



DRAFT REGIONAL POLICY STATEMENT

May 2016

Chapter 2

Infrastructure and Energy

Te tuhituhi o te tipuranga me te tūāpapa

I.2 Significant Resource Management Issues: Infrastructure and Energy

Issue 2.1 Recognition of the regional benefits of infrastructure and other physical resources of regional importance whilst managing their effects.

Infrastructure can have adverse effects on the environment and this has the potential to conflict with the regional and national benefits of establishing infrastructure and other physical resources of regional or national importance.

Without effective regionally significant infrastructure the benefits of development will decline, or development will result in unacceptable adverse effects on the environment. While there is a need to provide for the development, expansion and maintenance of this infrastructure, it is also important to manage how this occurs, in order to ensure the way in which it changes is sympathetic to the environment and community.

Other activities can have reverse sensitivity effects on infrastructure. This has the potential to constrain the operation, maintenance or upgrading of infrastructure and other physical resources of regional or national importance.

Infrastructure can be located in areas across or close to fault lines, the coastal marine area and rivers which affects the functioning of infrastructure. Infrastructure needs to be resilient to hazards.

Issue 2.2 A lack of infrastructure prioritisation and strategic integration with land use across Whakatū Nelson results in inefficient use of resources and adverse effects on growth, development and economic wellbeing.

The strategic integration of land use with regionally significant infrastructure is important for the functioning of communities and economic wellbeing at the national, regional and local scale.

Infrastructure has the potential to impede the supply of land if its delivery is poorly timed and poorly located. It is unaffordable to provide infrastructure to all growth areas at once, so there is a need to prioritise growth and development outcomes to improve efficiency.

Planned development recognises the actual or potential effects urban development can have on people and communities, and the important role that efficient infrastructure plays in supporting centres, urban growth

and vitality. Managed development also supports efficient and effective servicing in a way that does not compromise the establishment, operation, maintenance and upgrading of infrastructure.

Issue 2.3 There is an ongoing need to provide energy to households and businesses in Whakatū Nelson.

The supply of energy is critical for people’s health and well-being, and as the City continues to grow, the demand for energy is expected to increase from a variety of sectors.

The efficient use of energy is a core aim of sustainable resource management. Energy conservation and efficiency measures are important; however they are not sufficient on their own to meet the City’s anticipated energy demands.

Appropriate opportunities to harness Nelson’s renewable energy generation potential need to be taken to minimise demand on energy provided by non-renewable sources. In particular, opportunities exist for commercial scale solar, and micro hydro generation facilities.

Domestic and community scale renewable generation facilities also need to play a role, particularly as improved technology enhances the accessibility to, and affordability of, smaller-scale devices.

**R.2 Resource Management Responses:
Infrastructure and Energy**

Objectives

Objective 2.1 To minimise the adverse effects of infrastructure whilst enabling the benefits of infrastructure and other physical resources of regional or national importance by recognising and providing for their establishment, operation, maintenance and upgrading.

Objective 2.2 Manage potential reverse sensitivity effects on infrastructure including the need for resilient infrastructure and the management of infrastructure in areas susceptible to natural hazards.

Objective 2.3 Urban development occurs in a strategically planned manner which allows for the adequate and timely supply of land prioritised for infrastructure provision.

Objective 2.4 An improvement in the efficiency of the end use of energy and an increase in the use of renewable energy resources.

Policies

Policy 2.1

Provide for the following regionally significant infrastructure:

- a) Reticulated community wastewater systems (including the pipe network, treatment plants and associated infrastructure)**
- b) Public drainage systems and reticulated community stormwater networks**
- c) Reticulated community water supply intakes, networks and water treatment plants**
- d) The regional landfill, transfer stations and the resource recovery centre**
- e) The national electricity grid and electricity distributions and transmission networks defined as the system of transmission lines, sub transmission and distribution feeders (66kV and above) and all associated substations and other works to convey electricity**
- f) The local electricity supply network**
- g) Facilities for the generation of large scale electricity where the electricity generated is supplied to the national electricity grid or the local electricity supply network (including infrastructure for the transmission of the electricity into the national electricity grid or local electricity supply network)**
- h) Strategic telecommunications and radiocommunication facilities**
- i) Nelson Airport**
- j) York Valley Landfill**
- k) The district roading network including state highways**
- l) The Port of Nelson**
- m) Nelson Marina**
- n) York and Marsden Quarries**
- o) Nelson Hospital**
- p) Education facilities**
- q) Emergency services facilities**

Explanation

The policy identifies infrastructure considered to be regionally significant due to its contribution to the social and economic wellbeing, or the health

and safety, of a large proportion of Whakatū Nelson's population, or because of its strategic importance nationally. These benefits will be taken into account when developing Council's 30 Year Infrastructure Strategy, Asset Management Plans, Nelson Plan rules, and when considering resource consent applications, notices of requirement and plan change requests. Regionally significant infrastructure may also be of national importance and benefit.

While it is important for new infrastructure to manage effects on the environment, it is also necessary to acknowledge that there are particular constraints associated with the establishment, upgrade, operation and maintenance of regionally significant infrastructure.

For example, new renewable energy generation facilities need to be located where the renewable energy resource can be harnessed. In some cases, those locations are also naturally sensitive, so careful consideration needs to be given to the positive and adverse effects arising from new proposals.

Many significant assets, such as the National Grid, State Highway network and reticulated water services have a linear characteristic. It is important to recognise that fundamental character when considering the location, scale and nature of new infrastructure or upgrades to existing facilities. The benefits of constructing (including extensions to existing infrastructure) and operating any new regionally significant infrastructure will have to be weighed against any adverse effects that the infrastructure has on the surrounding environment. The provisions of Whakamahere Whakatū Nelson Plan identify how these environmental effects should be avoided, remedied or mitigated, taking into account technical and operational practicalities.

Policy 2.2 Manage the development, maintenance and use of infrastructure and its networks in a way that protects natural and physical resources and the health, safety, and wellbeing of the community through avoiding, remedying or mitigating:

- a) The adverse effects on air and water quality, including from contaminated run-off from roads discharging into water or onto or into land, and discharges to air from treatment plants and pump stations**
- b) Effects on cultural matters (including places and resources) of significance to Nelson's tangata whenua Iwi**
- c) A loss of visual amenity in significantly modifying the landscape**
- d) A loss of natural character and public access in the coastal environment, wetlands, lakes and rivers and their margins**

- e) **The destruction of areas of heritage value and significant indigenous vegetation and significant habitats of indigenous fauna**
- f) **The effects of severing communities and/or inadequate links between parts of settlements**
- g) **The adverse effects on local amenities including from noise, odour and vibration**
- h) **Poor investment decisions in relation to infrastructure subject to high risk from hazards**

Explanation

It is important that where new infrastructure, including roads, is proposed, or an extension to or upgrading of existing infrastructure is proposed, that the effects identified in this policy are avoided, remedied or mitigated.

- Policy 2.3** **Protect regionally significant infrastructure from the adverse effects of incompatible subdivision, use and development in close proximity to the infrastructure.**

Explanation

The effective and efficient operation of regionally significant infrastructure can be achieved by managing the effects of incompatible activities in close proximity to the infrastructure. This policy recognises that there has already been significant investment in the infrastructure and that there are usually considerable difficulties relocating the infrastructure in the event of conflict with other land uses. In respect of the National Grid, it is a requirement of the NZ Policy Statement on Electricity Transmission (2008) for decision makers to manage activities to avoid reverse sensitivity effects on the network of assets owned by Transpower. Similarly, the NZ Policy Statement for Renewable Electricity Generation (2011) requires management of reverse sensitivity effects on renewable generation facilities.

- Policy 2.4** **Avoid infrastructure provision, capacity and upgrade investment in areas subject to high risks from hazards unless it is part of a comprehensive plan that addresses the long term resilience of the asset.**

Explanation

The majority of the infrastructure that supports the City is located in low lying coastal areas which will be affected by sea level rise and flooding. This policy requires that ad hoc infrastructure investment is avoided

where it is not part of an overall strategy to address the threat of hazard risk on essential infrastructure. The 30 Year Infrastructure Strategy and Asset Management Plans should be used to develop comprehensive plans for infrastructure provision, capacity and upgrade investment within high risk hazard areas to ensure their long term resilience and good investment practice.

Policy 2.5 **Subdivision, use and development is located and staged in a way that is integrated with the long term planning and funding mechanisms of local authorities, central government agencies and network utility providers and operators, and with growth planning by Council and the development industry.**

Explanation

Council seeks to ensure that development occurs only in specified locations where infrastructure provision is planned and prioritised for. Any extension of infrastructure beyond these areas needs to be financially feasible in Council's or other infrastructure suppliers' funding strategies, or otherwise funded by the developer. A tightly controlled approach to infrastructure provision is desired with good long term planning in Infrastructure Strategies and Long Term Plans that consider developers' needs in relation to timing to match demand and the City's strategic growth outcomes.

Policy 2.6 **Coordinate new urban expansion with infrastructure planning so that urban consolidation and infrastructure efficiency lead to a sustainable urban form.**

Explanation

Re-zoning of land should only occur where infrastructure and funding mechanisms are in place to support it. Urban development within the current urban area is able to make the most efficient use of existing infrastructure capacity and supports Council's goals of revitalising centres. This policy supports the objectives of a compact, well designed and sustainable urban form that effectively and efficiently accommodates the region's urban growth and infrastructure network. This requires an efficient, sustainable, safe and affordable infrastructure network, integrated with the region's land use patterns.

Policy 2.7 **Avoid the spread of residential, industrial or commercial development fronting national routes and arterial roads extending outwards from urban settlements or townships.**

Explanation

In terms of the impacts on the road network, avoiding the outward spread of urban areas (for residential, commercial or industrial development) along national or arterial routes and limited access roads, will help protect the safety and efficiency of these routes. In addition, this policy, together with those set out in the Social and Economic Wellbeing chapter, seeks to provide for the efficient use of energy, services and infrastructure by containing the outward spread of urban areas. This is an important aspect of the development of the centres as it consolidates development around the areas that generally have the employment, community and infrastructural services available to sustain a growing population.

Policy 2.8

Recognise and provide for the benefits of the use and development of renewable energy and energy efficiency by:

- a) Maintaining or increasing electricity generation capacity while avoiding, reducing or displacing greenhouse gas emissions**
- b) Maintaining or increasing security of electricity supply at local, regional and national levels by diversifying the type and/or location of electricity generation**
- c) Using renewable natural resources rather than finite resources**
- d) Recognising the reversibility of the adverse effects on the environment of some renewable electricity generation technologies**
- e) Reducing reliance on imported fuels for the purposes of generating electricity**

Explanation

Local sources of renewable energy should be developed to maintain and enhance a secure supply of electricity for Nelson. This policy expresses a clear preference for the use and development of renewable sources of energy, as opposed to non-renewable sources. Renewable sources of energy ensure that electricity can be sourced on an ongoing basis, improving the security of supply and reducing stress on the National Electricity Grid. The preference for renewable sources of energy also assists in avoiding reliance on imported fuels for electricity generation.

Renewable energy resources can be variable as a result of climatic and other conditions. However, utilising the wide range of renewable energy resources available should spread that risk and improve the resilience of energy supply.

Renewable energy opportunities that have been identified as well-suited to the Whakatū Nelson context include:

- Commercial-scale and residential scale rooftop photovoltaics and possibly small-scale commercial solar PV arrays (<100kW)
- Niche micro hydro and biogas, including at Maitai Dam and Bell Island Treatment Plant (respectively)
- Small-scale wind turbines and run of river micro-hydro in niche rural off-grid scenarios
- Niche biodiesel and wood pellet manufacture

Policy 2.9 Integrate and align good asset management and growth planning practices and approaches across the Nelson City Council and Tasman District Council boundary, and with other agencies and Iwi, particularly in relation to the urban areas of Nelson and Richmond that rely on shared services.

Explanation

Infrastructure that is constructed and maintained by Nelson City Council sits alongside and integrates with infrastructure constructed and maintained by Tasman District Council, and other agencies such as the Ministry of Education and Ministry of Health which operate regional facilities. Part of Nelson City is served by Bells Island wastewater treatment plant which is located within Tasman District. Part of the Nelson South urban area is provided with water supply by Tasman District Council. Nelson and Richmond are essentially one urban area and asset management and growth planning for the total urban area is most efficiently achieved when it is integrated and complementary.

Policy 2.10 Mitigate the adverse effects of vehicle and fossil fuel usage where practicable by reducing potential travel times to and from home, work, community and business places, through consolidated development of Whakatū Nelson’s centres.

Explanation

World-wide there is a concern over the increasing use of non-renewable fossil fuels by all forms of transport. However, it appears that the demand for transportation fuel will continue to increase into the medium-term, as independent mobility remains a major part of transportation. In Whakatū Nelson, this mobility is often necessary simply to ensure a basic level of accessibility, especially in areas without a regular public transport system.

Therefore, the way in which the Council can help reduce the effects of vehicle and fossil fuel usage, is to consider the pattern and density of urban development and how these can influence transport demands. A compact urban area with increased densities can reduce the need for and length of trips in private motor vehicles. The location of employment in relation to where people live can also have an effect on trip generation and the type of transport used.

Policy 2.11 Encourage and promote changes in movement patterns and travel habits that lessen the pressures on the land transport network, reduce the extent of pollutants from motor vehicles and foster improved community health.

Explanation

The Council can also assist in helping to reduce the use of fossil fuels for private vehicle transport by promoting walking and cycling as alternatives and to encourage the use of public transport where it is available. It is important to encourage walking and cycling as a healthy and environmentally friendly alternative form of transport. Cycling is a particularly important form of transport in Whakatū Nelson with a high level of uptake by both commuters and recreationalists.

Policy 2.12 Enable and manage the development, operation, maintenance and upgrading of small and community-scale renewable electricity generation facilities, provided that significant adverse effects of those facilities are avoided, remedied or mitigated.

Explanation

Small-scale generation opportunities should be enabled to the greatest extent practicable. However, those facilities should not give rise to significant adverse effects on the environment, and particularly on features and areas with high natural or cultural significance.

Methods

Regulatory methods	Who	Policy link
Nelson Plan		
Identify on planning maps, including providing for a regular update mechanism:	Council	Policy 2.1 Policy 2.2 Policy 2.3 Policy 2.4 Policy 2.5 Policy 2.6 Policy 2.7 Policy 2.9
a) regionally significant infrastructure and its networks		
b) growth and redevelopment areas		
c) hazard areas/other areas affecting growth		
Use designations to support regionally significant infrastructure.	Council	Policy 2.1 Policy 2.3 Policy 2.7
Adopt objectives, policies, rules and other methods to manage the effects on regionally significant infrastructure of incompatible subdivision, use and development.	Council	Policy 2.3
Develop land use zones, planning maps, objectives, policies, rules and assessment matters in the Nelson Plan to manage and identify existing and proposed infrastructure and the networks required to support growth areas, including Tangata Whenua Iwi development, and prioritise infrastructure roll out.	Council	Policy 2.5 Policy 2.6 Policy 2.7
Adopt objectives, policies and rules at a District level to ensure infrastructure roll out is prioritised in relation to growth areas and aligns within financial planning and other Council strategic documents such as asset management plans.	Council	Policy 2.4 Policy 2.5 Policy 2.6
NelTas Land Development Manual sets minimum infrastructure standards for assets to vest in Council or work on Council assets and transportation hierarchy.	Council	Policy 2.2 Policy 2.9
Use rules to ensure infrastructure is connected and of sufficient capacity, both to and within growth areas, as subdivision and development occurs.	Council	Policy 2.6 Policy 2.10
Rules to ensure development and buildings are not placed in the way of strategic infrastructure links.	Council	Policy 2.1 Policy 2.2 Policy 2.6 Policy 2.7
Infrastructure construction activities will be subject to the regional rules controlling discharges to land, water, and air, for activities in the beds of rivers and coastal marine area and for water takes.	Council	Policy 2.2
Adopt methods in the Plan covering layout of sites and development to maximise energy efficiency and solar gain.	Council	Policy 2.8
Use rules to achieve consolidation and well connected urban form, especially around centres.	Council	Policy 2.10
Use objectives, policies, rules and other methods to enable and manage commercial, community and small-scale renewable energy generation activities.	Council	Policy 2.2 Policy 2.3 Policy 2.4 Policy 2.9 Policy 2.12

Regulatory methods	Who	Policy link
Other Legislation		
Adopt a 30 Year Infrastructure Strategy that identifies the following on maps, including provision for a regular update mechanism:	Council	Policy 2.1 Policy 2.2 Policy 2.5 Policy 2.6 Policy 2.9
a) Growth and redevelopment areas that have sufficient existing infrastructure capacity		
b) Growth and redevelopment areas that do not have sufficient infrastructure strategy to support growth		
c) Growth and redevelopment areas that are provided with infrastructure by Tasman District Council solely or jointly with Nelson City Council		
d) Infrastructure and networks that are subject to hazards risk (high, medium and low)		
Long Term Plan	Council	Policy 2.5

Non-regulatory methods	Who	Policy link
Advocacy and Education		
Provide information about, and advocacy for encouraging, energy efficient house design and domestic scale renewable energy generation.	Council	Policy 2.8 Policy 2.12
Encourage consultation to identify potential issues and opportunities for infrastructure efficiencies to align with growth areas.	Council Applicants Iwi	Policy 2.2 Policy 2.4 Policy 2.5 Policy 2.6
Monitoring and Information		
Undertake a project to investigate existing infrastructure capacity across the city, starting with centres and other identified intensification areas.	Council	Policy 2.6 Policy 2.9
Undertake a prioritisation exercise for the roll out of infrastructure to growth areas and make this publicly available.	Council Developers	Policy 2.4 Policy 2.5 Policy 2.6 Policy 2.9
Other Plans and Strategies		
Clearly differentiate between the private and public infrastructure costs associated with development throughout Council's planning and funding documents.	Council	Policy 2.5 Policy 2.6 Policy 2.9
Develop a hazard assessment and climate change strategy for regionally significant infrastructure as part of the Infrastructure Strategy and Asset Management planning.	Council Infrastructure owners	Policy 2.4 Policy 2.9
The Regional Land Transport Plan identifies the region's land transport needs, including roads, public transport, cycling, walking and the movement of freight.	Council (NCC and TDC)	Policy 2.1 Policy 2.2 Policy 2.3 Policy 2.9
Develop joint strategies and asset management with Tasman District Council.	Council (NCC and TDC)	Policy 2.9

Non-regulatory methods	Who	Policy link
Funding and Assistance		
Enter into Developer Agreements to enable the earlier construction of a project. Any such agreement needs to align with Councils strategic outcomes for growth areas.	Council Developers	Policy 2.5
Consider incentives for small or community-scale renewable generation initiatives or exemplary energy conservation or efficiency initiatives that result in increased community resilience and security of energy supply.	Council	Policy 2.12

Anticipated Environmental Results

Anticipated Environmental Result	Link to policy	Indicator	Data Source
Regional development and growth is supported by robust infrastructure networks.		Number of years taken to roll out infrastructure to new growth areas.	Asset Management Plans
		At least 10 years supply of undeveloped but serviced land is available at all times.	Infrastructure Prioritisation Process
		Number of subdivision and development applications unable to proceed due to lack of infrastructure.	Resource consents
Information on the existing capacity of infrastructure networks is publicly available and used by developers to inform the timing and location of development/growth.		Capacity analysis of transport, water, stormwater and wastewater networks is completed.	30 Year Infrastructure Strategy
		Intensification around centres - number of redeveloped sites of greater density.	Asset Management Plans Resource consents
Infrastructure in high hazard risk areas uses a combination of planned retreat and mitigation strategies to ensure resilience.		Number and type of investment/ infrastructure projects in high hazard risk areas.	30 Year Infrastructure Strategy
			Asset Management Plans
			Resource consents

Anticipated Environmental Result	Link to policy	Indicator	Data Source
Relationships and collaboration with the development community (including Iwi) are maintained and enhanced.		Developer Advisory Group. Use of Major Projects Team.	Resource consent objections Submissions to LTP, Annual Plan and Development Contributions Policy
A regional/cross boundary and strategic approach is taken to infrastructure levels of service, maintenance and delivery.		Infrastructure is planned and delivered comprehensively across and adjoining local authority boundaries.	Shared service agreements Regional Growth Modelling Asset Management Plans Long Term Plan
There is a strong link between plans and funding providing certainty to investors and developers that plans are not only aspirations but can be funded and delivered.		Improved satisfaction of development sector regarding infrastructure planning. Submissions	Long Term Plan Development Contributions Policy and Schedule of projects
The District's energy supply is more secure, diverse and resilient and has a greater ability to rely upon local, renewable energy resources.		Building consents and resource consent applications made for renewable energy generation facilities. Proposals to develop or upgrade existing regionally significant networks and facilities.	Council consent data management system
Adverse effects of regionally significant infrastructure on other activities will be well managed.		Analysis of and Submissions on resource consent applications or notices of requirement. Public complaints.	Council consent data management system Complaints record
Regionally significant infrastructure will be protected from the adverse effects of incompatible subdivision, use and development.		Consent applications where network utility operators are identified as affected parties. Public complaints	Council consent data management system Complaints record

Principal Reasons

The issues, objectives and policies seek to protect regionally significant infrastructure, provide for strategic and integrated infrastructure in growth areas, ensure infrastructure is resilient to hazards and improve energy efficiency and use of renewable energy.

Section 30(1)(gb) of the RMA requires that Council provide for the strategic integration of land use with infrastructure. The overall continued function of the region and its growth and development is reliant on Council achieving this alignment, as well as the protection of natural and physical resources.

Council is required to develop an infrastructure strategy that identifies issues and options for managing infrastructure over the next 30 years, and to provide for the strategic integration of infrastructure with land use. This is an essential tool through which many of the infrastructure objectives and policies can be achieved.

The issue of how to protect regionally significant infrastructure as well as infrastructure to support growth and in what locations is of critical importance to Nelson in enabling economic growth and development. These issues need to be considered in conjunction with the demand, supply and projections for Tasman District Council and the shared services infrastructure that we currently have, and may have in the future.

Significant tension results from a lack of understanding about who is responsible for providing what infrastructure to and within growth areas, as well as how different Council funding mechanisms work. The methods in this section seek to make infrastructure planning to growth areas transparent and consistent, and to fully engage with the development community to achieve a greater understanding of infrastructure planning is gained.

Much of our local infrastructure is built across or close to fault lines and the coastal marine area, and we regularly experience flooding and coastal inundation in parts of the City which affects the function of our infrastructure.

Regionally significant infrastructure such as the port, airport, water supply, wastewater and stormwater networks and transport routes need to be resilient to hazards, and infrastructure planning and asset management need to develop long term strategies to address this.

We need to adequately address the impact of hazards (flooding, sea level rise, liquefaction) on growth and infrastructure, particularly as Council receives updated information in relation to these hazards. Asset management, infrastructure strategies, and Council as owner of regionally significant infrastructure such as the port and airport, need to adequately plan for sea level rise in all aspects of management and operation. If infrastructure isn't responsive to hazards it can lead to poor infrastructure investment decisions which will have significant financial and environmental implications on the community in the future.

The National Policy Statement on Electricity Transmission (NPSET) seeks to recognise the National Grid by facilitating its operation, maintenance and upgrade while managing both the adverse effects of the network, and of other activities on the network. The NPSET also seeks to facilitate the establishment of new transmission resources. Transpower has indicated there are no plans to develop new infrastructure in the Nelson region in the foreseeable future.

The National Policy Statement on Renewable Electricity Generation (NPSREG) is also relevant. It identifies the need to develop, operate, maintain and upgrade renewable electricity generation activities throughout New Zealand, and to recognise the benefits of renewable electricity generation, as matters of national significance. The NPSREG seeks to ensure local decision-making has regard to the benefits of renewable energy generation, and the practical implications and constraints of generation activities. It also seeks to manage the effects of other activities on renewable generation facilities and to enable specific types of generation activities to the extent relevant to Whakatū Nelson, including small and community-scale facilities.

The operation and provision of regionally significant infrastructure and energy, as well as the efficient use of infrastructure to support growth, is of critical importance to Whakatū Nelson in enabling economic growth and development.

The Richmond area (in Tasman District) forms part of the functional Nelson urban area, both in terms of urban form and through shared services and infrastructure provision. A close working relationship and alignment of infrastructure and asset management policies with Tasman District Council is essential to ensure integrated and effective urban growth management over time, as well as resilience to hazards.

Improving the supply of infrastructure and integrating it with land use and growth planning is not just about rolling out new infrastructure. Effective use of existing assets is also an important part of the equation. Effective asset management systems are important for maintaining existing assets and planning and delivering new infrastructure. Council needs to identify, prioritise and update asset management information systems to ensure they are integrated into decision making processes, and that this information is publicly available to assist developers to make informed investment decisions about utilising existing capacity, as well as extending networks.