. The NIU is shortly to publish a national resilience picture to consolidate work to date.
8. Explore alternative sources of funding and implement funding tools that can be used to manage the current portfolio more effectively.	This action will be a major focus for 2014 as part of the 'Reponse' discussion. This action also has links into the Demand Management action above (action 2) and the NIU would like to see the further development and discussion following the work of the Auckland Council's Consensus Building Group.

well advanced just starting not yet started

# Sector snapshots

Sector	Overview of current status
Transport	» The significant investment programme in transport continues, along with increasing coordination and a developing evidence base to underpin discussions. Balancing supply side interventions with work to optimise the existing network, and ensuring the sustainability of the funding system, are key to meeting future challenges.
Telecommunications	» The 700MHz spectrum has been prepared for auction and discussion documents for the two telecommunications reviews have been released. Continuing to ensure that the UFB and RBI network deployment programmes are on track remains a focus.
Energy	» The energy sector is looking well placed to meet future demand with a positive outlook on gas supply, a medium term projection of low growth in electricity demand, a strengthened transmission grid, and a number of consented generation projects ready to be built when required.
Rural water	» The next stage of the freshwater reforms has been announced, laying the foundations for consideration of allocation issues that impact on the certainty required for continued investment. In the paddocks, there has been a sustained increase in irrigation and most significantly, using methods that are more efficient and better utilise the water resource.
Urban water	» The Better Local Government work programme has continued to progress, including a large number of initiatives to improve the range and quality of information available to communities. Local authority planning processes will be streamlined and the sector is starting to focus on increased capability.
Social	» The Social infrastructure sector has come a long way, especially in areas of asset management, capital planning, procurement and the allocation of capital. There are further opportunities for the pace and scale of improvement to be stepped up, including more fundamental questions of how best to utilise the whole balance sheet and consider questions of ownership.
Auckland	» Good progress has been made on implementing the Auckland Plan and the development of the proposed Auckland Unitary Plan. Announcements have been made on housing and the next generation of transport projects, but work remains on funding these and ensuring integration of land use and transport, as well as the most effective utilisation of existing and the provision of new infrastructure.
Christchurch	» The focus has shifted from recovery to rebuild with the central city cordons down and plans well underway for the rebuild. With the horizontal infrastructure programme proceeding at pace, there is a real need to ensure a well integrated and sequenced construction programme of work.

# Transport

## The year

Economically, the transport network plays a critical role in shifting goods to our export ports, delivering goods from suppliers and delivering workers to businesses. Recognising this, the Government has continued to invest heavily in the transport sector. At \$12.28bn, the 2012-15 National Land Transport Programme is the largest ever.

Achieving value for money is also a key focus. One of the most far-reaching initiatives has been the report of the Road Maintenance Taskforce published in October 2012. Three of the four areas for improvement the taskforce identified were:

- Improved procurement practices
- Improved prioritisation and optimisation through level of service differentiation
- Consistent introduction of enhanced asset management practices.

The road controlling authorities of New Zealand have combined to form the Road Efficiency Group, to implement the findings from the Road Maintenance Task Force. The group is working on: a one network classification – building off the state highway classification system and best practice from local government; investigating collaborative procurement opportunities; and sharing asset management experiences to develop 'best in practice' procedures.

Implementation of the report has driven a number of changed and innovative practices across the country. One example we have previously profiled in our Infrastructure Update is the Southland District Council and their use of an Economic Network Plan – analysis of the roading network based on land use. Together, these new practices and analyses are extending the debate around the appropriate responses to future demand, and connecting into the levels of service the infrastructure needs to provide. This leads to greater accountability and performance, and more robust investment analysis.

These changes are driven by new and different information. The Freight Information Gathering System (FIGS) is progressively providing a system-wide quarterly report on freight movements into, out of and around New Zealand. In the past year, the FIGS project has expanded to include information on freight movements from all ten container ports, rail movements, and New Zealand import-export data. Bringing together data from both the private and public sectors, the information provided by FIGS will allow infrastructure and planning decisions by companies, central and local government to be based on robust, reliable and consistent data.

Coordination has been a key theme of the Plan and the FIGS project demonstrates the potential gains. Similar results are also expected from the three regional freight projects underway covering the upper North Island, central North Island and South Island. Engaging the private sector, local government and central government, the freight work is already showing dividends in better understanding the future demands on the transport network and delivering a coordinated response that cuts across traditional regional boundaries.

The past year has seen continued streamlining of the regulatory process. This builds on the new board of inquiry process that was used for Waterview, Transmission Gully and the Kapiti Expressway.

## Overview

*The significant investment programme in transport continues, along with increasing coordination and a developing evidence base to underpin discussions. Balancing supply side interventions with work to optimise the existing network, and ensuring the sustainability of the funding system, are key to meeting future challenges.*

### Highlights from the past year

- » Ongoing investment and progression of significant transport projects, including the Roads of National Significance, the 10-year KiwiRail Turnaround plan and urban commuter networks.
- » Transmission Gully PPP preferred bidders selected.
- » Upper North Island Freight Story completed.
- » The Land Transport Management Act was amended to simplify the planning and funding framework for land transport.
- » The implementation of the Road Maintenance Taskforce recommendations has commenced.
- » Progress on investigating the viability of a ferry terminal at Clifford Bay.
- » The Government has issued its response to the Productivity Commission's report on freight and begun implementing recommendations – including expanding the Freight Information Gathering System (FIGS).
- » New funding frameworks were introduced for Maritime NZ and the Civil Aviation Authority to ensure that users meet the full costs of the services they receive.
- » The Commerce Commission reviews of information disclosures on airport pricing were completed for Wellington and Auckland International Airports.

### Opportunities/challenges

- » Increasing understanding of the role that transport plays in achieving the BGA growth targets, especially increasing exports from 30 to 40 percent of GDP.
- » Regional transport plans need to take account of intermodal connections, plans or opportunities for changes in use of sea and air ports and the transport implications of proposed changes in land use.
- » Working through the tension about local roads funding. Constrained funding drives the need to better understand levels of service and alternative ways of gaining efficiencies through collaboration.
- » Balance the provision of new or improved transport links with optimising the use of the existing network, especially urban commuter and strategic freight routes.
- » Ensuring that we getting the best value from the investments made in transport. This includes, for example, managing variations in revenue to meet expenditure commitments, developing a better understanding of future transport demand and ensuring that the costs of construction against long-term expenditure pressures including future demand and ensuring the costs of procurement are contained.
- » Developing a common understanding of resilience across the transport sector.

## Looking ahead

As well as continuing the projects discussed above and many other initiatives underway across the different sub-sectors, a key strategic focus for the year ahead will be development of the 2015 Government Policy Statement on Land Transport. Setting out what the Government expects to achieve from investments in land transport, it is for the first time able to include broader national objectives, policies and measures.

The transport sector has been experiencing significant change that has put pressure on the pay as you go funding system. Ensuring that this system operates effectively in the short and long-term is critical for ensuring funding is able to meet the Government's objectives and commitments.

The Auckland Consensus Building Group report released in July and the debate it has generated also provide an opportunity to consider options for funding future investment and how best to optimise the existing network, not just in terms of more supply, but also about the role that demand management tools can play.

## Pressure - State - Response

Rail is an integral part of the transport sector and play a key role in shifting goods to export ports around New Zealand. The performance indicators framework being developed will track the performance of the transport sector as a whole and develop the story around a pressure – state-response framework. As a precursor, some work on rail follows.

The recent history of the state of New Zealand's rail infrastructure is well known. Since the late 1990s, successive owners failed to generate sufficient revenue to cover the long-term capital costs of maintaining the rail network. This resulted in the running-down of physical assets such as track and rolling stock. While deferral of maintenance was effective in the short term, it soon had effects on the reliability of services provided, which meant that key customers sought alternative transport options.

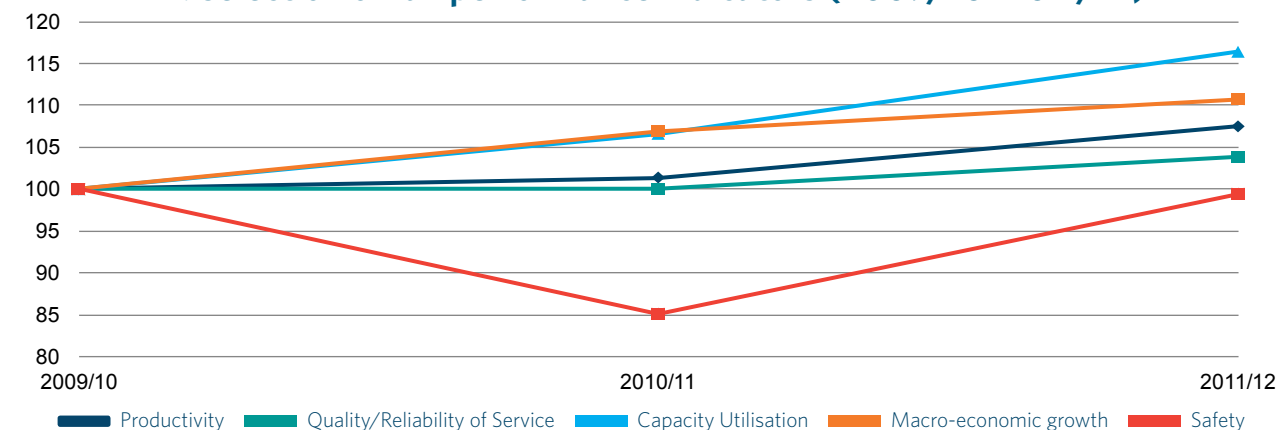
The government bought back the rail network in 2004, purchased Toll NZ's rail and ferry operations in 2008, forming KiwiRail. Since that time, KiwiRail has embarked upon an ambitious programme to reverse the years of under investment through the Turnaround Plan. The Government has supported this through equity injections of \$844 million, and agreements not to collect a dividend. This has enabled KiwiRail to successfully undertake an investment programme involving:

- new locomotives and refurbishment of the current locomotive fleet
- increasing and improving the wagon fleet
- Aratere Cook Strait ferry extension – creating 30 percent more capacity for rail and trucks and improving passenger facilities
- renewals and upgrades of the rail network to improve transit times, remove capacity constraints, improve reliability and continue to bring the national network to a sustainable level.

This has been undertaken within the context of difficult external pressures such as the global financial crisis which has affected demand for import/export and domestic freight services.

As can be seen in the chart (left), based on an index for 2009/10, most rail indicators show a positive trend for the sector. This includes pressure indicators, such as demand and macroeconomic growth, as well as key state indicators, such as reliability and productivity.

A selection of rail performance indicators (2009/10 -2011/12)



Source: KiwiRail Annual Reports, Statistics New Zealand



# Telecommunications

## The year

Fast and reliable telecommunications enable customers to connect with businesses, and connect New Zealand to the world. Beyond a productivity enabler, telecommunications and fast broadband are already shaping how social infrastructure is delivering education, health and justice services.

To deliver this potential, a major focus for the year has been the Ultra-Fast Broadband (UFB) and the Rural Broadband Initiative (RBI). Network deployment of this scale requires a number of implementation issues such as land access arrangements to be worked through. These issues are likely to continue to arise.

Regulation has been a second major focus with the commencement of two reviews:

- Telecommunications Service Obligations (TSO) Review –“the primary objective of the TSO Review is to determine whether there remains a need for TSO protections to ensure the availability and affordability of basic telecommunications services to groups of end-users to whom those services may not otherwise be supplied on a commercial basis or at an affordable price.
- Telecommunications Act Review - The first phase of the review is focussing on the relationship between pricing for the legacy copper network services and pricing for the new fibre network during the transition period until 2020. As part of the first phase of the review, the Government is seeking initial feedback on issues to be considered in the remaining parts of the review.

A third major area of work over the past year has been the restacking of the 700MHz spectrum in preparation for the auction starting in October 2013. This spectrum is likely to be used in the building of fourth generation (4G) mobile networks, which can provide substantial economic benefit to New Zealanders.

Resilience has featured in a number of discussions over the year, highlighting the dependency of many critical infrastructure systems on the ability to communicate remotely and send/receive data. It has also arisen in relation to the diversity of New Zealand’s international connections via our submarine telecommunications cables.

Announcement of a second cable to Australia (Tasman Global Access) and the ongoing investigation by Hawaiki of a further cable with a landing in Northland, have the potential to greatly expand the existing physical route diversity and overall resilience of the international cable system.

Internationally, there is growing interest and attention on telecommunications interception capability and security. A new Bill has been introduced to Parliament to replace the Telecommunications (Interception Capability) Act 2004. The Bill updates interception capability obligations on the telecommunications industry, and introduces a formal framework for network security (from a national security perspective).

## Overview

*The 700MHz spectrum has been prepared for auction and discussion documents for the two telecommunications reviews have been released. Continuing to ensure that the UFB and RBI network deployment programmes are on track remains a focus.*

### Highlights from the past year

- » Infrastructure deployed through the UFB and RBI programmes becoming operational in many areas for the delivery of services to end users.
- » As at 30 June 2013, 26 towns and cities had UFB available with 70% of public schools having fibre, and 33 remote schools connected. Uptake is gathering momentum with a 95% increase in UFB connections in the quarter ended 30 June 2013 over the previous quarter.
- » Preparation for the 700MHz auction and announcement of a rural implementation requirement which, when combined with existing urban implementation plans, mean that 90% of the population will have access to 4G wireless broadband services within 5 years.
- » A greater range of telecommunications services to meet the needs of deaf, speech impaired and hearing impaired people.
- » Commencement of regulatory reviews (Telecommunications Act Review and the Telecommunications Service Obligations Review).
- » International submarine cable announcements: Tasman Global Access submarine cable to Australia from a consortium of Telecom, Vodafone and Telstra; and the Hawaiki Cable proposal to build an internet link between New Zealand, Australia, Hawaii and the US west coast.
- » Digital-switchover is complete in three regions and the final region will be completed on 1 December 2013

### Opportunities/challenges

- » Continued rollout of UFB and RBI including work on addressing impediments to efficient deployment and service uptake for both initiatives.
- » Completing the 700MHz auction successfully.
- » The UFB and RBI deployment programmes, the regulatory reviews, and the spectrum auction together provide the opportunity to improve the telecommunications environment for ensuring it continues to be fit for purpose and flexible for adapting to a world of ever changing technology.

### Looking ahead

As well as the continued implementation of the UFB/RBI roll-outs, the key focus for the next year will be on realising the potential from the spectrum auction and completing the two telecommunications regulatory reviews.

The reviews are critical as they provide the opportunity to take a comprehensive look at the telecommunications framework and the rules that underpin it, and the structure and funding of the Telecommunications Service Obligations. This is important as new technologies become available that enable the opportunity to deliver services more effectively.

## Pressure – State – Response

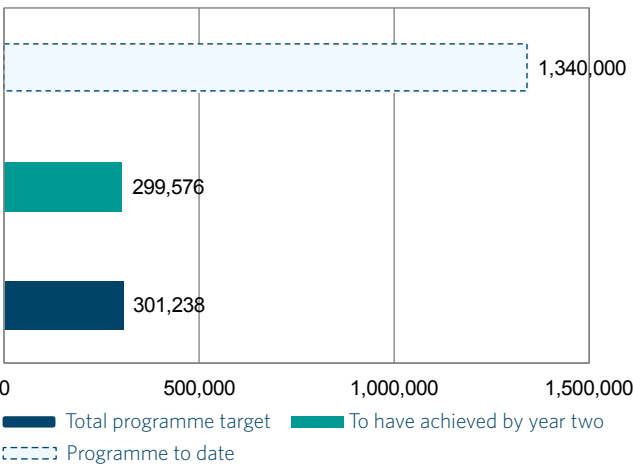
The 2010 National Infrastructure Plan identified broadband as an immediate investment priority, recognising the importance of connectivity and the ability to rapidly transfer large amounts of information to enable a host of business and leisure activities. This is consistent with the general findings from the international literature that investment in infrastructure – particularly in network infrastructure such as transport and telecommunications – seems to boost long-term economic output more than other kinds of physical investment. In the Business Growth Agenda, it is described as “enabling the fast and efficient exchange of information, telecommunications connects our communities and our businesses to each other and to the rest of the world.”

As at 30 June 2013, the end of year two of the roll-out of the UFB/RBI, the projected targets have been met with over 300,000 end users now able to connect to UFB. More than 110,000 rural households are now able to connect to improved wireless broadband through Vodafone under the RBI, and more than 50,000 users have access to better fixed-line broadband through Chorus.

26 towns and cities had UFB available with 70% of public schools having fibre and 33 remote schools connected.

Uptake is gathering momentum with a 95% increase in UFB connections in the quarter ended 30 June 2013 over the previous quarter. With the major service providers just starting to bring package options to market, the uptake is projected to continue to increase, in a similar uptake pattern to what has happened in other countries undertaking similar roll-outs.

### Total UFB end users able to connect





The year for the energy sector has been less about new initiatives and directions and more about continuing projects and work from previous years. The high level direction from government continues to roll out through the New Zealand Energy Strategy and the New Zealand Energy Efficiency and Conservation Strategy.

Within this direction, the dynamics and pressures within the sector are moving around and are likely to lead to a different energy mix and different options over the medium/long-term.

In particular, the ongoing forecast for subdued electricity demand has seen a number of new wind projects consented but confirmation from generators that they will not be built while the demand outlook remains low. In this category are Castle Hill Wind Farm (860MW Genesis) and the Hurunui Wind Farm (71MW Meridian). Meanwhile, Meridian Energy is building new wind generation at Mill Creek and new geothermal generation has been brought on-stream at the 82MW Ngatamariki (82MW Mighty River Power) and is imminent at Te Mihi (166MW Contact).

In contrast, the Methanex expansion, the opening of a new gas peaker at Todd Energy's McKee Field and reopening of trains at Waitara Valley demonstrates a confidence in the long-term outlook for the Gas market. Gas supply was up 14% in the March 2013 quarter over the equivalent 2012 quarter and we are heading into the largest ever summer drilling programme in Taranaki.

The Gas Industry Company continues to focus on gas transmission capacity with the sector progressing toward a long-term, market based solution for a secure and efficient supply into Auckland.

Electricity transmission has marked a number of key milestones this year, including the commissioning of the new HVDC Pole 3 and the North Island Grid Update Project.

The regulatory environment remains under scrutiny with the new regulatory environment still bedding down and final court decisions expected shortly. The first application for a Customised Price Path for electricity distribution is being processed (Orion) with the Commerce Commission's draft determination issued in August.

Resilience has also been a common theme with the follow up briefings and conclusion of reviews following the Maui pipeline failure, and work led by the Ministry of Business Innovation and Employment on oil security. Transpower are also participating in a joint resilience operational policy project with KiwiRail and NZTA.

Increasingly, we are seeing technology and telecommunications playing a role, especially targeted at managing demand and giving end users greater information and control over their energy use. Most retailers now offer a web-based product or app for users, Transpower has launched a new Demand Response package (with 128MW offered) and Vector Ltd is rolling out a home solar power system with PV panels and Lithium-ion batteries.

Overview

*The energy sector is looking well placed to meet future demand with a positive outlook on gas supply, a medium term projection of low growth in electricity demand, a strengthened transmission grid, and a number of consented generation projects ready to be built when required.*

Highlights from the past year

- » Continued upgrading of the electricity transmission grid, including commissioning of Pole 3 of the high-voltage direct current link and the North Island Grid Upgrade project.
- » Initial work completed and consultation on a range of measures to improve domestic oil security.
- » Greater sharing of information and collaboration across industry as progress is made to secure the long term outlook for gas transmission.
- » Strengthening the management of oil and gas exploration and production, the government moved to exclusive use of annual block offers for petroleum with the first round completed in 2012.
- » Three offshore drilling rigs are expected in New Zealand waters in the summer of 2013/14, complementing the on-shore drilling programme.
- » Recent investment in the liquid fuel supply chain infrastructure including the refurbishment of 20 million litres of storage at Timaru, and improved physical capacity of terminal stock through growing storage at the Port of Tauranga and Port of Lyttelton.
- » 73% of electricity production last year was from renewable sources.
- » Listing of Z Energy on the NZX and the partial sell down of Mighty River Power.
- » Methanex expansion of Motonui site and restarting of train at Waitara Valley – combined these add 700,000 tonnes of production.
- » New Zealand is becoming a global leader in the integration of a high proportion of renewable and intermittent generation into the electricity grid.

Opportunities/challenges

- » Challenges remain with strengthening competition in the electricity retail market and bringing into play the remaining elements of the regulatory regime for electricity and gas line businesses to reduce uncertainty affecting investment .
- » Continuing development of better gas transmission access and pricing arrangements to ensure efficient use of available capacity and to support timely investment in new capacity.
- » Attention to energy efficiency and the role of demand side management in facilitating efficient utilisation of energy infrastructure.

Looking ahead

Over the next year we expect to see an increased level of regulatory certainty across the electricity market from impending court decisions and the determination of the first Customised Price Path. This should enable more informed discussions around the overall levels of Resilience required of the electricity distribution network and how it is operationalised and funded.

Coordination will be required across the electricity sector as demand management initiatives at different stages of the supply chain are rolled out and increasingly used.

Accompanying the improved gas outlook and reflecting the progress made last year, a focus for the sector will on arriving at a long-term solution to deliver security of gas supply to Auckland.

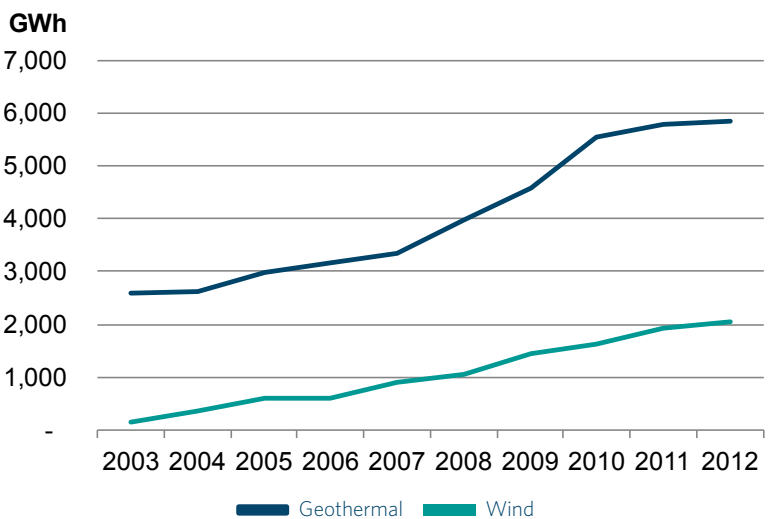
Pressure – State – Response

Economic viability is the main factor that determines whether technically available resources and consented projects are actually developed

In New Zealand renewable energy is competitive as a source of electricity generation and large-scale renewable plants do not require financial assistance from government in order to be built. A government commissioned study providing inputs for modelling of electricity generation found that geothermal energy appears to be the cheapest new baseload generation technology followed by wind.

Reflecting this, generation by geothermal and wind plants continues to grow despite the low growth in electricity demand – geothermal capacity will increase during 2013 as Mighty River Power commissions its Ngatamariki plant and Contact Energy completes its Te Mihi plant.

Electricity generation: geothermal and wind



# Productive water

## The year

Water is critical to New Zealand’s primary industries. It is New Zealand’s competitive advantage. A key focus is to deliver a sustainable approach to water management into the future.

The past year has seen a very heavy policy work programme: the third report of the Land and Water Forum; the release of the freshwater proposals paper; and culminating in the July announcements on the next stage of freshwater reforms.

The freshwater reform programme sets out a staged approach to reform with immediate reforms setting the foundations to enable consideration of more complex issues over a longer timeframe. This includes issues that are of interest to the Plan – namely allocation, permit duration, transfer and trade, and incentives for efficient use.

A number of Regional Councils have been in discussions with communities in setting plans and seeking to balance the economic opportunities provided by irrigation with the importance of environmental protection, and especially the health and quality of waterways. There is particular interest in the Canterbury Water Management Strategy and the Horizons One Plan.

Irrigation data shows a 16.5% increase over the past six years. Most significantly, the data is showing a dramatic drop in the number of ‘flood’ systems and an increase in the more efficient systems.

The Irrigation Acceleration Fund is in its second of five years of funding, just over \$18m has been granted to help to develop eleven projects across Hawkes Bay, Wairarapa, Canterbury and Otago.

The Crown Irrigation Investments Ltd was constituted on 1 July 2013, and will provide for the Crown’s participation in the construction and operation of water harvesting, storage, and off-farm distribution infrastructure. The Government has committed up to \$400 million of capital for future equity investment from the Future Investment Fund. The first tranche of \$80 million was provided in Budget 2013.



## Overview

*The next stage of the freshwater reforms has been announced, laying the foundations for consideration of allocation issues that impact on the certainty required for continued investment. In the paddocks, there has been a sustained increase in irrigation and most significantly, using methods that are more efficient and better utilise the water resource.*

### Highlights from the past year

- » Release of the third Land and Water Forum Report – Managing Water Quality and Allocating Water.
- » The announcements in August of the next phase of resource management reforms to provide greater certainty for communities to plan for, and meet, their area’s needs in a way that reduces costs and delays.
- » Release of proposals paper Freshwater reform 2013 and beyond setting out the Government’s water reform programme.
- » The announcements in July of immediate freshwater reforms: legislative provisions for collaborative water planning process as an alternative to Schedule 1 of the RMA; intent to consult on a National Objective Framework for water; and provisions for better accounting of all sources of water takes and discharges.
- » \$18 million allocated from the Irrigation Acceleration Fund.
- » Establishment of Crown Irrigation Investments Ltd with an initial capital allowance of \$80 million.
- » Commitment made to introduce an environmental reporting Bill later this year – including mandatory reporting on five areas, including water.

### Opportunities/challenges

- » Maintaining progress and delivering on the expectations raised through the collaborative approach of LAWF and the RMA reform and water reform papers released in 2013.
- » Ensuring robust analysis and evidence underpin future decisions, especially relating to setting objectives and their associated limits; the choice of the most cost-effective mitigation options and transition paths where objectives are not being met; and further work on different aspects of the allocation of takes and discharges (such as consent duration).
- » Taking opportunities to integrate, align and coordinate the planning regime across local and central government.
- » Ensuring that investments made by Crown Irrigation Investments Ltd are supported by transparent and robust investment analysis.

## Looking ahead

Over the next year, the key focus will be on implementing the immediate freshwater reforms announced in July. This includes further work on the National Objectives Framework, with consultation expected shortly. These immediate reforms will set the foundation for consideration of more complex issues, including allocation, permit duration, transfer and trade and incentives for efficient use. These further stages are critical to the more efficient and effective use of water and sustainable management of this key resource in the long-term.

A second area of focus will be on the IAF and the Crown Irrigation Investment Ltd – ensuring that investments continue to be subject to robust investment analysis.

### Pressure – State – Response

Focussing on the State elements, there has been an overall increase in irrigation of just over 100,000 hectares between 2007 and 2012. The majority of this has been in the South Island, and Canterbury in particular with just under 60,000 hectares.

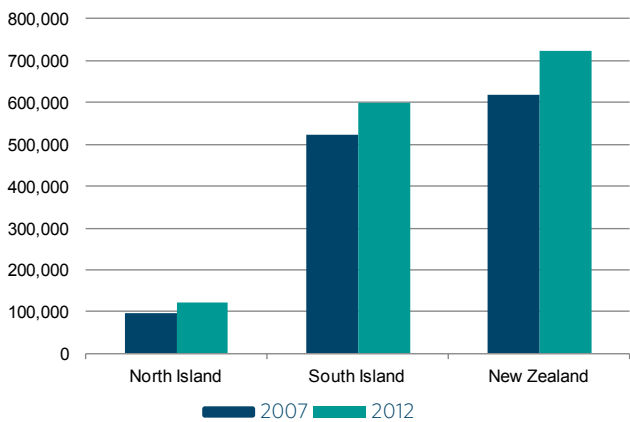
As a region, Canterbury has 61% of the total national irrigated hectares, followed by Otago with 13% and Marlborough and Hawkes Bay, both with 4%. Aggregating these into the different islands, the South Island has 83% of the total irrigated hectares with the North Island 17%.

This pattern is reflected in the high level projections, suggesting Canterbury has the most potential for further irrigation. With the allocation issues well known in this region, this makes the importance of the regulatory environment even more significant, and especially moving to further stages of work on the more complex issues that are critical to the more efficient and effective use of water and sustainable management of this key resource in the long-term.

Also shown in the 2012 results of the Statistics New Zealand Agricultural Production survey, is a shift to more water-efficient irrigation schemes. Flood systems have decreased from 18% to 13%, conversely, more efficient spray and micro systems have increased.

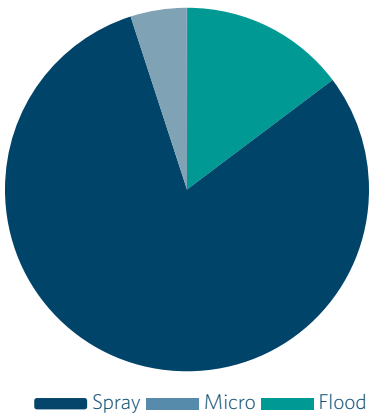
Looking ahead, the numbers and the implications are very large – future irrigation potential ranges from 250,000 – 650,000 hectares and capital costs of up to \$5b are discussed. Linking this to the projected changes in rainfall patterns from climate change and the importance of hydro for electricity generation, the importance of a well coordinated strategy to leveraging our natural competitive advantage becomes clear alongside the importance of the further stages of the Freshwater reform programme.

### Irrigable land 2007 and 2012 (hectares)



Region	Potential Irrigation
Bay of Plenty	17,000
Hawkes Bay	45,000
Wairarapa	50,000
Rangitiki	70,000
Nelson/Tasman	7,000
Marlborough	3,500
Canterbury	163,000
Otago	48,500
Southland	30,000

### 2012





# Urban water

## The year

As part of the water sector as a whole, urban water was assessed as the lowest rating of all sectors in the 2011 Plan. Key areas identified as issues were regulation and governance. The constraint of a lack of available information was particularly evident for urban water. Since then, there has been an extensive programme of work and reviews undertaken to improve the information base and strengthen the overall capability of the local government sector, including the management of infrastructure assets.

The 2010 changes to the Local Government Act enabled a more detailed picture of urban water expenditure to be completed in 2012, this is a positive improvement although the level of detail is still high and consistency will improve over time.

A further change from 2010 that will be seen in the 2015-25 long-term plans is the ongoing development of a set of standardised non-financial performance disclosure measures. These will focus on system adequacy, maintenance, environmental impact, and customer satisfaction, for the purpose of raising awareness among the local polity on the relative performance of their water systems.

In March 2013, the Infrastructure Efficiency Expert Advisory Group reported. From this and the wider Better Local Government work programme, further changes are in process that will further contribute to the information base including:

- the requirement for local authorities to undertake asset management planning and to develop a 30 year infrastructure strategy, reflecting the long life of the assets involved and the ten-year timeframe of the current published plans
- standardised Balance Sheet disclosure statements on core assets in their 2013-14 annual reports

Recent changes to key legislation (Resource Management Act, Land Transport Management Act and the Local Government Act) improves alignment and streamlining but it is recognised that more can be done.

Capability across the urban water sector was highlighted as a concern, recognising the infrequency and scale / cost of many individual projects and the number of local authorities, spreading capability thinly. It is encouraging to see the increasing discussions across local authorities on strengthening this area, including increasing use of shared services models.

Perhaps most pleasing over the past year has been the local authority ownership of the urban water issues and the specific steps the sector is taking to improve, including the LGNZ 3 Waters project and the establishment of a Centre of Excellence.

## Overview

*The Better Local Government work programme has continued to progress, including a large number of initiatives to improve the range and quality of information available to communities. Local authority planning processes will be streamlined and the sector is starting to focus on increased capability.*

## Highlights from the past year

- » Implementation of more detailed and transparent financial forecasts in the 2012 long-term plans, enabling more detailed analysis to be undertaken across local government infrastructure assets and plans.
- » Completion of a number of reviews including Development Contributions, Efficiency Taskforce, Productivity Commission inquiry into Local Government Regulation and the Infrastructure Efficiency Expert Advisory Group.
- » New requirements announced for Councils to undertake asset management planning and develop a 30 year infrastructure strategy.
- » Changes to development contributions announced that record all infrastructure projects for which development contributions are (and are expected to be) collected, and the expected value of those projects.
- » Continued progress on developing non-financial performance measures (including those relating to the three waters) to be implemented in the 2015 long-term plans.
- » A performance monitoring and improvement framework is under development, focusing on building capability within the sector.
- » Launch of a LGNZ initiative focussed on strengthening the information base and capability of local authorities to manage and meet long-term infrastructure demands.

## Opportunities/challenges

- » The challenge of delivering on the key themes of the Better Local Government programme and results of the reviews, especially in relation to:
  - Strengthening asset management planning and practices and linking this to strategic decision making.
  - Benchmarking and increasing accountability.
  - Improving the information base relating to asset management and planned investment over the longer-term (beyond 10 years).
  - Building local authority capability to manage and plan for long-term demand, including possible levels of investment anticipated over the next 30-50 years.
- » Better understanding the implications of the demographic change on infrastructure demands.
- » Taking opportunities to integrate, align and coordinate the planning regime across local and central government.
- » Facilitating and encouraging economies of scale for the delivery of water services through shared services arrangements or regional provision.
- » Forward planning of infrastructure needs to respond to changes – using all levers to maximise future investment including land-use, funding tools, demand management, urban design, shared services etc.

## Looking ahead

Delivering the more detailed information base to enable analysis of the longer term investment and affordability picture – beyond the current ten-year plans.

Forward planning of infrastructure needs to respond to future demand and demographic changes – using all levers to maximise future investment including land-use, funding tools, demand management, urban design, shared services etc

Whereas we are seeing innovation and increased use of technology across the other infrastructure sectors, we are not seeing the same with urban water. Likewise with benchmarking, whereas many infrastructure sectors actively benchmark performance as a means of continual improvement, this is not common in the Urban Water sector and an area to promote and develop further.

Discussions we have been holding with local authorities and policy makers have highlighted the particular complexities of stormwater, particularly because of the link to land use and wider urban planning. Internationally, we are seeing a range of innovative practices and design features to reduce the volume of water needing to be managed. We see a lot of benefit from increasing understanding and use of these.

A key question is where does the trajectory of increased co-ordination and improved governance expect to land us – will this be sufficient or are there other incentives or policy changes that could encourage further collaboration, more shared services and improving the overall capability of local government to manage the urban water sector as a whole.

## Pressure – State – Response

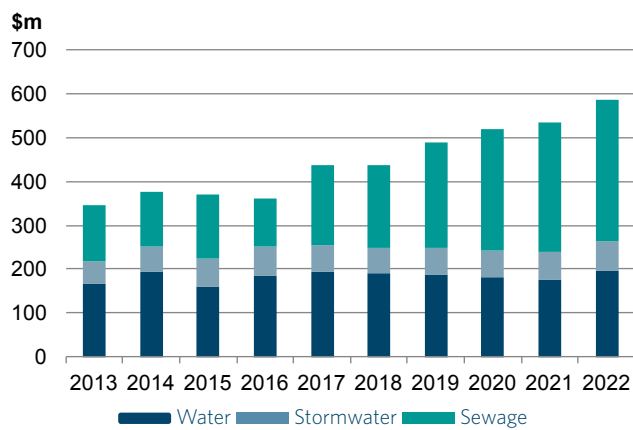
Collectively, Local Authorities are projecting total capital spending of just under \$30b over the next ten years (real numbers based on the 2012-15 long-terms plans). Significantly, the forecast spend for Councils other than Auckland is well below the actual levels of capital spending from 2008 – 2013. Whether this reflects the traditional lumpy nature of infrastructure investment or the impact of the GFC and revised growth projections is not clear.

For Auckland, 28% of the forecast spend is on the three-waters – drinking water, sewage and stormwater with a further 27% on roading. For the rest of New Zealand, 33% of forecast spend is on the three-waters with a further 37% on roading. Whereas the largest category of forecast capital spend in Auckland is in the “levels of service” category (49%), the rest of New Zealand is for “Renewals” at 54%.

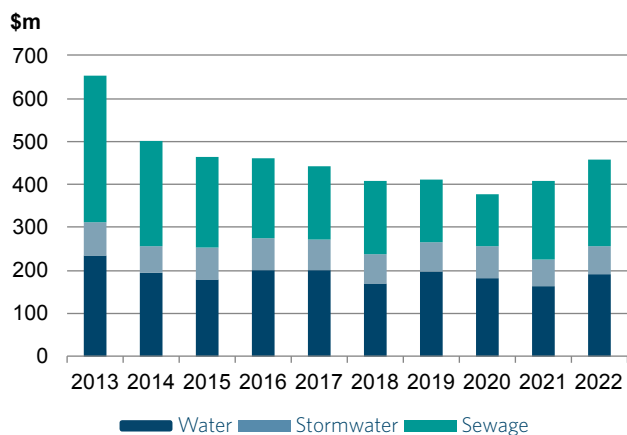
The stormwater and drinking water spend is forecast to remain fairly constant across both Auckland the rest of New Zealand, but sewage shows a different picture, with the rest of New Zealand forecasting declining spend with an increase in the last two years (driven by forecast demand/ growth increases), and Auckland a steady increase (also driven by demand/ growth).

At a national level, there is limited data available that is consistent and able to be aggregated to determine whether this level of spending is more or less than required and the levels of service planned to be delivered. This will be a key focus of the performance indicators framework and will use information gathered from a variety of initiatives, both those led-by the local government sector and the recently announced enhanced reporting requirements to communities.

Auckland: 3 Waters forecast 10-year spend



Rest of NZ: 3 waters forecast 10-year spend





The year

The Social infrastructure sector has made substantial progress over the past few years; however, it was starting from the lowest base and there is still significant improvements that can be made.

The improvement programme is wide ranging, covering asset management, performance measures, capital planning, and new tools to help guide funding allocation decisions. There has also been the continued rollout and development of the Better Business Case process and a focus on providing system wide assurance.

Procurement has been another area of focus. Public Private Partnerships have been introduced with the two pathfinder projects in education and corrections progressing well and further PPPs being scoped. New Government Procurement Rules have been published and come into effect in October.

Asset management has traditionally been underdeveloped and there is a growing awareness of the importance of asset management maturity as a lead indicator of future performance. We reported last year on the GHD study that provides a baseline of performance.

The Office of the Auditor-General released two recent reports on Insurance of Public Sector assets and managing public assets. Agencies were tasked with (a) critically examining how they go about assessing the appropriate level of insurance cover, and (b) understanding and managing risks associated with deferred maintenance.

There is potential for increased private sector involvement in asset management and development to drive improvements in efficiency and service performance. We have already seen this with the two pathfinder PPPs.

The most capital intensive agencies have been building capability on forward planning of capital and operating intentions. Their progress will be reported later this year in the first 10-year Capital Intentions Plan for Government.

The Future Investment Fund (FIF) was established to invest the money released by selling minority shareholdings in electricity companies and reducing the Government's stake in Air New Zealand. In Budget 2013, the Government is allocating \$1.52 billion of new capital from the Fund on top of the \$569 million allocated in Budget 2012. Schools, health, science and innovation, transport, and the Canterbury rebuild all benefit from the FIF.

Whereas capital has traditionally been allocated on a year by year basis, new tools have been developed to guide investment decision-making with a greater focus on delivery of expected benefits.

Lessons learned from Novopay have wider implications for infrastructure governance and delivery.

Overview

*The Social infrastructure sector has come a long way, especially in areas of asset management, capital planning, procurement and the allocation of capital. There are further opportunities for the pace and scale of improvement to be stepped up, including more fundamental questions of how best to utilise the whole balance sheet and consider questions of ownership.*

Highlights from the past year

- » External review (July 2013) revealed widespread user endorsement of and support for BBC method and guidance.
- » New generic guidance on total costs of ownership is under development.
- » New Government Procurement Rules published and come into force in October.
- » Significant improvement in 4 year budgeting and linking of capital to Government objectives.
- » New tools developing to support decision making around allocation of new investment.
- » Exploration of further PPP projects in both education and corrections.
- » Contracts signed for the acquisition of new Defence assets including 200 Army trucks and 10 new Seasprite helicopters.
- » Progress across the Justice sector on disposing of surplus property, decommissioning end-of-life assets and reducing the number of courts.

Opportunities/challenges

- » At a whole of system level, growing our understanding of how well the assets we own are performing and where improvements can be made.
- » Developing a more sophisticated understanding on overall investment approach and why we own the assets we own and the risks involved.
- » Greater use of private sector expertise in the development and management of new assets.
- » Bridging systemic capability gaps (ranging from understanding of long-term costs of ownership, to investment analysis to project governance, portfolio management, benefits realisation, asset performance reporting etc).
- » Variability across agencies on maturity of capital asset management – including performance, planning and asset utilisation.
- » Moving beyond individual agencies to a sector approach to planning and prioritising capital investment, including sharing asset management expertise across the sector.
- » Taking sector collaboration on capital planning to a new level e.g. so resources are prioritised to investments that deliver the best return for the sector rather than an individual agency.

Looking ahead

Treasury is working on the next Investment Statement, to be released later in 2013, this will progress thinking on whole of balance sheet approach including questions of ownership.

The NIU will release the first 10-year capital intentions Plan after the Investment Statement.

The next year will also see further work on advancing tools to guide and inform the capital allocation process.

Asset management will continue to be a focus, looking to increase the maturity of practice across agencies. A key focus from a Plan perspective is on collaboration, sectors working as a whole rather than as separate agencies, and on optimising existing assets.

For Housing, a focus will be on implementing the Asset Management Strategy which is essentially about making the state housing asset more fit for purpose in terms of upcoming demand.

Pressure – State – Response

Housing has traditionally not been a major focus of the National Infrastructure Plan. As the 2010 Plan noted, the notion of infrastructure in the Plan falls between a number of standard infrastructure definitions and has focussed both on the physical infrastructure of national significance that has a direct impact on productivity and living standards, while also paying attention to the more capital intensive sectors within central government services. Typically, these have been the education, justice and health sectors.

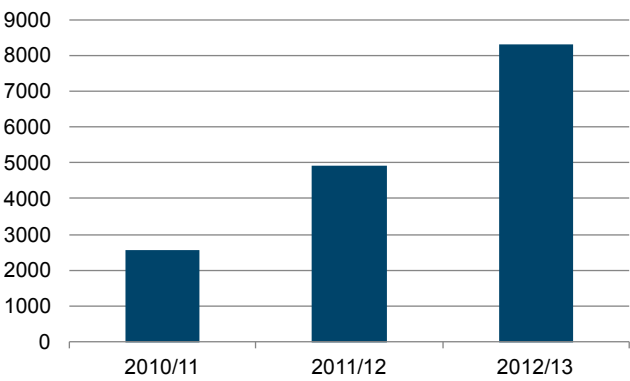
Since 2010, housing has increased in focus and priority for a number of reasons.

- First is the scale of capital invested, at \$15b housing is the second largest asset class on the Government's balance sheet (behind the State Highway network). In a constrained fiscal environment, the first Plan outcome of better use of existing infrastructure is directly relevant.
- Secondly, the importance of housing location and form as a demand-side driver on network infrastructure such as electricity, transport and water – we are seeing this play out now, especially in Auckland as the Council plans for projected population growth. The Council is aiming to meet this demand by increasing the supply of land through mechanisms in the newly enacted Housing Accords and Special Housing Areas Act 2013.
- Thirdly, the impact that housing activity has on supply side capacity across the building and construction sector and on procuring other infrastructure projects. This is and will be a significant issue for the next few years because of the level of activity generated by the Christchurch rebuild.

The Government has a work programme to address five key areas affecting housing affordability: land supply, provision of infrastructure, productivity in the construction sector, cost of building materials and costs and delays in the regulatory process. These will have an impact on the planning and provision of infrastructure across all sectors.

As a result, housing will be an increased focus of the Plan going forward and a key social sector we will include in the performance indicators framework and evidence base due to be published early in 2014.

Housing NZ Insulation Programme



Housing New Zealand

2012/13

- » \$190m improving quality of state houses
- » 2,000 whole of house upgrades completed
- » 8,295 homes insulated

by 2015/16

- » 2,000 new homes
- » 3,000 new bedrooms to 2,000 state houses
- » Complete repairs to 5,000 earthquake damaged homes

# Auckland

## The year

A major focus for the past year has been the development of the Auckland Unitary Plan (AUP) by Auckland Council. Initial public feedback was received on a pre-draft released in March 2013 and Council notified the proposed plan on 30 September. The AUP will be the principal means of applying the Resource Management Act 1991 in Auckland and the key tool to implement the Auckland Plan, which sets out the strategic direction for Auckland's growth over the next thirty years.

It is important that the AUP supports the effective coordination of land-use and infrastructure planning, minimising investment delay and uncertainty, and facilitating the efficient allocation of land and infrastructure.

Auckland Council's circulation of a pre-draft AUP needs to be commended, it was an extensive document produced in very short timeframes and had to balance a range of competing priorities and manage divergent views. Despite this, there is still scope to enhance integration.

A major announcement in June was the Government's plan to kick start the next generation of major transport projects. The Government:

- wants to speed up the combined Auckland Manukau Eastern Transport Initiative (AMETI), East-West Link and highway projects on the Southern and Northern Motorways and is taking advice on which elements can be accelerated and how funding can best be targeted
- committed to a joint business plan for the City Rail Link with Auckland Council in 2017 and providing its share of funding for a construction start in 2020, and will consider investment in city centre bus access between now and 2020
- agreed that the next Harbour Crossing should be a tunnel and is likely to be needed between 2025 and 2030

The Auckland Council's Consensus Building Group has completed its work, starting with 20 different alternative funding options before analysis and consultation resulted in two options. The second includes road pricing to be in place by 2021.

Rising house prices and the responding Housing Affordability work programme have also been a focus, linking to the AUP and land use. In Auckland, a Housing Accord has been developed between Auckland Council and the Government, with legislation to allow Special Housing Areas passed in September.

The BBC framework has been promulgated within Auckland Council as means of determining the most effect interventions and value for money outcomes.

The energy transmission network has been strengthened with advances made on securing the long-term supply and security of gas transmission, the completion of the North Island Grid Update Project and the North Auckland and Northland Grid Upgrade Project targeted for completion in December.

## Overview

*Good progress has been made on implementing the Auckland Plan and the development of the proposed Auckland Unitary Plan. Announcements have been made on housing and the next generation of transport projects but work remains on funding these and ensuring integration of land use, transport and the most effective utilisation of existing and provision of new infrastructure.*

### Highlights from the past year

- » Auckland Council is actively applying the BBC approach to social sector and this same approach to transport projects (eg AMETI and East West link).
- » Auckland Council has commenced planning work for new Greenfield areas with key infrastructure providers.
- » UFB deployment 15% complete in Auckland and 69% complete in Northland.
- » Container volumes of 818,819 TEUs through the Port of Auckland with 4.4m tonnes of break bulk cargo and 1,463 ship calls. \$14.9m of capital expenditure.
- » Vector Ltd distributed 8,332 GWh of electricity and as at 30 June 2013, had installed 505,888 smart metres.



### Opportunities/challenges

- » Concerns remain over the ability of projects in the Auckland Plan to address long-term traffic congestion and issues, and for land-use objectives to be met through AUP policies and rules.
- » Finding appropriate balance between regulating land-use in order to control infrastructure costs (and/or using infrastructure planning as an investment signal), and allowing the market to determine appropriate locations for future development.
- » Further work around how the significant infrastructure required to cater for Auckland's growth can be funded both from private and public sectors.
- » Capability of Auckland Council and agencies to develop and deliver on the best co-ordinated value for money work programme.
- » Continuing development of appropriate responses to concern over the long-term outlook for gas transmission capacity availability in the Auckland region.
- » Capacity of the development sector to deliver the necessary housing supply.

## Looking ahead

Government will continue to work with Council on the broader transport strategy to ensure it delivers the best results possible for Auckland's transport system. Part of this is work that NZTA is doing with Auckland Transport /Auckland Council to examine and implement a range of options to manage congestion on the total Auckland transport network.

The Government will continue to implement the Housing Accords and the Special Housing Areas Act and progress the other components of the Housing Affordability programme.

It will be important to see Auckland continue to debate the findings from the Consensus Building Group and for a wider discussion on funding mechanisms and how to afford the planned projects. The NIU will continue to take an interest in the Council's work in this area.

## Pressure - State - Response

Transport infrastructure is important not only for the connection of businesses to suppliers and the movement of freight, but also enabling employees to get to work. Public transport has a key role in enabling travel to major employment areas, particularly the central city, with significant funding from both central and local government.

With a focus on the state indicators, Auckland public transport has seen a steady and significant increase in patronage over the past ten years. Total patronage has more than doubled since the low point in the early 1990s, and has recently achieved its highest level since the late 1950s. In the year to 30 June 2013, patronage totalled just under 70 million passengers.

Of these 70 million, the vast majority travelled on the buses (approx 80%) with rail and ferries accounting for much smaller numbers.

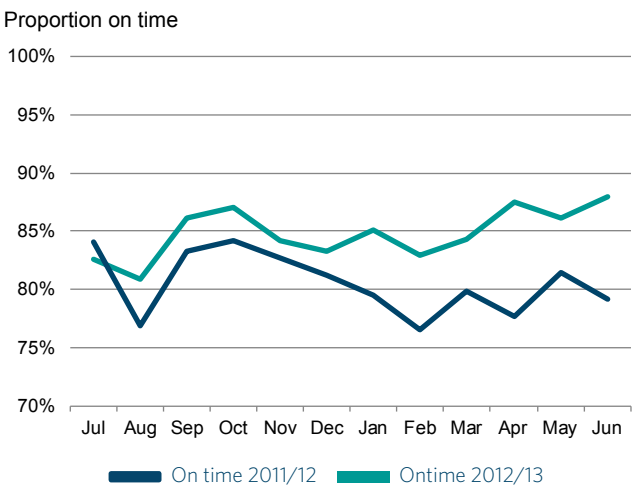
However, public transport use has stabilised and declined over the last two years, with rail in particular falling behind forecast patronage targets.

An important consideration for public transport users is the reliability of the services. Reflecting the levels of investment that have been made and the focus on service improvements, the overall reliability and service levels for rail improved in 2012/13 over the previous year.

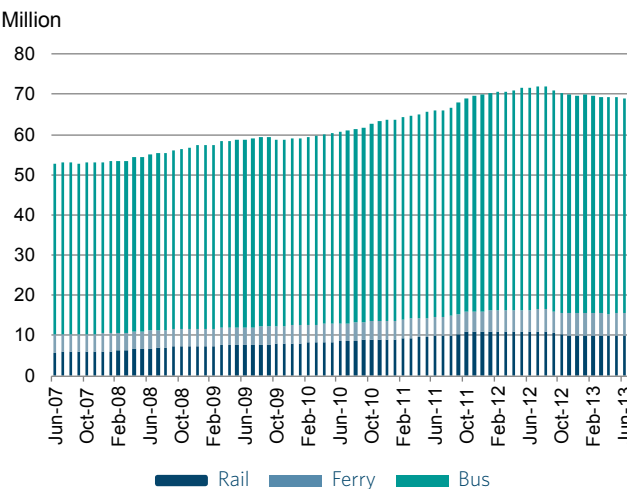
Looking at the pressure indicators, the Auckland Plan calls for a transformational shift in public transport to achieve the vision to become the world's most liveable city. The target it has set is a doubling of the number of passenger trips over the next ten years (from 70m to 140m).

Achieving this will be challenging, requiring both additional funding and a close integration between the land use outcomes in the AUP and the proposed public transport services

### Auckland Transport



### Total patronage 12 months rolling total





# Christchurch

## The year

The focus in Christchurch has shifted from recovery to rebuild with the CBD demolitions progressed and the central city cordon removed.

Just over a year since the Central City Recovery Plan was released, there has been substantial progress across the 17 anchor projects. An important announcement was made in July with the cost sharing arrangement between Government and the Christchurch City Council. This agreement covered horizontal infrastructure and anchor projects totalling \$4.8bn with \$2.9bn from Government and \$1.9bn from CCC. Key Government-led anchor projects include the: Avon River Precinct, The Frame, Metro Sports Facility, Convention Centre precinct, Stadium and the Bus Interchange.

Agreements in principle or contracts are in place to acquire 68% of the land area designated for the Convention Centre. Construction commenced on the first stage of the 3.2km of the Avon River Precinct as part of the ‘Watermark’ project. The Health Precinct master plan tender has been awarded.

There has been substantial progress made on repairing the horizontal infrastructure with activity about to majorly scale up in the CBD. Approximately half of the horizontal infrastructure has been investigated and scoped (to TOC) and a third of repairs/replacement completed (as at 31 July 2013).

As the horizontal infrastructure rebuild has shifted from first response/path and repair to fully fledged rebuild, a new governance structure has been implemented to provide greater focus on value for money.

Orion Electricity, the electricity provider for the Christchurch area is currently proceeding through the Customised Price Path option with the Commerce Commission, the first Electricity Distribution Business to do so. This is being watched with interest across the country as it will set the prices Orion can charge and raises questions around resilience and disasters and who bears the recovery costs.

The Canterbury Water Management Strategy and the work of the different Zone Committees is progressing. In the meantime, irrigation schemes for the Hurunui Water Project, Project Raindrop and Central Plains have been given grants from the Irrigation Acceleration Fund. These grants are to facilitate their development of the schemes to an investment ready stage. The Hurunui Project was recently granted consent to take water and is proceeding to progress the technical scheme design and engage with potential partners and water users.

There has also been progress on land settlements: 96% of red-zoned property owners eligible for a Crown offer to purchase their property have signed a Sale and Purchase agreement. A significant work programme is underway on green Technical Category 3 (TC3) land to assist property owners to repair and rebuild their homes.

A focus in the land area has been on ensuring an adequate land supply programme, supported by the draft Land Use Recovery Plan, which provides delivery mechanisms to rebuild and develop new communities and the infrastructure needed

## Overview

*The focus has shifted from recovery to rebuild with the central city cordons down and plans well underway for the rebuild. With the horizontal infrastructure programme proceeding at pace, there is a real need to ensure a well integrated and sequenced construction programme of work.*

## Highlights from the past year

- » CBD demolitions are 93% complete and the central city cordon removed.
- » Approximately half of the horizontal infrastructure has been investigated and scoped (to TOC) and a third of repairs/replacement completed.
- » The anchor projects to drive central city development are progressing and a timetable for the planning, design and construction of these has now been released.
- » Private sector investors have submitted outline development plans to cover approximately 95% of the proposed Retail Precinct.
- » 4% increase in total TEU volumes to 351,217 at Lyttelton Port. Four new Leibherr state of the art diesel electric straddle carriers were delivered and a commitment made to purchase another four straddle carriers and a new ship to shore gantry crane, capable of handling larger container vessels.
- » Housing New Zealand’s \$170m new builds housing programme was launched in May 2013 focussing on replacing houses that are too damaged to be economically repaired. 700 new dwellings will be built under this programme by December 2015. This complements HNZN’s Repair 5000 initiative involving substantial repair work on the 5000 state homes it is economic to rebuild.
- » A Greater Christchurch Transport Statement has been developed to provide a one-network transport system across greater Christchurch. This includes an Accessible City Plan that looks at how people travel into and around the city, reduced speed limits and encourages more walking, cycling and the use of public transport. A key anchor project, the Bus interchange, will be a central link to all services and is an integral part of 4 major transport hubs in the city.

## Opportunities/challenges

- » Reviewing and ensuring the SCIRT Alliance governance arrangements are fit for purpose considering the new phase of rebuild and ensuring the investment delivers value for money.
- » With the scale of construction anticipated across Government, CCC and the private sector, the importance of co-ordination, project sequencing and clear communication and engagement with the market is critical. Adding in the demand from a growing Auckland and given the expected increase in supply of land, and demand for housing, due to implementing the Housing Accords and Special Housing Areas Act 2013 in Auckland, it is unlikely that the national building and construction sector will be able to meet this demand. This will require a well-coordinated programme management approach to sequencing and managing projects.
- » Coordination between the rebuild of the horizontal and the vertical infrastructure as the rebuild of the CBD gets underway.
- » The large scale of change underway and the projected increase in freight demand and irrigation in the hinterland, provides a good opportunity to look at the Port and consider future corridor needs and capital requirements.

Status of infrastructure repair work undertaken by SCIRT			
	Estimated Damage	Total Complete	% Complete as at 31 August 2013
Roading	1320.4	280	21%
Water Supply	69	42	60%
Waste Water	659	200	30%
Storm Water	26	12	45%

## Looking ahead

The current estimate of the rebuild of greater Christchurch suggests that Government funded projects will make up about 25% of the total rebuild. This makes the Crown a major client to greater Christchurch’s construction market. The Crown is actively investigating ways of improving its market power.

The next year will see the rebuild kick into top gear with the work underway in the CBD on both the horizontal and vertical infrastructure. A number of the anchor projects are scheduled to start construction in 2013 and 2014 including: Avon River Precinct, East Frame, Health precinct, Bus Interchange, Justice and Emergency Services Precinct, Central Library and South Frame.

A number of irrigation projects in the Canterbury area will be looking to move to the next stage, developing detailed business cases and determining whether to proceed.

The final determination will known on the Orion Electricity Customised Price Path, providing a steer to the industry on key issues of funding for resilience and insurance.

## Pressure - State - Response

Following the earthquakes of 2010 and 2011, a priority was to restore the essential services, including electricity and water. As widely reported, rebuilding the horizontal infrastructure was a substantial project of immense scale. To undertake this task, an alliance model was used involving CERA, the Christchurch City Council, NZTA, City Care, Downer, Fletcher, Fulton Hogan and McConnell Dowell. The SCIRT alliance has been widely recognised as one of the success stories of the recovery.

The overall goal of SCIRT is “creating resilient infrastructure that gives people security and confidence in the future of Christchurch.”

As seen from the chart below, substantial progress has been made on the horizontal infrastructure (31 August 2013 figures). To put it into context, progress to date equates to 5 rugby fields of asphalt and wastewater pipe extending from Auckland to the Bay of Islands or Wellington to Wanganui.

Work has now started on the horizontal infrastructure for the central city.

