

PUBLIC PRIVATE PARTNERSHIPS

Paper Overview

Infrastructure investment and development is an immediate opportunity open to Iwi and hapū, particularly where co-investing together. This paper provides an overview of one of the papers released under the Māori Economic Taskforce on the 7th May on the infrastructure investment landscape in New Zealand currently and the specific asset classes and geographical areas where the Crown has planned to undertake development. These identified developments are clear signals of immediate and identifiable investment opportunities and this paper is intended to support discussion pursuing pilot commercial transactions to PPP in these areas and/or support Iwi collaborating with other Iwi or private sector partners. It is also noted that not all assets identified in this paper will be procured by the government through PPPs, and that there are another of private sector actors who have access to similar information.

Further copies of the MET papers released on the 7th May will be available at the hui and via the web in due course.

The appendix to this paper concerns a real time infrastructure development in progress concerning Wiri Prison. A verbal presentation on the Wiri Prison development will be given at the hui.

Recommendations to Iwi Chairs Forum

The paper recommends that the Iwi Chairs Forum consider the following;

- How Iwi can best be supported to explore co-investment opportunities, including any further support that the Māori Economic Taskforce can provide including in the way of information and analysis;
- Continuing direct engagement with the government and continuing to report back to the Iwi Chairs Forum.

Background

Public Private Partnerships have been considered at a number of Iwi Chairs Forum, most recently the February 2010 hui at Waitangi, for which a background paper was prepared and is available on the Iwi Chairs website.

Over the past two years, Iwi Chairs have consistently reiterated the strategic importance of infrastructure investment for Iwi, the Crown and the nation, and the higher importance of co-investment amongst Iwi katoa as part of a broader vision of kotahitanga.

Co-investment in infrastructure has now become a more immediate opportunity for Iwi and hapū to consider with greater urgency because of two notable developments;

- **National Infrastructure Plan (NIP)** – the NIP was released in March 2010 and is the first step in publicly identifying planned infrastructure investment and stating the governments infrastructure priorities. This document has given the private sector an important insight into potential investment opportunities, and is arguably, a component of creating a competitive market place for infrastructure development; and
- **Pilot PPPs** – Cabinet has decided that a PPP for a prison facility will be advanced as the first pilot PPP. This opportunity has now been released for tender, and clearly signals that infrastructure investment is a high priority for government that will have increased impetus over the course of this year.

The NIP identifies the following government priorities:

- Public sector investment with an allocation of \$7.5 billion over five years for new capital spending.
- Better management of public infrastructure assets including the consideration of a broader range of options for procuring assets.
- Regulatory reform to make it easier to do get things happening and do business in the infrastructure space.

These priorities are strong signals to Iwi. They provide, for example, impetus to the proposition Iwi leaders have been pursuing with the government on models for joint or co-investment arrangements between Iwi partners and the Crown. This proposal presents attractive benefits for the parties involved. For example:

- Economic partnership between Iwi and the Crown with Iwi ownership of core Crown assets reflects long-term economic aspirations and long-term usage requirements on the part of Iwi and the Crown respectively.

- A successful transaction and partnership will allow the derivation of long-term predictable income streams for Iwi while providing the Crown with long-term committed funding.
- Returns can be tailored to reflect specialised nature of the particular asset and risk associated with income stream – where possible, the return can be structured to incentivise long-term cost containment/reduction and/or service performance.

Now is the time for Iwi to act. The Māori Economic Taskforce developed a suite of resource guides to crystallise and articulate the discussion that has taken place around Māori participation in infrastructure investment and to provide a platform of material that is accessible to all Iwi, so as to facilitate Iwi taking the next steps toward co-investment in infrastructure.

The materials:

- Provide access to technical advice, backed up by analysis of available information on the New Zealand infrastructure landscape (including an analysis of the National Infrastructure Plan) to both identify opportunities as well as outlining the issues that must be resolved in order to progress a potential transaction or investment proposal.
- Signal the commencement of a process to work with Iwi Māori to identify and match opportunities to potential partners with the aim of executing actual deals to test and demonstrate the efficacy of the proposition.

However, this background information can only ever be a small contribution to Iwi co-investment. Ultimately, it is for Iwi, as an exercise of their tino rangatiratanga to determine whether infrastructure investment and development is strategically desirable and whom they may wish to partner with to progress any opportunities.

An immediate opportunity concerning prison development, and an overview is attached as an appendix to this paper. A verbal overview of this opportunity will be given at the hui.

Investment Opportunities

The NIP sets out a national vision for infrastructure as an enabler of growth and social cohesion that should support New Zealand becoming a competitive, high productivity, high wage and sustainable economy with good living standards. A distinct vision is also expressed for each of the sectors, the common themes of which are; dependability, capable of attracting and sustaining investment and accessibility.

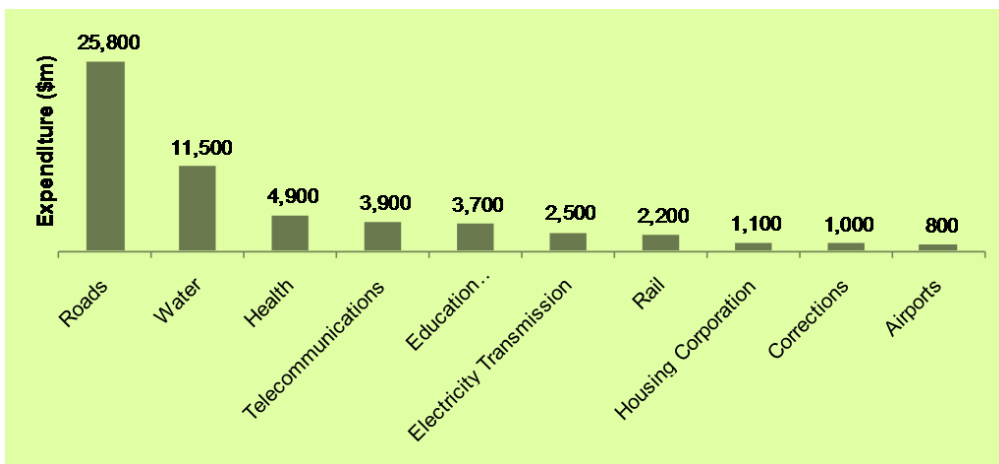
The strategic priorities for immediate infrastructure investment, that have active policy work and assigned government investment, are identified as;

- Broadband;
- Electricity transmission;
- Regulatory reform;
- Roads of national significance; and
- Rugby World Cup.

There is also work being directed to;

- Water infrastructure; and
- Improving the commercial disciplines around infrastructure management (distinct from development);

The NIP details planned investment for each sector, including the quantum of planned government expenditure and the itemized infrastructure that will be developed. The NIP is not exhaustive, but it is highly detailed and helpfully sets out planned investment according to region. Each sector is addressed briefly below.



More generally the table below provides an assessment of the key asset classes above and their likely areas of focus:

Transport	<ul style="list-style-type: none"> • A key focus for government since 2003 with the emphasis on improving capacity and productivity. • Major roading programme with seven “Roads of National Significance” spread throughout the country. • Significant urban infrastructure programme including rail. • Legislation now allows toll roads and specifically envisages PPPs.
Energy and water	<ul style="list-style-type: none"> • Mix of public- and private-led investment. • Identified needs in both the short-term and long-term but characterised by long lead-times and complex regulation.
Education (compulsory sector)	<ul style="list-style-type: none"> • Accelerated and enhanced spending on school property was a core part of the government’s short-term response to the global financial crisis. • Specific target for PPPs.
Housing	<ul style="list-style-type: none"> • One of the most consistent developers over time (along with education). • Changing demographics mean a need to renew stock to ensure a fit with long term needs (e.g. too many 3 bedroom houses). • Few barriers to private involvement (e.g., PPP already underway in Hobsonville).
Telecommunications	<ul style="list-style-type: none"> • Largely private companies and private investment, with regulation being a barrier to entry. • \$1.5 billion for ultra-fast broadband developed in partnership with local companies.
Corrections	<ul style="list-style-type: none"> • Wiri PPP has just been announced. • Range of opportunities for Iwi to advise, finance and/or operate.
Health	Significant investment in the last decade with hospital construction in most centres but an ongoing need to renew and expand assets.

The most realistic design and construct and operational opportunities are in the health, education and rural broadband sectors, where the scale and complexity of investment is commensurate with the current capability and capacity of Iwi. This does not preclude Iwi from taking an advisory and other roles in larger, more complex projects while they grow their ability to

undertake these types of projects. There are a wide range of potential opportunities available – care needs to be taken to how the right opportunities are identified for Iwi Māori and the best mechanisms of engaging in the proposals under consideration. The remainder of this paper considers the sectoral opportunities in more detail.

Education sector

The Ministry's current procurement approach is to tender for a contractor or consortium to undertake the design and construction of new schools under a two-stage contract. The contractor is responsible for developing a design that can be built without exceeding a maximum price per expected student. At the completion of construction, the government owns the asset and is responsible for its maintenance.

However, the Ministry is actively investigating the viability and desirability of PPP models for new school procurement through a small-scale business case and pilot.

What type of investment is this?

Public school infrastructure investments can be broadly defined in terms of two asset classes – commercial construction and commercial property ownership. Different rates of return can be expected from different investment scenarios. For example, maintaining the operation of the asset has the potential to yield greater income, but also carries higher risk than simply leasing land.

Investing in education is potentially straightforward as school construction is relatively low-risk and it provides an opportunity for some Iwi to lease their existing land holdings.

Commercial construction

Commercial construction is an established market requiring specialist knowledge and capability. In the short-term, as well as providing project finance and maintaining ownership of the property, Iwi could help facilitate resource consent and community buy-in for certain projects.

Key risks related to design and construction include, but are not limited to, consents, materials, labour and project phasing. These risks escalate in magnitude with the scale and complexity of the project.

Commercial property ownership

A Commercial Property Ownership structure is akin to a PPP where the asset owners provide whole-of-life maintenance and servicing of the asset. The Crown would still be the provider of education delivered using the asset.

Construction and ownership of an asset such as a school provides a constant rate of return through rental income. A likely scenario is that Iwi would finance, construct and maintain a school for the Ministry of Education. Revenue is generated via a long-term (20 - 30 year) lease and any long-term real estate appreciation. The returns for this type of asset are

likely to be lower than for a strictly commercial asset because the Crown carries a very low default risk and engages in very long lease terms.

Demographic change drives demand

New Zealand's population is expected to grow by 22% between 2006 and 2031. Although the projected number of school-aged children does not change significantly, the distribution of this group does change. Consequently, there will be a need for further schools to be built, particularly in the Auckland area.

On-going investment in the education sector is important as the time between when future demand is identified and needs to be met can be short. Sudden changes in migration patterns and birth rates affect the demand for schooling in different regions leaving limited time to respond to increased demand.

Fiscal context

In 2009, the Ministry of Education's total capital expenditure intentions for 2010/11 was projected to be \$712 million with a shortfall of \$116 million that cannot be met through depreciation funding and would need to be met through additional funding through the Budget process. The Ministry of Education's total capital projection over the period covered in the National Infrastructure Plan is expected to cost around \$7 billion, with a total shortfall of approximately \$2 billion over the 2009/2019 period.

In the short-term, the Plan details \$314 million worth of planned capital expenditure to 2012, including plans to build 13 new school sites with a total expenditure of \$245 million.

The Government has announced that it is actively investigating new methods of procuring primary and secondary schools through PPPs. A pilot project is underway which, if it proves to represent value for money, may be adopted on a wider basis.

Potential opportunities

Figure 1 below shows the forecast level of expenditure on education sector projects over the next decade to 2020, including expected expenditure on repair and upgrade projects. A map showing forecast expenditure in each region is included in annex seven.

Cost estimates are not publicly available for some projects yet (e.g., the two projects in Christchurch) as they are yet to be approved. Auckland and Northland have the largest shares of forecast expenditure.

Figure 1: Forecast expenditure by region (next 10 years)

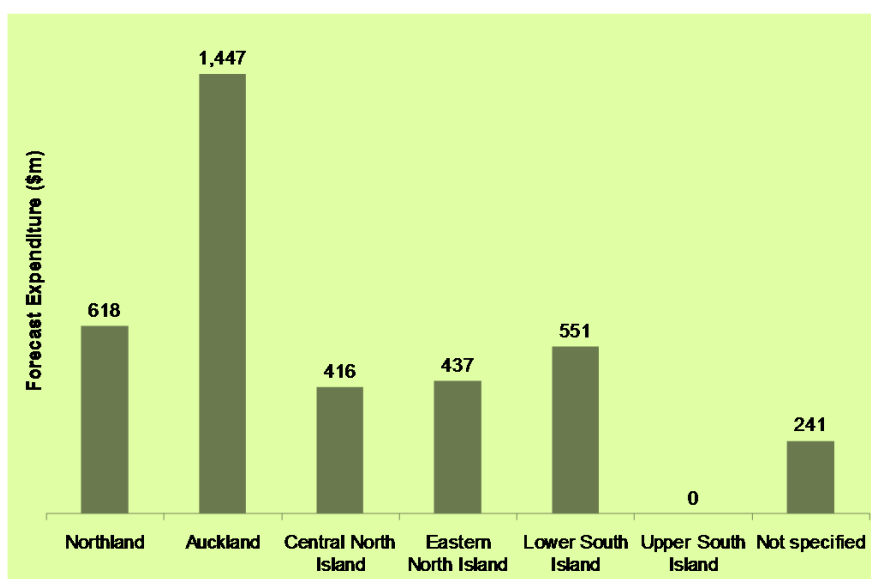


Table 1 provides detail on some specific projects that may be suitable for private sector parties to engage with Government in a PPP-type arrangement. Refer to annexes three and four for a more comprehensive list.

According to the National Infrastructure Plan, and some additional research, these projects are in the planning, or consideration stage and are all related to the acquisition of new land or assets.

Table 1: Development opportunities available in the education sector (next 10 years)

Project	Stage of development	Forecast expenditure (\$m)
Babich Primary School	Planned	-
Halswell (designation costs) Christchurch	Planned	-
Kura/Wharekura construction from baselines	To be considered	61
Kura/Wharekura forecast construction	To be considered	47
Churton Park Primary Lower Hutt	Planned	9
Pegasus (designation and site costs) Christchurch	Planned	-

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Takanini Primary Stage 2	Planned	-
Waipapa (new school site acquisition)	Planned	-
Hobsonville (planning only)	Planned	-
Papamoa East (site fees)	Planned	-
Whangarei (new school site acquisition)	Planned	-
Site purchases for schools that require new funding	To be considered	214
Forecast site purchases	To be considered	170
Forecast construction of new schools	To be considered	428
Construction of schools that require new funding	To be considered	345
Construction of new schools from within baselines	To be considered	223
Total		1,487

Projects that do not have expenditure included are yet to be finally approved by government. Approval is granted each year through the Budget capital funding allocation process. Figures for other items are early cost estimates for *groups* of projects (e.g., 'site purchases') and are subject to change and further refinement through the tendering process. School construction projects can range from \$7 – \$60 million. A new school development costs \$16m, on average, excluding land.

What are the opportunities for Iwi Māori?

Of particular interest to Iwi is the \$47m worth of expenditure on kura and wharekura. These are mainly planned to be located in Auckland and the Eastern North Island. To prepare to participate in these opportunities, Iwi Maori should look to:

- identify the role that Iwi want to play in these projects;
- identify key partners (design and construction companies) needed to help deliver a an asset such as a school;
- identify and engage with nationally and regionally located officials from the Ministry of Education to help shape early opportunity developments; and
- begin a process for deciding how, if at all, local Iwi might combine capital or capability.

Energy sector

What type of investment is this?

Projects in electricity sector are expensive and complex. The two main asset types include generation (power stations) and transmission infrastructure.

Generation

Generation assets are long-term investments. An asset's operational lifespan is usually around 25 years. This can be significantly longer for hydro generation and shorter for wind turbines. There is a number of risks, particularly associated with, but not limited to, obtaining consent, design and construction. In certain cases access to fuel (such as limited gas reserves) can also be problematic.

If Iwi were to own an asset, the potential returns are higher but are subject to risk from price and demand volatility. Established electricity generators manage this risk through hedging contracts and vertical integration by operating retail businesses. Partnering with an established generator is one way for Iwi to manage risks while taking advantage of the higher returns from an equity stake.

Investments in electricity generation require significant scale. Recent investment examples include:

- 132MW Nga Awa Purua geothermal \$400m;¹
- CCGT gas turbine 385 MW \$650 - \$700m;²
- West Wind (140MW) and White Hills (58 MW) are estimated to have cost \$400m³ and \$175m⁴ respectively.

What are the opportunities for Iwi Māori?

Current Māori participation in the generation sector is through large geothermal and wind projects. In these projects Iwi provide access to land and resources to established generators in return for resource/royalty payments.

Opportunities exist for Iwi to further engage in this area by leveraging off existing land and resource holdings to contribute resources in return for equity under joint venture arrangements with an experienced operator contracted. There may also be potential to leverage off resources and linkages in other sectors, such as water rights and irrigation schemes, which can be used for small-scale generation. Participation in this market,

¹ <http://ioj.iee.org.uk/local/pacific/nz/auckland/2010-geothermal-stn.cfm>, last accessed 2/5/2010

² <http://www.power-technology.com/projects/EP3/>, last accessed 2/5/2010

³ <http://www.power-technology.com/projects/westwindproject/>; last accessed 26/04/2010

⁴ Based on an estimated \$3m per megawatt installed (Submission to Environment Court, Statement of evidence of Bryan Leyland on behalf of Roch Patrick Sullivan; <http://www.wind-watch.org/documents/wp-content/uploads/leyland-cost-projecthayes-nz.pdf>; last accessed 26/04/2010.

however, would be limited without interaction with existing market participants.

Transmission/distribution

Transmission investments require significant scale and as a result are currently undertaken almost solely by Transpower (an SOE). Distribution businesses effectively have local regulated monopolies over electricity distribution and earn regulated, stable returns.

To date, there does not appear to have been any direct investment by Māori in these sectors. However, where Iwi have strong relationships with developers (typically local lines companies) there is potential for investment into specific dedicated transmission and distribution projects. Many lines companies have strong linkages to their local communities. PwC are aware that some of these businesses are looking to tap into local funding sources (through equity or debt offerings) to fund some of their electricity infrastructure developments.

Resource extraction processing (oil/gas/coal)

Resource extraction is associated with high (although potentially volatile) returns and high upfront risk. The risk can potentially be mitigated through joint venture arrangements for initial drilling costs and diversified portfolios of properties. However, as a result of this volatility and risk, resource extraction probably does not meet the desired medium to long-term sustainable return profile of Māori investors.

Demand drivers

Demand for electricity is forecast to increase at around 1 - 2% per annum.⁵ This is the equivalent of approximately 150MW to 200MW per annum of additional generating capacity (excluding replacement plant requirements). There is a reasonably constant need to:

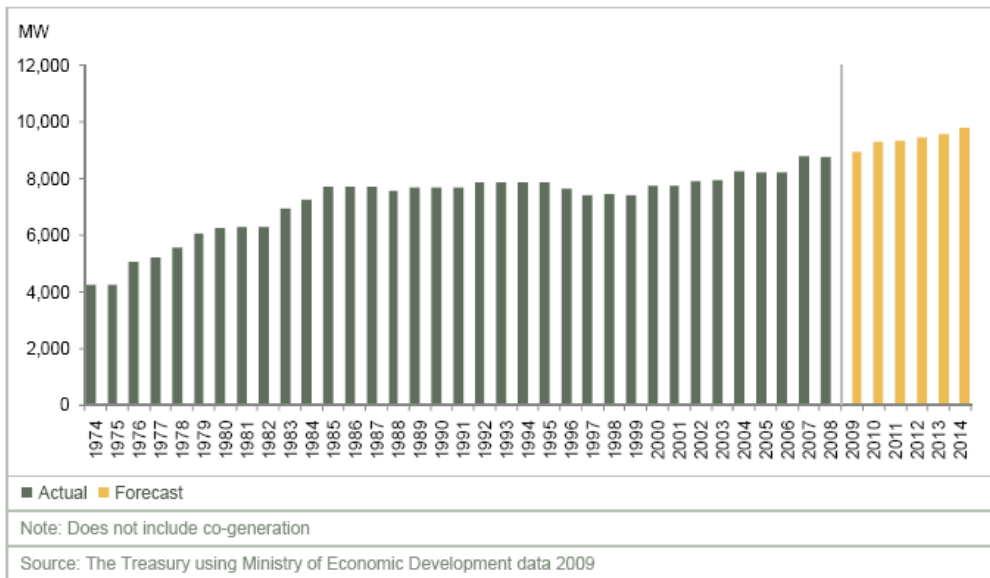
- construct additional generation capacity;
- develop the transmission grid and distribution networks to enable them to cope with increased loads; and
- replace ageing infrastructure.

Fiscal context

Generation capacity is expected to increase (see Figure 2). While accurate forecasts of the cost of additional generation capacity are not readily available, we estimate that annual generation expenditure would be around \$500m to \$600m per annum, based on 200MW of additional capacity per annum.

⁵ <http://www.electricitycommission.govt.nz/opdev/modelling/demand/index.html>, last accessed 26/04/2010

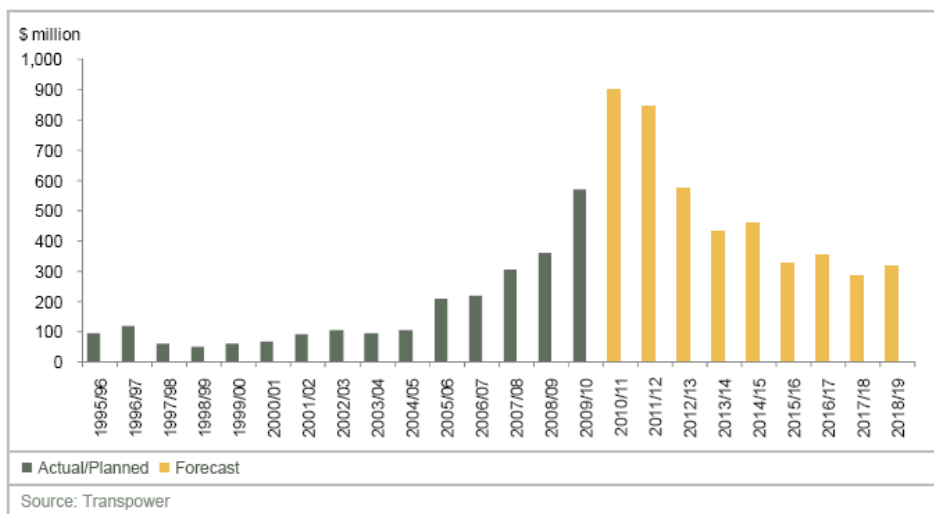
Figure 2: Actual and forecast generation capacity (to 2014)



Following on from a number of decades of underinvestment, Transpower has planned significant investment over the next decade. Total capital expenditure by lines companies is projected to average in excess of \$500 million per annum for the next few years until 2012/13 before falling away to around \$300 million per annum (Figure 3). This expenditure is dominated by asset replacement and renewals, and system growth.

Given the integrated nature of these network assets, the identification of specific projects and methods of revenue capture is problematic. This makes debt financing easier to undertake than the establishment of an equity share in a specific initiative.

Figure 3: Forecast annual expenditure on transmission assets



Potential opportunities

Table 2 contains information on transmission projects that are planned by Transpower over the next few years. These projects have either been

approved by the Electricity Commission (the market regulator) or are pending approval. Projects that are pending approval do not have cost information available.

What are the opportunities for Iwi Māori?

As the table demonstrates, new construction or large-scale upgrades are very expensive. It would be hard for Iwi to engage in these types of projects at any deeper level of participation than as a part-provider of finance.

Table 2: Planned transmission projects (2011 to 2013)

Project	Total Spend (\$m)	Time frame	Project Status
Masterton-Mangamaire-Woodville Line Conductor Replacement	17	2011	Planned
Wilton 110 kV Interconnection Transformer Replacement	10	2011	Planned
Western Bay of Plenty Upgrade	-	2011	Planned
North Island Grid Upgrade	824	2010	Planned
HVDC Inter-Island Link Pole 3 Project	672	2012	Planned
Upper North Island Reactive Power	-	2012	Planned
Wairakei to Whakamaru New Transmission Line Project	141	2012	Planned
North Auckland and Northland Grid Upgrade Project	473	2013	Planned
West Coast Grid Upgrade	19	2013	Planned
Lower Waitaki Valley	-	2011	Planned
Upper South Island Grid Upgrade	-	2013	Planned
Lower South Island Reliability	-	2013	Planned
Lower South Island Renewables	150	2013	Planned
Total	2,306		

The National Infrastructure Plan contains numerous generation projects. However, cost information is limited. Table 3 contains a selected number of projects to illustrate the breadth of scale and cost. For further information on specific projects refer to annex one.

Table 3: Selected planned generation projects

Project	Fuel	Owner/ Operator	Capacity (MW)	In Service Date	Estimated Cost (based on average cost per MW)
Rotoma	Geothermal	Rotoma No 1 Corporation	35.0	2015-2020	\$116.6m
Long Gully	Wind	Mighty River Power	12.5	2015-2020	\$34.4m
North Bank Tunnel	Hydro	Meridian Enegy	200-280	2015-2020	\$280-395m
Rakaia River	Hydro	Ashburton Com. Water Trust	16.0	2015-2020	\$22.4m

Health sector

Sector background

District Health Boards (DHBs) collectively manage \$4.3 billion of assets and are responsible for capital expenditure in their regions. However, the government maintains control over large investment decisions.

Investment in the primary health sector (e.g., General Practitioners) is led by privately owned profit and not-for-profit organisations.

Changes are underway to improve the quality of DHB asset management. The recent decision to establish a business unit within the Ministry of Health to focus on service planning and capital investment, in particular, is intended to support better decision-making for health sector infrastructure.

The Government plans to devolve more services and funding from DHBs to primary health providers. Part of this strategy is the creation of Integrated Family Health Centres / Whānau Ora Centres. These centres will require infrastructure investment from a range of sources.

What type of investment is this?

Investment in the Health sector is realistic for Iwi as it contains manageable opportunities to start developing a baseline of experience and capability. The complexity of potential opportunities is not yet fully known. At this stage, the role Iwi investors could play ranges from providing finance, to design, build-and-lease or whole-of-life operation.

What are the opportunities for Iwi Māori?

- 1) *Co-investment with a DHB for the design, construction and ownership of an infrastructure asset*

Health infrastructure assets range in complexity, from car parks to medical theatres. A likely scenario is that Iwi would finance and maintain infrastructure for a DHB, receiving revenue from a lease. Lease payments would need to reflect the relative risk of the asset. For example, clinical buildings typically have a condition-based life of around 50 years. However, changing models of care can shorten the useful life, creating challenges for optimal asset management and pricing.

Some examples of DHB investments are:

- \$26m for Waitemata North Shore Car Park
- \$23m for the Waikato Rehabilitation Hub
- \$250m for Waikato Multi Stage Building Programme

2) Co-investment with a General Practice, or group of providers, for the design, construction and ownership of an Integrated Family Health Centre or Whānau Ora Centre

The Government invited interested parties to put forward their proposals for devolving more funding from DHBs to primary health care settings through an Expression of Interest process in 2009. The devolution would, among other things, require new capital to build or transform existing practices to Integrated Family Health Centres or Whānau Ora centres.

Nine successful proposals have been accepted into the next phase of the business case development process. No overall analysis of the infrastructure requirements has been produced by the Ministry of Health, but up to 33 (and potentially more) Whānau Ora or Integrated Family Health Centres may be built or redeveloped (Table 4).

Table 4: Forecast number of Integrated Family Health Centres / Whānau Ora Centres to be developed (next five years)⁶

Primary Care Providers	Number of proposed IFHC / WOC
Canterbury Clinical Health Network	1
Greater Auckland Integrated Health Network	Up to 12
Health+ Alliance PHO	3
MidCentral PHOs	5
Midlands Network	5
National Māori PHO Coalition	4
Wairarapa Community PHO	Undisclosed
West Coast PHO	Undisclosed
Eastern Bay of Plenty PHOs	3
Total (Based on current information available)	33

⁶ Ministry of Health (<http://www.moh.govt.nz/moh.nsf/indexmh/phcs-bsmc-proposals>; last accessed 26/04/2010)

A likely scenario would be for Iwi to finance and maintain the building for a practice, receiving revenue in the form of rental payments. A preliminary estimate of the cost of upgrading an existing practice to an Integrated Family Health/Whānau Ora Centre is between \$2 million and \$5 million. The development of a greenfields site could range between \$10 million and \$20 million.

Demand drivers

The drivers of DHB investments in health infrastructure are population growth, demographic changes, improvements in health technology and the age of long-lived assets. DHBs have forecast significant capital expenditure within the next twenty years. The majority of this expenditure relates to new buildings and the replacement of existing buildings.

Fiscal context

The current capital asset management planning for the Ministry and DHBs covers ten years and is done on a DHB-by-DHB, bottom-up business-as-usual basis.

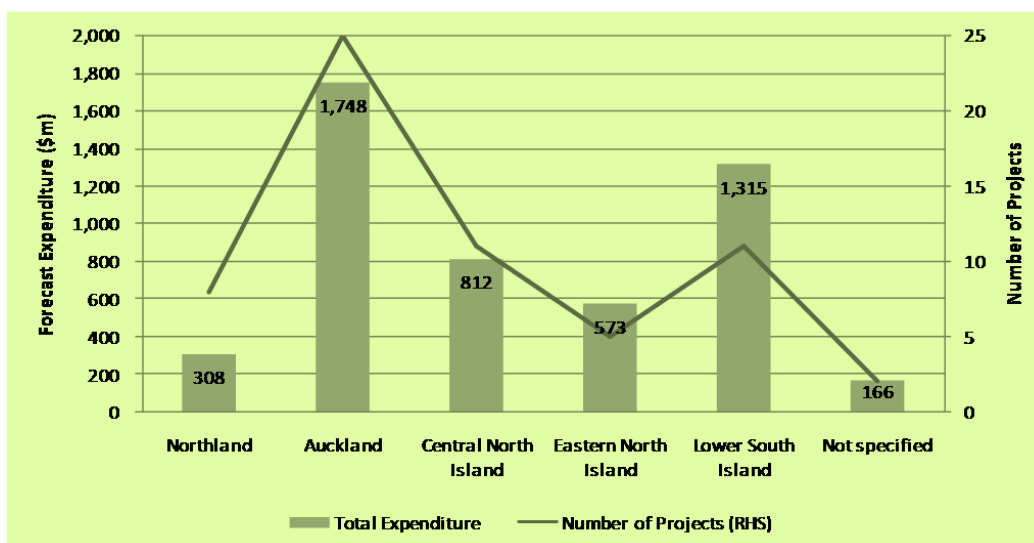
The Ministry of Health is still in discussions with DHBs and Primary Healthcare providers and scheduled to be until July 2010. It is most likely that practice owners and private investors will be required to finance the majority of new infrastructure needed in the primary health sector.

Potential opportunities

Figure 4 below provides an overview of forecast capital expenditure in the health sector over the next ten years. For further information please refer to annex six, a map showing forecast expenditure in each region is included in annex seven.

Auckland and the lower South Island stand out as regions with the highest levels of forecast expenditure. Average project cost is higher in the lower South Island than in Auckland (\$120 million versus \$70 million).

Figure 4: Forecast capital expenditure in the health sector (next 10 years)



The figure above includes projects already underway, and upgrade and repair projects.

A more complete list of projects is included in Table 5. These are largely single-purpose facilities that the Government is yet to make a decision on whether they should go ahead. The opportunity for Iwi here is to engage with Government early on these projects to propose a finance, build and ownership arrangement. Iwi would lease the asset to the government under a long-term contract and be responsible for upkeep and maintenance of the asset (not necessarily its operation). A longer list of planned expenditure in the health sector is included as annex six.

Table 5: DHB-level development opportunities available in the health sector (next 10 years)

Project Description	Total Estimated Cost (\$m)
Ashburton Hospital	20
Auckland Green Lane Clinical Centre new all-age Rehab Centre	48
Buller Hospital Aged Care (if not done privately)	20
Canterbury – Riverside Building Stage 1 – Chch Hosp Precinct Plan	400
Canterbury Burwood Hospital / Rehabilitation Facility	70
Canterbury Mental Health	60
Capital and Coast – ICT	23
Counties Manukau – centre for health services innovation	50
Counties Manukau – Manukau Health Park – Stage 2 (includes elective theatres)	71
Counties Manukau – Manukau Health Park – Stage 3	79
Counties Manukau Clinical Services Block Stage 2	108
Green Lane Clinical Centre New Elective surgery facility	24
Greymouth Hospital	110
Hutt ED Theatres	82
Lakes – Rotorua and Taupo Hospitals	90
Manukau Health Park – Stage 1A	123
Manukau Health Park – Stage 1B	49
Nelson Building Programme Completion Buildings 1 & 2	40
Northland Whangarei Stage One	25
Taranaki – New Plymouth Hospital	80
Tauranga Masterplan – Theatres	29
Waikato inpatient Wards Block A	29
Waikato Mental Health Adult (60 beds Inpatient facility)	30
Waikato Rehabilitation Hub	23
Waikato SCR	250
Waitemata – Waitakere Building B – Maternity/SCBU/Paeds/CSS	50
Waitemata DHB Taharoto Mental Health Unit Replacement phase	38
Waitemata North Shore Car Park	26
Waitemata North Shore Hospital Expansion – Service for	116

older adults	
Waitemata North Shore Hospital Expansion – SSOA 1 (b) & 2 9(a)	46
Waitemata North Shore inpatients building	108
Waitemata Waitakere Expansion Building D: Surgical beds 1	45
Whakatane	65
Total	2,427

Transport sector

Sector background

The transport sector encompasses road, rail, sea and airports. A range of national and local actors invest in transport infrastructure, including national and local government, and private sector companies.

All publicly accessible roads are planned, commissioned and owned by the Crown (state highways) or local authorities, with maintenance and new construction funded by various road user charges and contributions from ratepayers.

KiwiRail (a SOE) is responsible for funding and commissioning upgrades and maintenance to the rail network. The priority is for investment in areas where rail has the greatest comparative advantage, such as the bulk transport of goods. Investment in metropolitan rail infrastructure is the responsibility of regional councils who work with NZTA and KiwiRail. The significant level of investment in metro services over recent years has required funding from central government.

Ports and airports are operated as commercial enterprises, so information on planned intentions is limited.

What type of investment is this?

Investment options range from providing financial resources to entering into a consortium arrangement for the finance, design, build and operation of a toll asset. Iwi are unlikely to have the construction experience necessary to manage a transport project on their own but opportunities exist for entering into partnerships with more established players, either as a financier or assisting with the operation of the asset (e.g., toll collection). Expected returns would vary depending on the role that Iwi have in the project and the relative risk of the project. However, for national projects where Iwi only provide finance, the return is likely to be lower as the government is effectively underwriting the investment.

Given the current Government's ambitions for the transport sector and the constrained fiscal environment, opportunities exist for third parties to invest in the transport sector as a financier. Total project costs vary significantly, from \$5 million to nearly \$4 billion.

Fiscal context

There has been significant investment in recent years in the transport sector, particularly in road and metro rail infrastructure. High levels of investment are expected to continue with the current Government highlighting the link between an effective and efficient transport network and growth in economic productivity - one of its priority goals. While significant investment has been made in metropolitan public transport systems, the need for investment may increase further if the demand for services increases beyond the capacity of the current system to supply.

Projects that are planned or underway over the next ten years are summarised by sector below:

- Roads: \$11.1 billion, including \$9.4 billion on identified Roads of National Significance.
- Rail: \$1.4 billion, with the majority planned for Auckland passenger rail services.

Potential opportunities

Table 6 below shows selected opportunities in the transport sector. These projects have been selected based on their availability (i.e., are still in the early stages of planning and have yet to secure finance). A fuller set of projects, including a break down of the Roads of National Significance is included as annex two and a map showing forecast expenditure in each region is included in annex seven.

What are the opportunities for Iwi Māori?

The transport sector is characterised by expensive and complicated construction of network infrastructure. The scale and complexity involved mean that only a select number of firms have a expertise and infrastructure to undertake design or construction work. In some instances where developers are seeking private finance, Iwi may be able to seek an equity share in the asset, allowing for future returns over and above what would be generated through a commercial loan. Iwi may also act as a strategic advisor for, or on behalf of, a consortium or alliance of developers.

Table 6: Selected opportunities in the transport sector

Sector	Project Description	Total estimated Cost (\$m)
Airports	Auckland Airport	42
	Christchurch Airport	230
	Gisborne Airport	6
	Paraparaumu Airport	10
	Queenstown Airport	8
	Rotorua Airport	8
	Wellington Airport	470
	Airports Total	774
Roads	Local road improvements	480
	Local road maintenance and operations	743

Local road renewals	696
Public transport infrastructure	269
State highway improvements – other than roads of national significance	10,958
State highway improvements – roads of national significance	3,340
State highway maintenance and operations	897
State highway renewals	633
Walking and cycling infrastructure	51
Roads Total	18,067
Total	18,841

Water sector

Sector background

Water infrastructure in New Zealand comprises two broad categories, reticulated infrastructure and rural water infrastructure.

Reticulated infrastructure

Water systems are typically constructed by local government (and in some cases central government) and funded through rates and development contributions. In some instances, water charging mechanisms are established to recover the some of the costs of operating and financing the infrastructure. The need for further investment in water systems is driven by public health and environmental standards, as well as demographic trends.

The total value of water, waste water and storm water assets under local government control is estimated to be approximately \$33 billion. In addition, it is estimated that local government may also manage a further \$1.5 billion worth of flood control and drainage assets.

There is limited opportunity for Iwi investment in specific projects in reticulated water given the integrated, network nature of these assets.

Rural water infrastructure

Irrigation accounts for the largest proportion of water consumption in New Zealand. Approximately 77% of water allocated under resource consents in New Zealand (as at 2006) was for irrigation, with the remainder for industrial use, public water supply and stock watering. The infrastructure ranges from large-scale dams and reservoirs to smaller-scale water tanks and groundwater extraction facilities.

Many irrigation schemes, particularly larger ones, were originally developed and owned by government. However, since the mid 1980s the government has divested its interests in rural and water irrigation schemes and development is now undertaken by farmers or other commercial interests.

One of the greatest barriers to funding large-scale irrigation developments is accessing finance (under reasonable terms) for the feasibility and

construction phases of the project. During these phases the risk of financial loss is significant for potential investors and financiers.

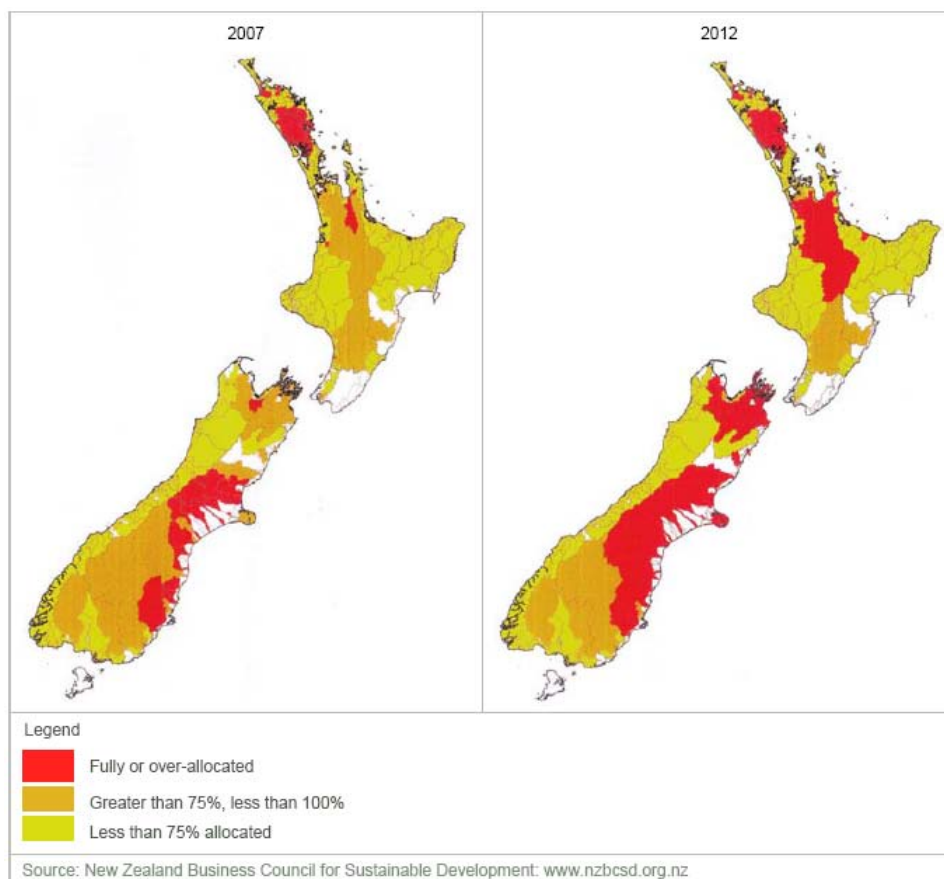
Established schemes where start-up, development and take-up risks have been overcome may present more attractive investment opportunities for parties looking for stable returns and low-risk investments. At this point the risk is lower and the returns are generally fixed as a result of high income-certainty through contractual obligations to take water and the majority of operating costs being fixed.

Demand drivers

Demand for rural water infrastructure is increasing. The infrastructure supports a variety of agricultural industries (horticulture, dairying, sheep, beef and cropping) and as such is important in the context of maintaining and increasing land productivity.

Protection against climate change is also driving demand for reliable sources of water. It is projected that by 2012 water will be fully allocated in most of Canterbury, Waikato, Marlborough and Northland (see Figure 5).

Figure 5: Changing patterns of water allocation



Fiscal context

Reticulated

Across all councils, average annual capital expenditure on water networks is estimated to be around \$1.15 billion per annum over the next ten years.

This is approximately 25% of the total forecast capital spend by councils over the same period.

Rural water infrastructure

Rural water infrastructure schemes, consistent with other infrastructure investment opportunities, are highly capital intensive and of significant scale. For example:

- The Barrhil Chertsey scheme (Stage 1: 17,800 hectares) is expected to have a total cost including canals, storage and on-farm development in the vicinity of \$225m, which could easily be replicated in Stage 2: a further 20,000 hectares.
- The Hurunui Water Project (a corporate entity with four shareholders including Iwi and an electricity lines company) is looking to irrigate 42,000 hectares at a cost of up to \$250m.
- Central Plains Water has estimated that the capital costs of its scheme would be in the vicinity of \$400m (for approximately 60,000 hectares).

Potential opportunities

- The National Infrastructure Plan contains highly aggregated estimates of local authorities capital requirements for water infrastructure over the period 2010-2020. These are:
 - \$3.9 billion for water supply;
 - \$5.0 billion for waste water; and
 - \$2.6 billion for storm water.

In 2008, the Ministry of Agriculture and Forestry indicated that it was aware of 22 prospective irrigation schemes, both storage and non-storage based. These were situated predominantly in Canterbury, but also Otago, Tasman, Marlborough, Hawke's Bay and the Bay of Plenty. The map at Figure 7 shows the current and proposed schemes in the Canterbury region as at December 2008. Figure 6 highlights proposed schemes that have acquired consents and those currently seeking consents.

Large rural water schemes are potentially beyond the means of farmers and possibly local bodies to develop on their own. A consequence may be the utilisation of corporate investors and/or Public Private Partnership arrangements, including for example, Build, Own Operate and Transfer frameworks.

Some common structures involve the contribution of equity by the users of the water and a debt/preferential return structure for a corporate investor. Variability in returns predominantly rests with the ultimate owners (being the users) of the infrastructure. Once the infrastructure demand has been underwritten by users, this type of structure could be appropriate in the context of a preferred, stable return on funds invested. However, as highlighted above, the level of funding required is significant.

The government is looking at ways to improve the regulatory frameworks to support rural water infrastructure development, and is keen to see barriers to infrastructure development reduced.

Several major schemes have been developed since the devolution of schemes by the government, including Opuha (1998, 16,000 ha), Waimakariri (1999, 18,000ha), North Otago Stage 1 (2006, 10,000ha), and the Wai-iti Valley Augmentation Dam (2006, 800,000m²).

Figure 6: Proposed water schemes (as at 2008)

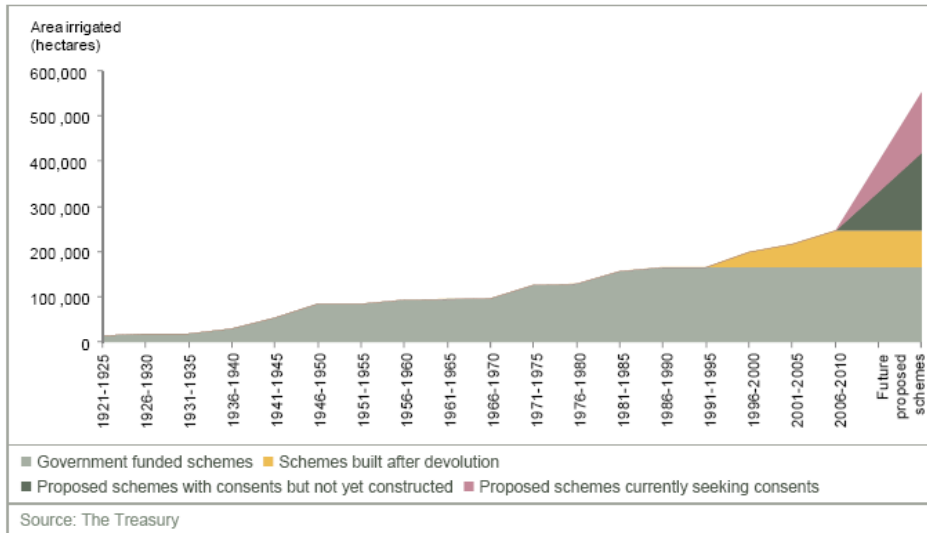
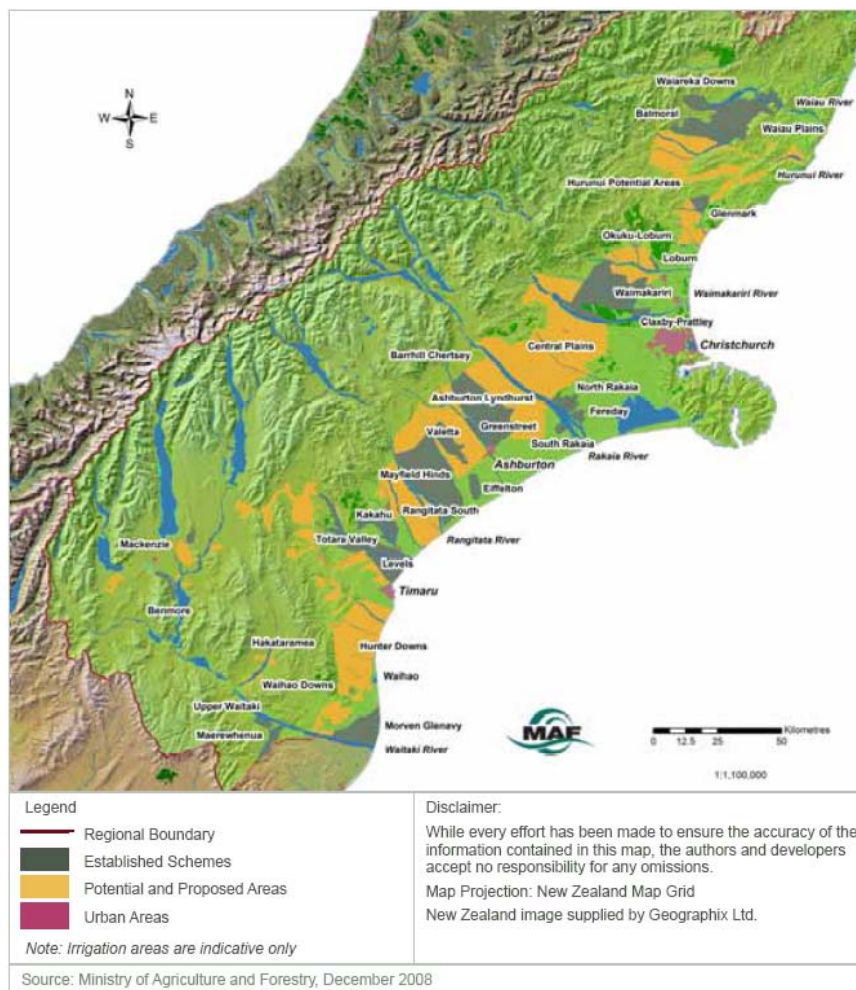


Figure 7: Map of established and proposed schemes in the Canterbury region (as at 2008)



Telecommunications

Regulated and changing industry

This sector is dominated by a small number of private companies. In response to low levels of competition, the government has regulated significant parts of this industry.

The pace of change within the telecommunications sector makes it more risky than other infrastructure assets. Investors and developers require specialist knowledge and capability to participate successfully.

Government investment

There are currently two significant public sector-led initiatives in the Broadband sector: the Ultra-fast Broadband Investment Initiative and the Rural Broadband Initiative.

In 2008, the Government announced it would invest \$1.5 billion expanding access to fibre optic connections (Ultra-fast Broadband Investment Initiative). Thirty three Local Fibre Companies (LFCs) have already entered

the selection process with Crown Fibre Holdings, a government agency set up to manage investment nationwide.⁷

Open access and dark fibre are the key principles underlying the government's investment. LFCs will be required to provide equality of access and allow consumers to switch easily between providers. Dark fibre means the wholesale customer has control, flexibility and ability to innovate downstream services.

The proposed model sees the Crown shoulder a significant portion of the risk, with the partner only required to invest in the network as customers connect. In return, the private partner will meet the LFC's establishment costs and bear the majority of the deployment and execution risk: risks that the Government sees the private sector as best placed to manage.

The initial contractual arrangement is expected to last ten years of the LFC's life. Beyond that timeframe the Crown and partner-LFC will revert to more conventional shareholding arrangements.

Additional private investment

Telecom is looking to invest \$1.4 billion in cabinet upgrades and a further \$0.3 billion in a Third Generation mobile network. Vodafone plans to invest \$0.5 billion in expanding its 3g network and NZ Communications (owners of 2Degrees mobile network) has been surveyed to spend an additional \$0.15 billion upgrading its network technology and expanding its market share.

Potential opportunities

The potential opportunities are for Iwi to purchase an equity share (perhaps in exchange for land access) and provide finance to LFCs with their initial investment. However, the opportunity to form an LFC under the Ultra-Fast Broadband Initiative has passed. More details on the Fibre to the Home initiative are expected once Crown Fibre Holdings has finalised the selection of LFCs.

With regard to the Rural Broadband initiative, the Government recently announced a call for expressions of interest from potential suppliers or consortia of suppliers of broadband infrastructure to inform a Request for Proposal (RFP) stage from August 2010.⁸ This represents a 'live' opportunity for Iwi Māori and other investors to consider participating in.

Conclusion

The scale of future infrastructure expenditure in many sectors is large and the opportunities for Iwi Māori, and other investors, are vast. The current government has signalled the importance of ongoing investment in infrastructure to its economic growth agenda and its willingness to investigate an expanded role for private sector finance, ownership and operation of publicly commissioned infrastructure under a PPP-type model. It is important to note that these new models will not totally replace more

⁷ http://www.med.govt.nz/templates/ContentTopicSummary_41902.aspx, last accessed 2/5/2010

⁸ <http://www.beehive.govt.nz/release/call+expressions+interest+rural+broadband+initiative+0>, last accessed 29/04/2010

traditional methods of procurement. For example, more traditional models will be retained where they offer greater value for money or where there are legal or operational reasons for the Crown to retain ownership of the asset.

The greatest level of future infrastructure expenditure will be on roads and water systems (drinking, waste, irrigation). This is not only a reflection of the scale of initiative, but also the construction complexity and expense involved.

The most ready opportunities for Iwi Māori to undertake PPP-type projects to design, construct and operate assets are in the health and education sector, and in the provision of improved rural broadband infrastructure through the Government's recently announced Rural Broadband Scheme. These are areas where the scale and complexity of investment is commensurate with the current capability and capacity of Iwi Māori. However, this does not preclude Iwi from taking an advisory or other role on larger, more complex projects while they grow their capability.

There are various roles that Iwi can play in development projects, and some further analysis is contained in the Māori Economic Taskforce materials on the roles and risks within PPPs.

The most important step, however, is that Iwi need to discuss and progress organising ourselves collectively to take advantage of combined capital and expertise. In parallel with this, Iwi also need to further develop their links with developers, local and international, who they may want to form joint ventures with, and local and national infrastructure planners who can provide them with early warning about specific opportunities as they appear on the infrastructure horizon.

Annex One: Planned energy generation projects

Project	Fuel	Owner/Operator	Capacity (MW)	In-Service Date	Status
Northland					
Kaipara Harbour pilot	Marine	Crest Energy	1 (pilot)	2011	Consent under appeal
Auckland					
Rodney	Gas	Genesis	480	2013	Consent under appeal
Otahuhu C	Gas	Contact Energy	400	2015-2020	Consented
Awhitu	Wind	Genesis	18	2015-2020	Consented
Waikato					
Centennial Drive - Tauhara	Geothermal	Contact Energy	20	2010	Under construction
Nga Awa Purua	Geothermal	Mighty River Power	132	2010	Under construction
Waipa	Hydro	Hydro Energy Ltd	7	2010	Under construction
Te Uku	Wind	WEL Network	84	2011	Consented
Te Mihi	Geothermal	Contact Energy	60	2013	Consented
Hauāuru mā raki	Wind	Contact Energy	540	2015-2020	Applied for consent
Taharoa	Wind	Taharoa C / PowerCoast	100	2015-2020	Consent under appeal
Taumatatorara	Wind	Ventus	44	2015-2020	Consented
Bay of Plenty					
Rotoma	Geothermal	Rotoma No. 1 Corporation	35	2015-2020	Applied for consent
Taranaki					
Stratford	Gas	Contact Energy	200	2010	Under construction
Waverley	Wind	Allco Wind Energy	135	2011	Applied for consent
Mokau	Hydro	King Country Energy	10	2015-2020	Consent under appeal
Hawke's Bay					
Titikura	Wind	Unison / Roaring 40s	48	2010	Consented
Te Pohue wind farm	Wind	Hawke's Bay Wind Farm Ltd	225	2011	Consented
Waitahora	Wind	Contact Energy	149-177	2013	Consent under appeal
Manawatu					
Te Rere Hau Stage 4	Wind	NZ Windfarms	15	2010	Consented
Central Wind (Moawhango)	Wind	Meridian Energy	120-130	2015-2020	Consent under appeal
Te Rere Hau Extension	Wind	NZ Windfarms	28	2015-2020	Applied for consent
Turitea	Wind	Mighty River Power	335	2015-2020	Applied for consent
Wellington					
Cook Strait Marine Energy pilot	Marine	Neptune Power	1 (pilot)	2011	Consented
Long Gully	Wind	Mighty River Power	12.5	2015-2020	Applied for consent
Mill Creek	Wind	Meridian Energy	71	2015-2020	Consent under appeal

Marlborough					
Wairau	Hydro	TrustPower	70	2012	Consent under appeal
Canterbury					
Belfast	Diesel	Orion	11.5	2012	Consented
Bromley	Diesel	Orion	11.5	2012	Consented
North Bank Tunnel	Hydro	Meridian Energy	200-280	2015-2020	Consent under appeal
Rakaia River	Hydro	Ashburton Com. Water Trust	16	2015-2020	Consented
Mt Cass	Wind	MainPower	41-69	2015-2020	Consent under appeal
West Coast					
Amethyst	Hydro	Westpower / Harihari Hydro Ltd	6	2011	Consented
Arnold (Dobson)	Hydro	TrustPower	46	2011	Consent under appeal
Mokihinui	Hydro	Meridian Energy	85	2013	Applied for consent
Matiri	Hydro	New Zealand Energy Ltd	5	2015-2020	Applied for consent
Stockton Plateau	Hydro	Hydro Developments Ltd	25-50	2015-2020	Applied for consent
Otago					
Mahinerangi	Wind	TrustPower	200	2011	Consented
Project Hayes	Wind	Meridian Energy	630	2011	Consent under appeal
Hawea Control Gate Retrofit	Hydro	Contact Energy	17	2012	Consented
Southland					
Kaiwera Downs	Wind	TrustPower	240	2015-2020	Consented
Mt Stuart	Wind	Pioneer Generation	6	2015-2020	Applied for consent

Source: National Infrastructure Plan and PwC analysis

Annex Two: Planned transport projects

Sector	Project Description	Region	Total estimated cost \$m	Project Status	Timeframe
Roads	State highway improvements – other than roads of national significance	Not specified	1,715	Committed	2010-2015
Roads	Completion of the Auckland Western Ring Route	Auckland	340	Committed	2010-2015
Roads	Christchurch Motorway Projects	Upper South Island	340	Committed	2010-2015
Roads	Waikato Expressway – SH1	Central North Island	340	Committed	2010-2015
Roads	Tauranga Eastern Link	Eastern North Island	340	Committed	2010-2015
Roads	Puhoi to Wellsford – SH1	Auckland	1,240	Planned	2010-2015
Roads	Completion of the Auckland Western Ring Route	Auckland	1,490	Committed	2010-2015
Roads	Auckland Victoria Park Tunnel – SH1	Auckland	396	Committed	2010-2015
Roads	Waikato Expressway – SH1	Central North Island	1,700	Committed	2010-2015
Roads	Tauranga Eastern Link – SH2	Eastern North Island	450	Committed	2010-2015
Roads	Wellington Northern Corridor (Levin to Wellington)	Central North Island	2,100	Planned	2010-2015
Roads	Christchurch Motorway Projects	Upper South Island	660	Committed	2010-2015
Roads	State highway maintenance and operations	Not specified	897	To be considered	2010-2015
Roads	Local road maintenance and operations	Not specified	743	To be considered	2010-2015
Roads	Local road renewals	Not specified	696	To be considered	2010-2015
Roads	State highway renewals	Not specified	633	To be considered	2010-2015
Roads	Local road improvements	Not specified	480	To be considered	2010-2015
Roads	Public transport infrastructure	Not specified	269	To be considered	2010-2015
Roads	Walking and cycling infrastructure	Not specified	51	To be considered	2010-2015
Roads	Additional Waitemata harbour crossing, Auckland	Auckland	4,000	To be considered	2015+
Roads	East-west SH20 connection Auckland	Auckland	1,500	To be considered	2015+
Roads	Auckland urban arterials improvements Auckland	Auckland	1,500	To be considered	2015+
Roads	Auckland Manukau Eastern Transport Initiative (AMETI) Auckland	Auckland	400	To be considered	2015+
Roads	North Shore bus way extensions Auckland	Auckland	225	To be considered	2015+
Roads	Penlink Auckland	Auckland	175	To be considered	2015+
Roads	Kopuku realignment Auckland	Auckland	80	To be considered	2015+
Roads	Hamilton southern links Waikato	Central North Island	600	To be considered	2015+
Roads	Potential improvements to SH1 Desert Road Waikato	Central North Island	165	To be considered	2015+
Roads	Wairere Drive improvements Waikato	Central North Island	100	To be considered	2015+

Sector	Project Description	Region	Total estimated cost \$m	Project Status	Timeframe
Roads	Mangatarata four laning Waikato	Central North Island	85	To be considered	2015+
Roads	Church to Timbermill four laning Waikato	Central North Island	80	To be considered	2015+
Roads	Graham's bridge realignment Waikato	Central North Island	60	To be considered	2015+
Roads	Maramarua Deviation Waikato	Central North Island	60	To be considered	2015+
Roads	Tauranga northern arterial Bay of Plenty	Eastern North Island	475	To be considered	2015+
Roads	Hairini link Bay of Plenty	Eastern North Island	200	To be considered	2015+
Roads	Katikati bypass Bay of Plenty	Eastern North Island	100	To be considered	2015+
Roads	Tauriko bypass Bay of Plenty	Eastern North Island	100	To be considered	2015+
Roads	Rotorua eastern arterial Bay of Plenty	Eastern North Island	85	To be considered	2015+
Roads	Omokoroa intersection Bay of Plenty	Eastern North Island	40	To be considered	2015+
Roads	Prebensen Drive Hawkes Bay	Eastern North Island	35	To be considered	2015+
Roads	Vickers Road to New Plymouth	Central North Island	55	To be considered	2015+
Roads	Petone to Grenada link Wellington	Central North Island	250	To be considered	2015+
Roads	Kennedy Good interchange Wellington	Central North Island	125	To be considered	2015+
Roads	Melling interchange Wellington	Central North Island	55	To be considered	2015+
Roads	Potential improvements to SH1 Kaikoura Coast	Upper South Island	150	To be considered	2015+
Roads	Woodend bypass Canterbury	Upper South Island	85	To be considered	2015+
Roads	Lyttleton tunnel improvements Canterbury	Upper South Island	88	To be considered	2015+
Roads	Gates of Haast realignment West Coast	Upper South Island	38	To be considered	2015+
Roads	Homer tunnel improvements Southland	Lower South Island	48	To be considered	2015+
Rail	20 new diesel locomotives 75 Late 2010	Not specified	75	Underway	2010-2015
Rail	Wagon & locomotive upgrades 40 Ongoing	Not specified	40	Committed	2010-2015
Rail	Track and infrastructure upgrades 40 Ongoing	Not specified	40	Committed	2010-2015
Rail	TranzScenic Carriage Upgrades (TranzAlpine and TranzCoastal) 39 2010/11	Not specified	39	Underway	2010-2015
Rail	Double-tracking of Western Line between Newmarket and Swanson 200 June 2010	Auckland	200	Underway	2010-2015
Rail	Trench through New Lynn 160 June 2010	Auckland	160	Underway	2010-2015
Rail	Rehabilitating Onehunga branch line 10 June 2010	Auckland	10	Underway	2010-2015
Rail	Spur line to Manukau 50 October 2010	Auckland	50	Underway	2010-2015
Rail	Railway station upgrades 60 2011	Not specified	60	Underway	2010-2015

Sector	Project Description	Region	Total estimated cost \$m	Project Status	Timeframe
Rail	Electrification of the Auckland network (traction and signalling) 500 2013	Auckland	500	Committed	2010-2015
Rail	New electric multiple units (EMUs), including stabling 500 2013	Not specified	500	Committed	2010-2015
Rail	Double-tracking and electrification – McKay’s Crossing to Waikanae 90 Late 2010	Central North Island	90	Underway	2010-2015
Rail	Wellington station entry (third line) 40 Mid 2010	Central North Island	40	Underway	2010-2015
Rail	New EMUs (Matangi), including stabling 270 2011	Central North Island	270	Committed	2010-2015
Rail	Compliance (power supply and signalling) with new EMUs 60 2011	Central North Island	60	Committed	2010-2015
Rail	Railway station upgrades (and Kapiti EMU stabling) 25 2011	Central North Island	25	Committed	2010-2015
Airports	Airfield 10 Not known	Auckland	10	Planned	Not specified
Airports	International Terminal 32 Not known	Auckland	32	Planned	Not specified
Airports	New Terminal Development 215 2013	Upper South Island	215	Planned	2010-2015
Airports	Roading and Services Infrastructure 15 2013	Upper South Island	15	Planned	2010-2015
Airports	Runway resurface 6 2016	Eastern North Island	6	Planned	2015-2020
Airports	Runway extension 5 2011	Eastern North Island	5	Underway	2010-2015
Airports	Permanent terminal 10 2013	Central North Island	10	Planned	2010-2015
Airports	Runway asphalt overlay 6 2010	Lower South Island	6	Underway	2010-2015
Airports	Runway end safety area – East 8 2011	Lower South Island	8	Planned	2010-2015
Airports	Runway extension and runway end safety area 8 2011	Central North Island	8	Planned	2010-2015
Airports	North Terminal Pier redevelopment including international terminal	Central North Island	60	Underway	2010-2015
Airports	Ongoing apron-taxiway refurbishment 20 2020	Central North Island	20	Planned	2020+
Airports	Main terminal expansion 195 2030	Central North Island	195	Planned	2020+
Airports	Apron airside and runway works 115 2030	Central North Island	115	Planned	2020+
Airports	Car park expansion 140 2030	Central North Island	140	Planned	2020+

Source: National Infrastructure Plan and PwC analysis

Annex Three: New school construction

Project Description	Region	Total estimated cost \$m	Project Status	Timeframe
Remarkables Primary Dunedin	Lower South Island	17	Underway	2010-2015
Lowes Road Rolleston Christchurch	Lower South Island	15	Underway	2010-2015
Wanaka Primary School Dunedin	Lower South Island	21	Underway	2010-2015
Albany Senior High School	Auckland	61	Constructed	-
Papamoa Primary Rotorua	Eastern North Island	7	Underway	2010-2015
Papamoa Secondary Rotorua	Eastern North Island	31	Underway	2010-2015
Mt Wellington Auckland	Auckland	10	Underway	2010-2015
Waipapa (Kerikeri) Whangarei	Northland	-	Planned	2010-2015
Ormiston Senior High	Auckland	-	Underway	Unknown
Churton Park Lower Hutt	Central North Island	9	Planned	2010-2015
Hingaia Primary Auckland	Auckland	-	Tender Closed	2010-2015
Mission Heights Primary	Auckland	-	Constructed	-
Hobsonville (planning only)	Auckland	-	Planned	2010-2015
Takanini Primary #2	Auckland	-	Planned	Unknown
Auckland	Auckland	-	Planned	2010-2015
Babich Primary School	Auckland	-	Planned	Unknown
Construction of new schools from within baselines	Auckland	138	To be considered	2010-2015
Construction schools that require new funding	Auckland	229	To be considered	2015-2020
Forecast construction of new schools	Auckland	269	To be considered	2015-2020
Kura/Wharekura construction from baselines	Auckland	30	To be considered	2010-2015
Kura/Wharekura forecasted construction	Auckland	22	To be considered	2015-2020
Construction schools that require new funding	Northland	67	To be considered	2015-2020
Forecast construction of new schools	Northland	53	To be considered	2015-2020
Construction schools that require new funding	Central North Island	24	To be considered	2015-2020
Forecast construction of new schools	Central North Island	23	To be considered	2015-2020
Construction of new schools from within baselines	Eastern North Island	37	To be considered	2010-2015
Forecast construction of new schools	Eastern North Island	32	To be considered	2015-2020
Kura/Wharekura construction from baselines	Eastern North Island	31	To be considered	2010-2015
Kura/Wharekura forecasted construction	Eastern North Island	25	To be considered	2015-2020

Project Description	Region	Total estimated cost \$m	Project Status	Timeframe
Construction of new schools from within baselines	Lower South Island	48	To be considered	2010-2015
Construction schools that require new funding	Lower South Island	25	To be considered	2015-2020

Source: National Infrastructure Plan and PwC analysis

Annex Four: New school site acquisitions

Project Description	Region	Total estimated cost \$m	Project Status	Timeframe
Hobsonville Auckland	Auckland	9	Underway	2010-2015
Hamilton North Secondary	Central North Island	17	Underway	2010-2015
Kumeau/Huapai (primary) Auckland	Auckland	11	Underway	2010-2015
Wakatipu (primary) Dunedin	Lower South Island	9	Constructed	
Papamoa East (site fees)	Eastern North Island	-	Underway	2010-2015
Halswell (designation costs) Christchurch	Upper South Island	-	Underway	2010-2015
Frankton (secondary) Invercargill	Lower South Island	22	Committed	Unknown
Waipapa (Kerikeri)	Northland	1	Committed	Unknown
Whangarei	Northland	-	Committed	Unknown
Pegasus (designation & site costs) Christchurch	Upper South Island	-	Committed	Unknown
Forecasted site purchases	Auckland	149	Planned	Unknown
Site purchases for schools that require new funding	Northland	214	Planned	Unknown
Forecasted site purchases	Northland	21	Committed	Unknown
Forecast construction of new schools	Lower South Island	51	Committed	Unknown

Source: National Infrastructure Plan and PwC analysis

Annex Five: Ministry of Educations indicated 10-year outlook capital requirement

Capital Expenditure Profile Millions	09/10 \$m	10/11 \$m	11/12 \$m	12/13 \$m	13/14 \$m	14/15 \$m	15/16 \$m	16/17 \$m	17/18 \$m	18/19 \$m	Total 09/10 – 18/19
Baseline capital expenditure funding available	638	597	490	468	468	468	468	468	468	468	5,001
Total capital expenditure intentions	665	712	802	803	772	746	666	643	647	651	7,107
Additional funding required to meet capital expenditure intentions	28	116	311	336	304	278	198	176	179	183	2,109

Source: National Infrastructure Plan and PwC analysis

Annex Six: Health investment: short term priorities and indicative 10-year capital requirements

Project Description	Region	Total estimated cost \$m	Project Status	Timeframe
Waikato – Service & Campus	Central North Island	249	Underway	2010
Bay of Plenty – Project Leading	Eastern North Island	139	Underway	2010
All DHBs – Oral Health Projects	Not specified	116	Underway	2010
National Systems Development Programme	Not specified	50	Underway	2010
Waikato – Acute Medical Precinct Project	Central North Island	30	Underway	2010
Hutt Valley – ED and Theatre Expansion	Central North Island	82	Underway	2010
Lakes – Health Service Improvement Project	Central North Island	90	Underway	2010
Northland – Whangarei Hospital Redevelopment – Stage 1	Northland	25	Committed	2010
Waitemata – Lakeview Extension	Auckland	49	Committed	2010
Taranaki	Central North Island	80	Committed	2010
Counties Manukau	Auckland	209	Committed	2020
Counties Manukau Core Consolidation	Auckland	112	To be considered	2010
Waitemata Elective Surgical Unit and Bed Productivity	Auckland	50	To be considered	2010
Waitemata DHB Taharoto Mental Health Unit Replacement phase	Auckland	38	To be considered	2010
Counties Manukau – centre for health services innovation	Auckland	50	To be considered	2010
Manukau Health Park – Stage 1A	Auckland	123	To be considered	2010
Manukau Health Park – Stage 1B	Auckland	49	To be considered	2010
Green Lane Clinical Centre New Elective surgery facility	Auckland	24	To be considered	2010
Waitemata DHB Education Centre / Health Campus	Auckland	30	To be considered	2010
Waitemata North Shore inpatients building	Auckland	108	To be considered	2020
Auckland Green Lane Clinical Centre new all-age Rehab Centre	Auckland	48	To be considered	2020
Waitemata – Waitakere Building B – Maternity/SCBU/Paeds/CSS	Auckland	50	To be considered	2020
North Shore Hospital Maternity/Med/Surg/Labs 1	Auckland	30	To be considered	2020
Counties Manukau Clinical Services Block Stage 2	Auckland	108	To be considered	2020
Counties Manukau – Manukau Health Park – Stage 2 (includes elective theatres)	Auckland	71	To be considered	2020
Counties Manukau – Manukau Health Park – Stage 3	Auckland	79	To be considered	2020
Counties Manukau Consolidation	Auckland	50	To be considered	2020
Counties Manukau Service Expansion	Auckland	132	To be considered	2020

Project Description	Region	Total estimated cost \$m	Project Status	Timeframe
Waitemata North Shore Hospital Expansion – Service for older adults	Auckland	116	To be considered	2020
Waitemata Waitakere Building B : Medical/Maternity wards 1 & 2	Auckland	40	To be considered	2020
North Shore Hospital Building N: Maternity/Med/Surg/Labs 2	Auckland	65	To be considered	2020
Waitemata North Shore Hospital Expansion – SSOA 1 (b) & 2 9(a)	Auckland	46	To be considered	2020
Waitemata Waitakere Expansion Building D: Surgical beds 1	Auckland	45	To be considered	2020
Waitemata North Shore Car Park	Auckland	26	To be considered	2010
Northland Whangarei Stage One	Northland	25	To be considered	2010
Waikato Acute Medical Precinct (Beds over ED)	Central North Island	55	To be considered	2010
Waikato Rehabilitation Hub	Central North Island	23	To be considered	2010
Whangarei Redevelopment – Stage 2	Northland	41	To be considered	2010
Whangarei Redevelopment – Stage 4	Northland	80	To be considered	2020
Waikato Mental Health Adult (60 beds Inpatient facility)	Central North Island	30	To be considered	2020
Waikato inpatient Wards Block A	Central North Island	29	To be considered	2020
Capital and Coast – ICT	Central North Island	23	To be considered	2010
Taranaki – New Plymouth Hospital	Central North Island	80	To be considered	2010
Hutt ED Theatres	Central North Island	82	To be considered	2020
Taranaki inpatient Block Redevelopment (Stage 2)	Central North Island	37	To be considered	2020
Palmerston North Hospital Reconfiguration (Phase 3)	Central North Island	31	To be considered	2020
Taranaki inpatient Block redevelopment (Stage 3)	Central North Island	28	To be considered	2020
Waikato SCR	Eastern North Island	250	To be considered	2010
Lakes – Rotorua and Taupo Hospitals	Eastern North Island	90	To be considered	2010
Whakatane	Eastern North Island	65	To be considered	2020
Tauranga Masterplan – Theatres	Eastern North Island	29	To be considered	2020
Buller Hospital Aged Care (if not done privately)	Lower South Island	20	To be considered	2010
Canterbury Burwood Hospital / Rehabilitation Facility	Lower South Island	70	To be considered	2020
Canterbury – Riverside Building Stage 1 – Chch Hosp Precinct Plan	Lower South Island	400	To be considered	2020
Ashburton Hospital	Lower South Island	20	To be considered	2020
Greymouth Hospital	Lower South Island	110	To be considered	2020
Canterbury Mental Health	Lower South Island	60	To be considered	2020
Nelson Building Programme Completion Buildings 1 & 2	Lower South Island	40	To be considered	2020

Project Description	Region	Total estimated cost \$m	Project Status	Timeframe
South Canterbury – Clinical Services Block Refurbishment	Lower South Island	20	To be considered	2020
Otago – campus redevelopment phase 2	Lower South Island	150	To be considered	2020
Canterbury – Riverside Building Stage 2 – Chch Hosp Precinct Plan	Lower South Island	250	To be considered	2020
Health Management System (Cant, NMarlb, Sth Cant, MidCentral,Wair, Whang, Nland, CManukau)	Lower South Island	175	To be considered	2020

Source: National Infrastructure Plan and PwC analysis

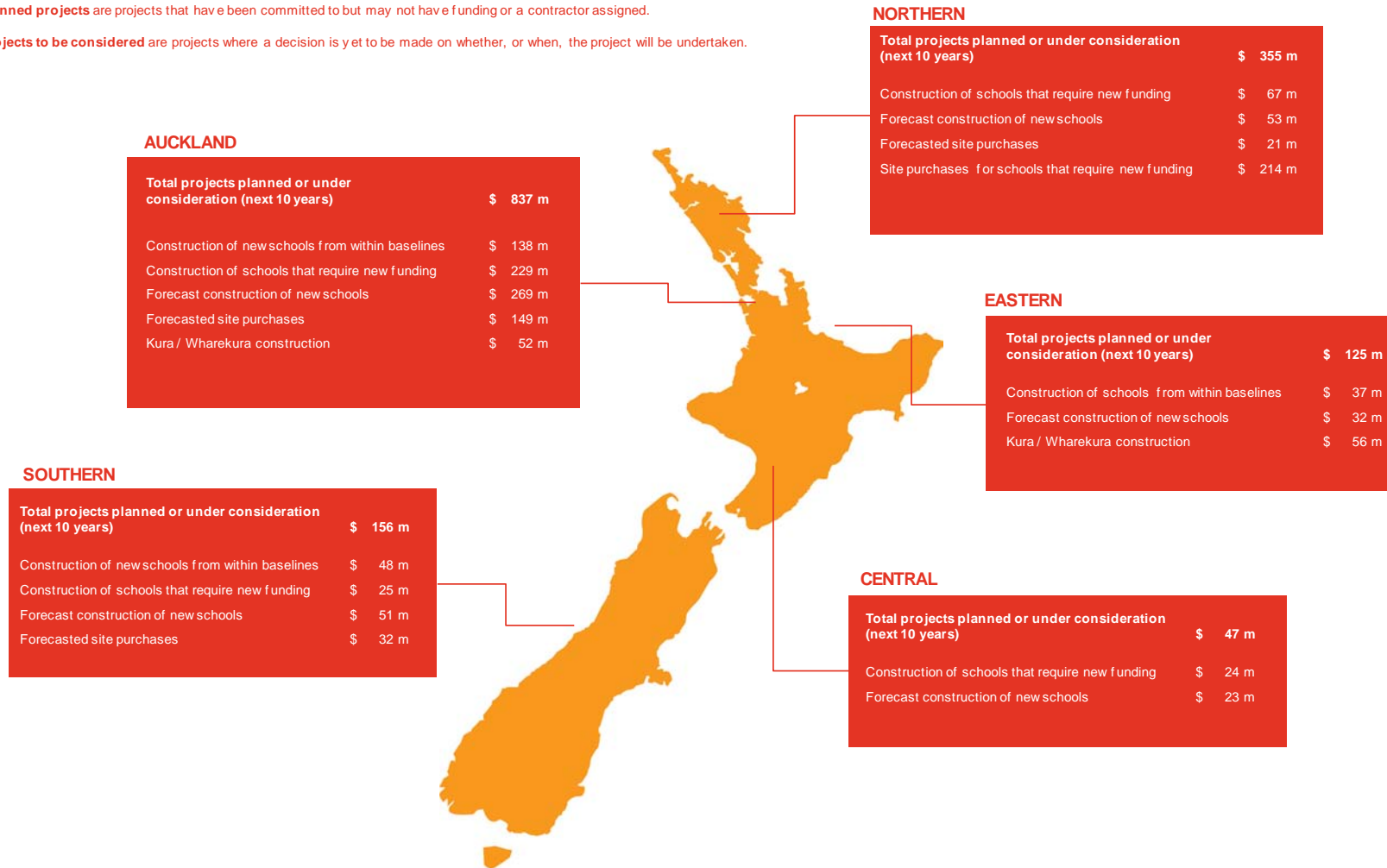
Annex Seven: Maps showing regional distribution of planned education, health and transport expenditure

Education - examples of potential infrastructure opportunities by region

This information sheet shows examples of infrastructure projects in the Education sector that have been planned or are being considered over the next ten years, by region, if regional information is available.

Planned projects are projects that have been committed to but may not have funding or a contractor assigned.

Projects to be considered are projects where a decision is yet to be made on whether, or when, the project will be undertaken.



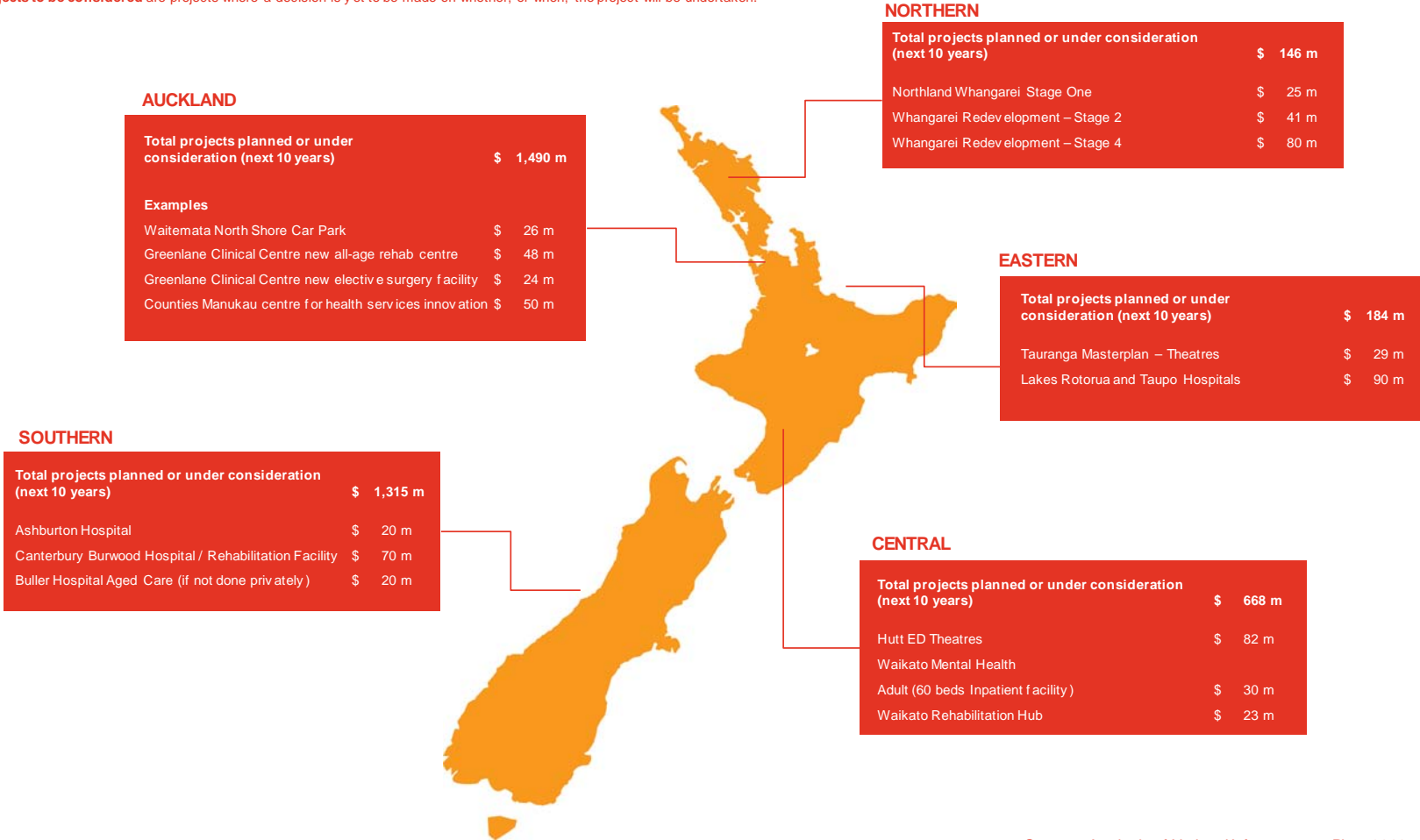
Source: Analysis of National Infrastructure Plan, 2010

Health sector - examples of potential infrastructure opportunities by region

This information sheet shows examples of infrastructure projects in the Health sector that have been planned or are being considered over the next ten years, by region, if regional information is available.

Planned projects are projects that have been committed to but may not have funding or a contractor assigned.

Projects to be considered are projects where a decision is yet to be made on whether, or when, the project will be undertaken.



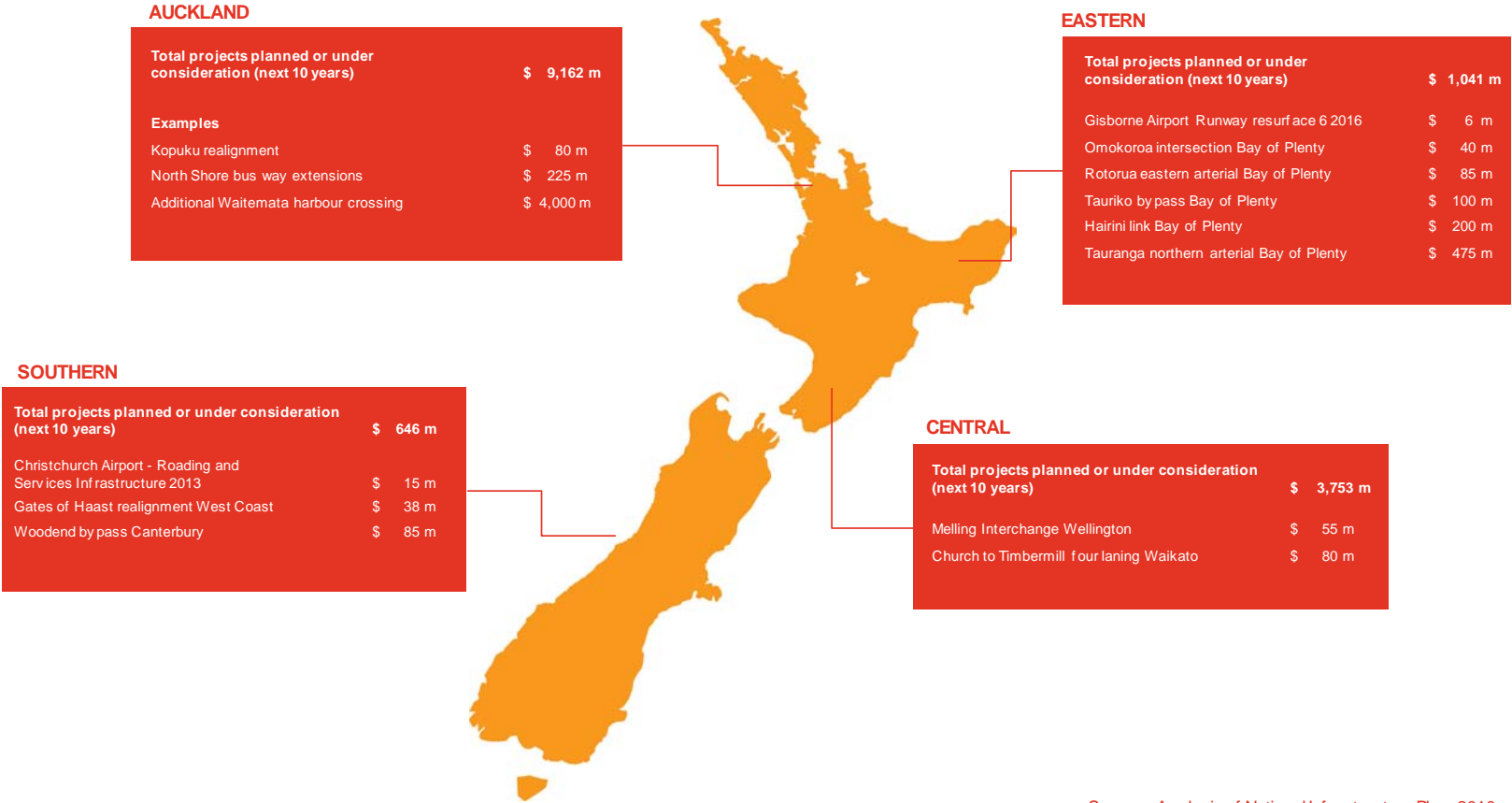
Source: Analysis of National Infrastructure Plan, 2010

Transport sector - examples of potential infrastructure opportunities by region

This information sheet shows examples of infrastructure projects in the Transport sector that have been planned or are being considered over the next ten years, by region, if regional information is available.

Planned projects are projects that have been committed to but may not have funding or a contractor assigned.

Projects to be considered are projects where a decision is yet to be made on whether, or when, the project will be undertaken.



Source: Analysis of National Infrastructure Plan, 2010