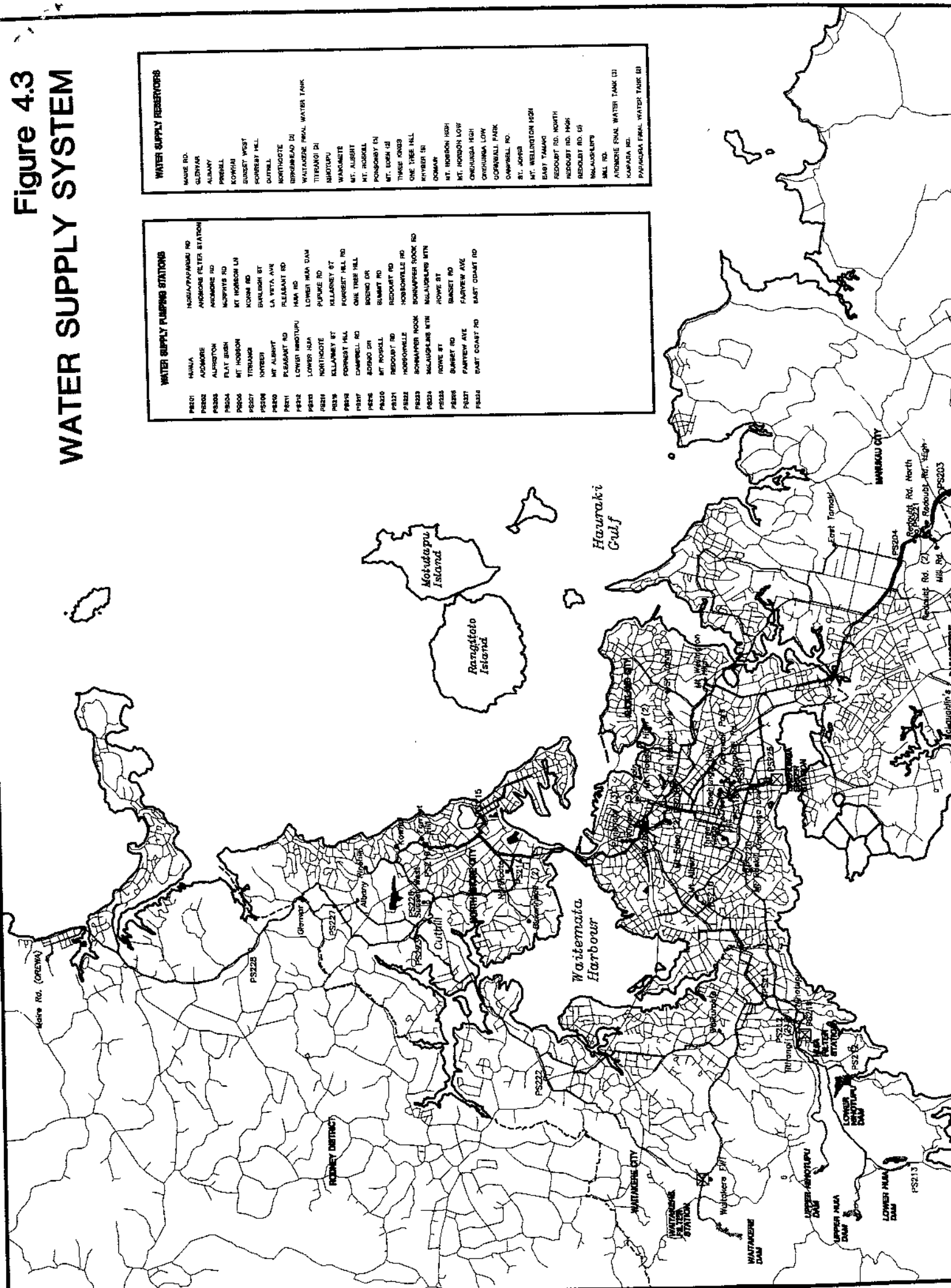


**Figure 4.3**  
**WATER SUPPLY SYSTEM**



**WATER SUPPLY PUMPING STATIONS**

PS01	HURIA
PS02	ALBION
PS03	ALBION
PS04	FLAT BUSH
PS05	MT HOBSON LA
PS06	TITIRANGA
PS07	WAIWERA
PS08	LA VETTA AVE
PS09	PLEASANT RD
PS10	LOWER MAIA DAM
PS11	LOWER MAIA
PS12	WAIWERA
PS13	WAIWERA
PS14	WAIWERA
PS15	WAIWERA
PS16	WAIWERA
PS17	WAIWERA
PS18	WAIWERA
PS19	WAIWERA
PS20	WAIWERA
PS21	WAIWERA
PS22	WAIWERA
PS23	WAIWERA
PS24	WAIWERA
PS25	WAIWERA
PS26	WAIWERA
PS27	WAIWERA
PS28	WAIWERA

**WATER SUPPLY RESERVOIRS**

MADE RD
GLENNAR
ALBANY
PRENSHILL
KOHUHI
SUSSEX WEST
FORREBY HILL
OUTRILL
NORTHCOOTE
SPRINGHEAD DI
WAIWERA FRESH WATER TANK
TITIRANGI DI
MAOTURU
WAIKIMETE
MT. ALBERT
MT. ROSSELL
PONSONBY (S)
MT. SOMERSET
THREE PINNACLES
ONE TREE HILL
WHYBURN (S)
OSMAN
MT. HOBSON HIGH
MT. HOBSON LOW
ONEJUNGUA HIGH
ONEJUNGUA LOW
CORNBALL PARK
CORNBALL RD
ST. JOYCE
MT. WELLINGTON HIGH
EAST TAMAKI
REDOUT RD. NORTH
REDOUT RD. HIGH
REDOUT RD. (S)
MAUNAKI
MLL RD
ARMORSE FRESH WATER TANK (S)
KAMAHIA RD
PANAUARA FRESH WATER TANK (S)

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# **Draft National Rail Strategy to 2014**

**September 2004**



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# Introduction

The government was the sole owner and operator of virtually all of New Zealand's rail infrastructure, passenger and freight operations until 1993 when the rail network and operations were sold to Tranz Rail Holdings Limited. (Toll Holdings, as majority shareholder from 2003, renamed the company Toll NZ Limited.) The government retained ownership of the land on which the rail assets were situated and leased the land to the rail operator.

The government repurchased the Auckland rail infrastructure in 2001, and the rest of the national rail network in 2004, to secure a vital part of New Zealand's transport infrastructure in the national interest. There had been low and declining investment in the rail network over a number of years which led to problems with deferred maintenance and associated safety concerns, and declining service capability.

Crown ownership of the rail infrastructure provides the government with the capacity to ensure that the rail system is maintained and developed in accordance with its vision for an affordable, integrated, safe, responsive and sustainable transport system, as set out in the New Zealand Transport Strategy (NZTS).

With the government's purchase of the national rail network, it is timely and useful to have a clear statement of its future intentions to take the rail industry forward. The National Rail Strategy (NRS), under the aegis of the NZTS, provides a framework for strategic planning across the government rail sector. It provides a structure for planning the development of the rail network in a way that recognises the government's focus on shifting commuter and freight traffic onto rail, where appropriate, to ease road traffic congestion.

The NRS sets out the government's rail policy objectives and priorities for action over the next ten years and outlines key initiatives that are intended to achieve the outcomes sought. Within this framework, government rail sector agencies will be responsible for developing the detailed programmes and strategies required to achieve the objectives.

The NRS focuses on growth in two key areas: freight, both bulk and containerised; and urban passenger transport. It is in these areas that New Zealand's rail network is at its most efficient – relatively fast, low cost movement of large amounts of uniform freight or large numbers of people. In addition, as the rail network is relatively under-utilised, there are fewer capacity constraints compared to roads, so growth in these areas can be more readily accommodated.

The rail infrastructure will require significant new investment in some areas to attract new freight flows and increase the number of commuters. Nevertheless, with increasing demand for efficient freight movement in New Zealand's growing economy and increasing congestion in both Auckland and Wellington, there will be natural growth in rail freight and urban rail passengers. The NRS seeks to build on this foundation of growth to maximise the government's investment in rail.

# Government's Transport Goals and Objectives

## Policy Context: New Zealand Transport Strategy

The NZTS outlines the government's vision for transport in New Zealand and provides the framework within which transport policy is developed.

The NZTS outlines how an integrated mix of transport modes can contribute to economic growth, increased safety and personal security, improved accessibility and mobility, improved public health, and enhanced environmental sustainability of transport in New Zealand.

## NZTS Vision for Transport

By 2010 New Zealand will have an affordable, integrated, safe, responsive and sustainable transport system.

This vision is underpinned by four principles:

- Sustainability
- Integration
- Safety
- Responsiveness

The government's objectives for transport are:

### Assisting economic development

New Zealand's economic development relies on a coherent, affordable, efficient and effective transport system that improves the flow of people, goods and services both within New Zealand and to and from other parts of the world.

### Assisting safety and personal security

The NZTS seeks to improve the safety and personal security of those who use or are affected by the transport system. Significant efforts to improve the long-term safety performance of all transport modes are underway, including the development of long-term modal safety strategies.

### Improving access and mobility

Transport systems give people mobility and provide access to a range of work and other opportunities. Affordable and reliable transport services, both within and connecting communities, make an important contribution to better access and mobility.

### Protecting and promoting public health

The transport system contributes to positive health outcomes when the negative health impacts of transport arising from transport related emissions, noise, waste and other pollutants are minimised, and the use of active transport modes, such as walking and cycling, is supported.

## Ensuring environmental sustainability

A transport system that supports environmental sustainability will make more efficient use of resources and shift, over time, to the use of renewable resources and minimise adverse effects on land, air, water, communities and ecosystems.

## Links to Other Government Strategies

Transport, including rail transport, is identified in a number of government strategies as contributing towards achieving the economic, social and environmental outcomes that government desires for New Zealand in the 21<sup>st</sup> century. Further, some of these strategies will contribute to the objectives of the NRS.

Government strategies that link to or have informed the development of the National Rail Strategy include: the *Crime Reduction Strategy*, *National Energy Efficiency and Conservation Strategy*, *National Civil Defence Emergency Management Strategy*, *Growing an Innovative New Zealand*, *New Zealand Climate Change Programme*, *New Zealand Disability Strategy*, *New Zealand Health Strategy*, *New Zealand Injury Prevention Strategy*, *New Zealand Tourism Strategy*, *Oceans Policy*, *Positive Ageing Strategy*, *Road Safety to 2010 Strategy*, and the *Sustainable Development Programme of Action*.

# The New Zealand Rail Industry

## Commercial Framework

### ***Purchase of National Rail Network***

The government has purchased the national rail network and related assets, which includes rail track, structures such as tunnels and bridges, and the signalling, train control, and track maintenance operations. As part of this transaction the majority of the land that was occupied by Toll NZ Ltd under its lease is to be returned to the Crown. From 1 September 2004, the New Zealand Railways Corporation (NZRC) will hold these assets and will be responsible for managing and operating the national rail network.

The national rail network totals approximately 4000 kms. There are also a number of privately owned lines and sidings.

There are 2187 railway bridges and viaducts, the longest, spanning 1,743m, is over the Rakaia River. There are 149 railway tunnels, the longest being the Kaimai (8.9 km).

### ***Access to the Network***

Toll Rail has exclusive access rights until 2070 for its freight and existing long distance passenger operations and the Wellington metro passenger service. Auckland urban rail passenger services are provided by Connex under contract to the Auckland Regional Council. Its freight and passenger rights are subject to "use it or lose it" provisions. There is a three-year delay before new operators can operate long distance passenger services on routes not currently serviced by Toll Rail.

Other operators can utilise their existing access rights on the network, and can be granted access rights to line segments where Toll Rail is unable to meet its "use it or lose it" obligations or does not take up its right to operate over new sections of the network. In such circumstances the NZRC will grant access rights to new operators on a non-exclusive basis. Heritage operators will negotiate with the NZRC for the use of the network.

### **Track Access Charges (TAC)**

The NZRC will be responsible for setting TAC for all operators. In setting access charges, the NZRC will be required to recover the costs of operating the network, including a return on any new capital invested by the Crown beyond the initial \$200 million. The agreements with Toll and Connex (the Auckland passenger operator) provide a process for agreeing the TAC related portion of the NZRC's budget, and the agreement with Toll also provides for agreeing increases to the NZRC's capital base, both of which will be key determinants of the TAC.

## **Rail Participants**

### **Rail Operators**

There are approximately 80 organisations operating railways and tramways in New Zealand. They can be classified into three broad groups:

- *Network operators*: larger operators with extensive route kilometres;
  - Toll Rail – rail freight operator; long distance and Wellington urban rail passenger operator
  - Connex – Auckland urban rail passenger operator from 22 August 2004.
- *Industrial operators*: railways serving the needs of factories, stores or other industrial facilities, usually on a localised site with connection to the rail network. There are currently 34 industrial railway operators.
- *Heritage and tourist/leisure operators*: usually on a short dedicated railway line or tramline, or excursion trips on the main network. There are currently around 40 of these operators.

### **Government Agencies**

#### ***New Zealand Railways Corporation***

- Manages and operates the national rail network.
- Controls operations on the network (eg signalling and train control).
- Controls access to the network, including setting track access charges
- Implements, co-ordinates and maintains an approved safety system for the network.
- Manages rail land, property and leases.

#### ***Ministry of Transport***

- Advice to government on transport policy across all modes, including rail policy.
- Administers relevant rail related transport legislation.
- Monitoring of Transport Crown entities.

#### ***The Treasury***

- Financial oversight.

#### ***Transfund\****

- Land transport funding including rail passenger services and rail infrastructure improvements.
- The Land Transport Management Act 2003 sets a new framework for the allocation of transport funding which reflects a new multi-modal approach, encourages long term planning and allows funding flexibility in implementing the NZTS.

### ***Land Transport Safety Authority (LTSA)\****

- Safety regulator - approves rail licence holders' safety systems (following passage of Railways Bill will approve and monitor safety cases).
- Monitors rail safety across the national rail network.
- Provides assurance to the government that rail organisations are operating safely.

### ***Accident Investigation: Transport Accident Investigation Commission (TAIC)***

- Investigates significant air, maritime and rail accidents and incidents for the purpose of determining circumstances and causes, and makes safety recommendations with a view to avoiding similar occurrences in the future.

### ***Other Government Agencies***

A number of other government agencies have responsibilities in respect of rail, for example, the Ministry of Health, the Ministry of Civil Defense and Emergency Management, the New Zealand Police and the Department of Labour (Occupational Health and Safety).

### **Local Government**

#### ***Regional Councils***

- Contract passenger rail services and infrastructure improvements, and contribute ratepayer funding for subsidies.
- Prepare Regional Land Transport Strategies.
- Issue air and water emission consents under the Resource Management Act 1991.

#### ***Territorial Authorities***

- Fund and contract improvements to railway stations and associated facilities.
- Auckland City Council owns the Britomart terminal.
- Issue land use consents under the Resource Management Act 1991.

### ***Auckland Regional Transport Network Limited (ARTNL)***

- Contracts upgrades and maintenance for Auckland passenger railway stations.
- Manages the Britomart terminal and holds the lease for the other Auckland suburban railway stations.

### ***Auckland Regional Transport Authority (ARTA)***

As of 1 January 2005, ARTA will:

- Specify required performance outcomes, eg required passenger capacity for the Auckland rail system, including requirements for significant infrastructure upgrades.
- Contract passenger rail services and infrastructure improvements on behalf of ARC.

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\* These agencies are to be merged into *Landtransport New Zealand*.

# Strategic Directions to 2014

## Strategy Overview

NZTS Objective National Rail Objective	Priorities	Key Initiatives
<p><b>Assisting Economic Development</b> To enhance rail's contribution to sustainable economic development</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Upgrade the national rail network.</li> <li><input type="checkbox"/> Improve the contribution of rail to regional development.</li> <li><input type="checkbox"/> Encourage more freight to be carried by rail.</li> <li><input type="checkbox"/> Optimise use of rail network as part of the wider transport network.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Government purchase of rail network.</li> <li>▪ Retain existing rail network.</li> <li>▪ Government investment of \$200 million to restore and upgrade rail network.</li> <li>▪ Investigate development of the rail network.</li> <li>▪ Operation of an efficient and safe NZRC.</li> <li>▪ Investigate options for incorporating costs and benefits of transport modes into the pricing of the transport system.</li> </ul>
<p><b>Assisting Safety and Personal Security</b> To improve rail safety and personal security</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Continue to improve the safety and personal security levels of the rail system.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Enhanced rail safety regime (Railways Bill).</li> <li>▪ Developing a rail safety strategy, including safety targets.</li> <li>▪ Developing effective interventions.</li> <li>▪ Support station upgrades to improve safety and personal security.</li> </ul>
<p><b>Improving Access and Mobility</b> To maintain and develop access to rail passenger services</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Encourage more use of urban rail passenger services as part of the public transport network where appropriate.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Funding assistance to develop urban rail passenger services.</li> <li>▪ Investigate options for incorporating the social costs of transport modes into the pricing of the transport system.</li> </ul>
<p><b>Protecting and Promoting Public Health</b> To promote rail's contribution to positive health outcomes</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Ensure the public health impacts of rail transport are incorporated into transport planning and decision making.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Encourage modal shift within a sustainable development context.</li> <li>▪ Investigate options for incorporating public health costs of transport modes into the pricing of the transport system.</li> <li>▪ Investigate electrification of the Auckland urban rail network.</li> </ul>
<p><b>Ensuring Environmental Sustainability</b> To achieve a sustainable transport system that uses land, energy and other resources effectively</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Ensure transport choices are made taking into account all the relevant relative costs and benefits of transport modes, including the relative benefits that rail can provide.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Encourage sustainable modal shift from road to rail where appropriate.</li> <li>▪ Investigate options for incorporating environmental externalities of transport modes into the pricing of the transport system.</li> <li>▪ Encourage better integration of services where practicable.</li> </ul>

## Assisting Economic Development

**Objective: To enhance rail's contribution to sustainable economic development**

An efficient and effective rail system is of critical importance to New Zealand's economic development; for example, around 25 percent of all inter-city freight is currently carried by rail. However, the full potential of the rail network has not been realised due to a number of factors, including under-investment over a number of years.

Crown ownership of the rail infrastructure provides the government with the means to ensure New Zealand's rail network is maintained and developed to encourage more use of rail within a commercial framework. This is particularly important in areas of regional growth or under provision of rail infrastructure

In the year to June 2003 Toll Rail carried 14.8 million tonnes of freight, a 27% increase over the tonnage carried in 1998.

There is a lack of official statistics on the size of the domestic freight transport market in New Zealand. Toll Rail estimates that 14 % of all domestic freight (excluding that carried by light vehicles such as vans) is carried by rail.

**Priority: Upgrade the national rail network**

While a recent review of parts of the rail infrastructure undertaken in 2002 concluded that the rail network is generally 'fit for purpose'<sup>1</sup> for current freight operations, there is a need for investment to address a serious backlog of deferred maintenance. This is constraining the ability of rail to compete for more freight business in some areas.

In the medium to long-term, economic growth, coupled with any increase in rail's market share, is likely to create a need for investment in the rail infrastructure to allow for changing and growing freight and urban passenger demands.

Possible improvements include upgrading and strengthening tracks and bridges, lowering tunnel floors to allow 9'6 containers to be carried, installing and lengthening crossing loops, improved signalling, and re-routing of circuitous and steep sections of track which restrict speed. Such changes would enable the rail operator to use modern high-powered locomotives with heavier axle loads and haul larger wagons and containers more extensively on the network.

Beyond the initial Crown commitment to network investment, the capital funding for developments with commercial benefits will be recovered from users through TAC. Any improvements to the existing network, where Toll Rail has exclusive use rights, will be subject to agreement with Toll Rail that it will make use of the enhancement.

**Priority: Improve the contribution of rail to regional development**

Transport is a critical factor affecting regional growth and development. Many industries identified in regional development strategies, such as forestry, place very high levels of demand on transport services and infrastructure. Growth opportunities have also been identified in the coal and dairy sectors and in container traffic. Developing the rail network can assist regional development by providing the infrastructure needed to access economic opportunities, and will also help to ensure that new or existing freight does not transfer from rail to road.

<sup>1</sup> Halliburton KBR review undertaken for the LTSA. A 2003 review of the Midland line concluded that this line was fit for purpose only in the short term.

Priority: **Encourage more freight to be carried by rail**

A key issue for New Zealand is accommodating anticipated growth in freight volumes, which are expected to expand at a faster rate than overall economic growth. New Zealand's extensive rail network is relatively under-utilised, and substantial increases in the amount of freight carried can be achieved without having to develop significant new infrastructure. By contrast, some parts of the roading network would need to be expanded to handle substantial increases in traffic volumes.

While much freight cannot be carried by rail (as the origin and destinations are not served by railway lines, the freight is poorly suited to rail or the distances are too short and the volumes too small to be moved efficiently by rail) there is potential to efficiently increase the rail transport share of existing freight volumes.

Priority: **Optimise the use of the rail network as part of the wider transport network**

A more integrated approach to long-term transport planning and funding will help ensure the best use is made of the overall transport network, for example more efficient management of the existing road and rail infrastructure will reduce the need for new investment. The Land Transport Management Act 2003 provides the framework for an approach to funding and management of land transport as a whole rather than focussing on roads and motor vehicles.

Increased integration of transport modes includes the development of innovative and flexible approaches, for example 'inland ports' or transport hubs. Rail stations are natural focal points for commercial, industrial or residential development illustrating that integrating land use planning with rail infrastructure planning is also important. Improving integration will require regular consultation with industry and other parties and consideration of other land transport plans and regional development strategies.

The Ministry of Transport commissioned an *Investigation into Surface Transport Costs and Charges (STCC)* in 2002. This study examines the relationship between the costs (including economic, social, and environmental costs) of the use of road and rail transport, and the payments users make for using each mode. This will assist government in making decisions on the absolute and relative levels of charges for the use of road and rail networks.

### **Key Initiatives**

#### **Government purchase of network**

The government's decision to purchase the rail network is intended to secure it as a vital piece of infrastructure in the national interest.

#### **Retain existing rail network**

The government intends to retain the existing rail network to preserve options for under-utilised lines where it is likely that there will be more traffic in the future.

- The NZRC will be required to:
  - maintain the long-term serviceability of the network that is currently in use,
  - where there is a reasonable prospect of future traffic, maintain unutilised track to an appropriate standard.

### **Government investment of \$200 million to restore and upgrade network**

The government will invest in the network to address deferred maintenance and improve the capacity of the network. A key priority will be to bring the network up to a standard to maintain and improve market share for freight and passenger services:

- The government will invest \$200 million in the network within four years, which will be split; with \$100 million for network enhancements and \$100 million for like-for-like replacement of worn out assets such as track and sleepers. This investment will not be recovered from rail operators. Beyond this initial investment government will expect the costs of maintaining and developing the track to be recovered from rail operators.
- Transfund provides funding assistance from the National Land Transport Programme for activities focussed on transferring road freight to other transport modes, including rail, in order to contribute to the objectives of the NZTS.

### **Investigate development of the network**

The government will investigate increasing the capacity of the rail network, to maintain and improve the market share of rail, and to improve the capability of the railway system as part of New Zealand's transport infrastructure.

- The NZRC and the Ministry of Transport will investigate with Toll Rail the potential for developing new links. Some of these are likely to be funded from the government's initial \$100 million funding for network enhancement. Possible areas for investigation include:
  - a new branch line to the port at Marsden Point
  - a new branch line at Clandeboye (to serve the dairy factory directly)
  - a new bridge near Cobden
  - a short spur line to service the dairy factory at Edendale.
- The NZRC and the Ministry of Transport will work with rail operators, businesses and communities to explore the feasibility of other proposals for constructing new links.

### **Operation of an efficient and safe NZRC**

The NZRC objectives will include running an efficient, high quality and safe operation:

- The NZRC and Toll Rail will agree service levels and performance indicators covering reliability and timeliness of operations by 30 June 2005.
- Performance indicators will be agreed between the NZRC and any additional operators granted access rights.
- The NZRC will prepare a 10-year Rail Development Programme for maintaining and developing the national rail network as soon as practicable.

### **Promote integration between rail and other networks**

Transfund and the NZRC will be required to promote the use of rail where practicable, including supporting the development of intermodal links.

### **Investigate options for incorporating costs of transport modes into the pricing of the transport system**

- The *Surface Transport Costs and Charges Study* will provide the basis for the Ministry of Transport to provide advice to the government on pricing policies leading to sustainable road and rail networks, and for efficiently increasing rail's share of the movement of people and goods.

## Assisting Safety and Personal Security

**Objective:** To improve rail safety and personal security

While rail remains the safest form of land transport, there can be no room for complacency. Recent reports<sup>2</sup> into rail safety have made it clear that New Zealand's rail safety performance should be improved to international best practice standards.

Personal security includes concerns about crime and harassment in and around stations and on trains, and also vandalism and theft of cars from parking facilities at stations. Though reported crime statistics may be low, concerns about crime and personal security can act as barriers to rail patronage.

**Priority:** Continue to improve the safety and personal security levels of the rail system

### Safety

As Table 1 shows, in the last seven years there has been an average of 24 fatalities, 18 serious and 41 minor injuries per year on New Zealand's rail network.

**Table 1. Average Annual Injuries on New Zealand's Railways 1997-2003**

Accident Type	Fatal	Serious	Minor	Total
Level Crossing	8	7	14	29
Trespass and Vandalism	14	4	9	27
Operational	2	7	18	27
<b>Total</b>	<b>24</b>	<b>18</b>	<b>41</b>	<b>83</b>

Source: LTSA.

NB: A seven-year average is used as the number of rail accidents shows random variability from year to year.

Rail related injury accidents fall into three broad categories: level crossing, trespass and vandalism, and accidents relating to rail operations.

Level crossing injuries accounted for 36 percent of fatal and serious injuries per year on average from 1997 to 2003. The NZRC, the LTSA, road controlling authorities, private land owners and motorists all have a role to play in reducing level crossing accidents through such means as improving the general road environment and protection at level crossings (including signals and barriers), education and management of land use near level crossings. Fundamentally however, it is road user compliance with the law that is critical.

Trespass and vandalism injuries averaged 43 percent of fatal and serious injuries per year between 1997 and 2003. The LTSA, the NZRC and station owners have a role in reducing such accidents, for example by managing safe pedestrian access over the tracks. However, both trespass and vandalism accidents are primarily caused by members of the public committing illegal acts, such as being on the tracks without authorisation or throwing objects at trains, and are in many cases outside of the direct control of rail operators. Suicide and substance impairment plays a significant part in trespass accidents.

Trespasser and vandalism incidents can impinge on the personal security and safety of rail staff and passengers through the risk of injury from incidents of rock throwing

<sup>2</sup>The Wilson Report 2000 and the Halliburton Report 2002

and other acts of vandalism. Further, accidents and suicide attempts have an enormous psychological impact on locomotive drivers and others involved in such incidents, particularly where there is a fatality or serious injury.

Operational accidents such as shunting accidents, collisions, derailments and rail passenger injuries accounted for 21 percent of fatalities and serious injuries per year on average from 1997 to 2003. While rare, some types of operational accidents, eg head-on collisions, have the potential to be extremely serious. The LTSA, the NZRC, rail operators and rail employees all have a role to play in reducing the number of accidents in this area and maintaining a rail safety culture.

#### *Personal security*

Situational factors such as station design, inadequate lighting, entrapment points and graffiti can play a role in making people feel less secure in and around stations and on trains. A lack of security for cars in station car parks is also likely to reduce the number of commuters who choose to 'park and ride.'

Addressing personal security concerns on trains and at stations is primarily the responsibility of station owners/managers and rail passenger operators (ARTNL and Connex in Auckland, and Toll Rail and the Crown in Wellington).

#### *Emergency Management*

It is important to ensure that key rail infrastructure, passengers, staff and freight are not unreasonably at risk from events, such as earthquakes, the spillage of hazardous goods or lahar, that could result in serious loss of life or sustained disruption to economic activity. This will require appropriate risk management of the rail system to ensure that emergency management civil defence requirements are met.

Annually more than 200,000 tonnes of dangerous goods are moved by rail. A number of government agencies (including the Ministry of Health, the Police, the LTSA and the Department of Labour) have responsibilities in terms of minimising the risk to passengers, rail staff and communities alongside rail corridors, and to other goods travelling with these products.

The potential for a rail related terrorist incident has been highlighted by recent events. Minimising the risk of terrorist activity will require a co-ordinated national and international approach and appropriate risk management by rail participants.

### **Key initiatives**

#### **Enhanced rail safety regime (Railways Bill)**

- The Railways Bill will implement an enhanced rail safety regime, addressing the problems identified in recent reports into rail safety and changes in the business models over time. The Bill clearly states the safety duties of all rail participants and extends the licensing regime to include access providers.

### **Developing a Rail Safety Strategy**

- The Ministry of Transport will lead the development of a Rail Safety Strategy.
- The LTSA and the Ministry of Transport will develop rail safety targets.

### **Developing effective interventions**

- A Road-Rail Level Crossing Working Group has been established and is working to identify and facilitate effective measures to improve safety at level crossings. It includes LTSA, Transit New Zealand, Local Government New Zealand, Toll Rail and the Federation of Rail Organisations of NZ.
- The LTSA has undertaken a study of trespasser accidents to determine if there are any common causes, and will use this as a basis to explore interventions that could address those causes.
- Toll Rail has a campaign for children called 'Tracks are for Trains' aimed at preventing deaths and injuries on the tracks. The NZRC will inherit this programme.

### **Support station upgrades to improve the personal security of rail users**

Good design, attractive, well-maintained and well-lit stations and environs, secure carparks, and increased business activity in and around stations can increase the personal security of rail passengers.

- The government, directly and through Transfund, has provided funding for Auckland and Wellington railway station infrastructure projects.
- Appropriate national and international agencies will continue to monitor the terrorist threat and develop effective anti-terrorism measures.

### **Other initiatives**

- Government investment to upgrade the rail network is intended, among other goals, to increase its overall safety and reliability.
- Policies aimed at promoting a greater share of rail transport, compared to road transport, may contribute to the overall transport goal of improving safety. This is due to rail's comparatively better safety performance.
- Initiatives that increase rail patronage and activity in and around stations may also reduce personal security concerns.
- *The New Zealand Injury Prevention Strategy* provides an overarching framework for the injury prevention activities of government agencies, non-government organisations, communities and individuals, covering issues such as suicide.
- The *Crime Reduction Strategy* addresses concerns about personal security and crime in public places as part of its general violence strategy.
- The Ministry of Civil Defence and Emergency Management works with relevant agencies to ensure civil defence emergency management requirements are met.

## Improving Access and Mobility

**Objective: To maintain and develop access to rail passenger services**

For a variety of reasons, including geography, population and social factors, public transport use is low in New Zealand. The widespread use of passenger cars, particularly during peak periods in urban areas, has resulted in congestion in some cities. This has environmental, social, health and economic impacts.

### *Urban rail passenger transport*

Urban passenger rail services operate in the Auckland and Wellington regions. Transfund, in partnership with the Wellington and Auckland regional councils provides operating subsidies for these and other passenger transport services.

### *Long distance passenger rail*

Toll Rail operates some long distance passenger services, primarily on scenic routes for the tourist and leisure markets. Some smaller operators run scheduled services and/or excursion trips on the national network.

Long distance rail passenger services are not subsidised. Regional councils could encourage non-viable new or existing long distance passenger services where such services are seen as essential to improving access in a regional area.

### *Heritage and tourist/leisure operators*

Heritage operators contribute towards goals that are wider than NZTS by restoring and maintaining in an operating condition, locomotives and carriages from New Zealand's past.

**Priority: Encourage more use of urban rail passenger services as part of the public transport network, where appropriate**

Overall, public transport use is low in New Zealand; only 2.2% of trips are made by bus and around 0.25 % are made by rail.

Urban rail services in Auckland and Wellington provide approximately 12.3 million passenger trips annually in total of which 82% are undertaken in Wellington.

Greater use of public transport, including urban rail services in Auckland and Wellington, can enhance access and mobility, and help to reduce road congestion in both cities.

International experience has indicated that increasing rail patronage will require:

- adequate infrastructure
- high quality rolling stock
- affordable, reliable and frequent services
- user friendly, safe and secure stations and access to stations (including provision of "park and ride" facilities)
- better integration of rail services with bus and taxi services and walking and cycling networks.

The government can influence this by providing funding assistance and other forms of support to regional councils, which have the primary responsibility for developing urban passenger services.

The relative cost of alternatives (for example, private cars, buses) is also important. Pricing policies, such as user fees and charges, including parking charges, can influence this. Travel demand management measures directed at car drivers are also likely to be required to increase rail patronage. It is also important to avoid merely shifting bus users, or those who walk or cycle, onto rail services, and to target rail patronage growth at private car users.

Concerns people may have over their personal security and safety may also affect their choice of modes of travel for different journeys.

The Human Rights Commission's *Inquiry into Accessible Public Land Transport* identifies issues with access to passenger services for the transport impaired – those who are disabled or are unable, for age or other reasons, to use a car or access other transport services. Improving access to urban rail passenger services for the transport impaired will require a co-ordinated approach.

### **Key initiatives**

#### **Funding assistance to develop urban passenger rail services in Auckland and Wellington**

The government is providing funding assistance, directly and through Transfund, to develop the commuter rail services in Wellington and Auckland, by:

- Providing operating subsidies to passenger transport services.
- Providing funding assistance for improvements to rolling stock.
- Providing funding support for infrastructure upgrades in Auckland and Wellington regions to increase the capacity and reliability of their urban passenger networks.
- Providing funding assistance for activities that focus on transferring car commuters to rail or bus services such as integrated ticketing and park and ride facilities.

#### **Investigate options for incorporating the social costs of transport modes into the transport system**

- The *Surface Transport Costs and Charges (STCC)* study will provide the basis for the Ministry of Transport to provide advice on future land transport charges.

### **Other initiatives**

The Ministry of Transport will respond to the issues raised by the report of Human Rights Commission into *Accessible Public Land Transport*.

## Protecting and Promoting Public Health

**Objective:** To promote rail's contribution to positive health outcomes

The NZTS seeks to improve the public health impacts of transport and to promote shifts to transport modes with fewer negative impacts on health. Transport related public health issues arise when pollutants, including harmful vehicle emissions, water run-off and noise come into contact with people.

Vehicle emissions during peak periods in urban areas are the primary cause of land transport related public health problems.

A 1999 inventory of air emissions commissioned by the Ministry of Transport (*Impacts of Rail Transport on Local Air Quality*) found that the majority of air emissions from rail occur in rural regions at relatively infrequent intervals and the contribution made to urban emissions from rail is very low. As a result, reducing harmful emissions from road vehicles is a priority. However, managing any potential negative health impacts of rail emissions from areas of concentrated rail activity, such as rail yards, is also important.

The 1999 inventory of rail emissions found that particulate matter emissions from rail are 3% of total vehicle emissions.

Carbon monoxide and hydrocarbons emissions are 0.2% and 0.5% respectively of total vehicle emissions.

Oxides of nitrogen emissions from rail are 10% of total vehicle emissions.

Noise, including vibration, from rail can also impact on community health and wellbeing. The health impacts of noise from rail at the local level will also need to be assessed and managed, for example noise levels at ports.

**Priority:** Ensure the public health impacts of rail transport are incorporated into transport planning and decision making

Transport choices can be influenced by policies that require transport users to take responsibility for the health costs imposed on society by transport modes.

As the public health impacts of rail are relatively small compared to roads, policies aimed at modal shift – from road to rail – are likely to make the most effective contribution to improving transport related public health outcomes. In particular, initiatives aimed at encouraging freight to transfer from road to rail and greater use of public transport, including urban passenger rail services relative to single occupancy car travel, may reduce overall transport related health problems. Where possible, development of passenger rail services should also encourage active transport modes such as walking and cycling journeys, for example, bike stands on trains and at stations.

In certain cases (subject to requirements to offer back to original owners) rail land no longer required for rail purposes could be made available for long distance walking and cycling networks. The Central Otago Rail Trail on the Otago Central railway line is an example of where this has occurred following the closure of the line in 1989.

## Electrification

Electrification can provide environmental benefits (depending on the point of source of the electricity) and public health benefits particularly in urban areas. Currently the Wellington urban network is electrified to Paraparaumu using a 1.5kv DC electric system. Extension to Waikanae is under consideration. The North Island Main Trunk line from Palmerston North to Hamilton is also electrified with a 25kv AC system.

The Auckland Rail Business Plan recommends consideration be given to electrification of the Auckland urban network (from Britomart to Papakura on the North Island Main Trunk, and to the Western and Isthmus lines). Standardisation of electrical systems in the Auckland and Wellington urban networks would ensure both cities could take advantage of economies of scale (for example, joint purchase of new units).

### Key initiatives

#### Encouraging modal shift within a sustainable development context

The government is encouraging modal shift by:

- Providing funding support for the development of urban rail passenger services as part of the public transport network.
- Providing funding to upgrade and develop the national rail network to improve its ability to carry freight, where appropriate.
- The Land Transport Management Act 2003 requires Transfund to allocate funding to take account of sustainability goals, including public health issues.

#### Investigating options for incorporating the cost of transport related public health impacts into transport charging systems

- The *Surface Transport Costs and Charges (STCC)* study will provide the basis for the Ministry of Transport to provide advice on future land transport charges.

#### Electrification

- The NZRC in conjunction with the Ministry of Transport and the ARC will investigate the feasibility of electrification of the Auckland urban network.

### Other initiatives

#### Introduction of new standards for diesel fuel

- The government has approved new fuel specifications for introduction in August 2004 and January 2006. These specifications will significantly reduce the level of sulphur in diesel, resulting in substantially cleaner emissions from road vehicles and diesel locomotion.

#### Upgrading the network

- Upgrading the rail network will allow operators to run modern diesel locomotives (that can haul more freight, have better fuel efficiency and cleaner burning engines) more extensively on the network.

## Ensuring Environmental Sustainability

**Objective:** To achieve a sustainable transport system that uses land, energy and other resources effectively

The NZTS seeks to achieve a more energy efficient and environmentally sustainable transport system by reducing negative environmental impacts and using resources more efficiently.

This section considers the wider impacts of air, water and other pollutants as they affect the natural, cultural and built environments.

The negative environmental impacts associated with rail transport are small when compared to road. Roads are therefore the key focus of work in this area. However, addressing the environmental effects of rail transport is also important and policies and standards to limit the negative environmental impacts of rail may also be developed, for example, diesel emission standards. There is also potential to reduce the carbon intensity of rail through innovations such as regenerative braking systems.

Environmental impacts at the local level will still need to be assessed and managed, for example, pollutants entering into water ecosystems. The environmental impacts associated with rolling stock and track maintenance (for example, weed spraying, ballast cleaning) will also need to be managed.

The development of the rail network will also need to take into account environmental impacts, including the protection of structures and sites with heritage values where practicable.

**Priority:** Ensure transport choices are made taking into account all the relevant relative costs and benefits of transport modes, including the benefits that rail can provide

As the environmental impacts of rail are small compared to those generated by road users, policies aimed at modal shift – from road to rail – are likely to make the most effective contribution towards achieving environmental sustainability objectives at a regional or national level. Initiatives that encourage freight to transfer from road to rail where practicable and encourage greater use of public transport, including urban passenger transport services, will contribute towards achieving a more sustainable transport system. Transport choices can also be influenced by policies that require transport users to take responsibility for the environmental costs of transport modes.

Rail freight uses 4% of freight transport energy. Road freight accounts for 91% and coastal shipping 5%.

Cars (including taxis, vans and other light vehicles) use 89.3% of passenger transport energy, domestic air travel uses 7.4% and buses 3.1%. Passenger trains and ferries use the remaining 0.3%.

Transport emits 45% of carbon dioxide (greenhouse gas) emissions. Rail transport accounts for only a small proportion of this.

## **Key initiatives**

### **Encouraging sustainable modal shift from road to rail where appropriate**

The government will encourage more use of urban rail passenger services as part of the public transport network:

- Providing funding assistance, through Transfund, in partnership with regional councils, to operate and develop urban rail passenger services.
- Additional funding support provided in the National Land Transport Programme, some of which will be used for the development of public transport, including urban rail passenger services.

The government will encourage the transfer of freight from road to rail, where appropriate:

- Government investment in infrastructure will increase the capacity of the network to allow operators to run modern diesel locomotives, which have better fuel efficiency, and cleaner burning engines.
- The Land Transport Management Act 2003 requires Transfund to allocate funding to take account of sustainability goals, including environmental sustainability.

### **Investigating options for incorporating environmental externalities of transport into pricing of the transport system**

- The STCC study will provide the basis for the Ministry of Transport to provide advice on future land transport charges.

### **Encourage better integration of services where practicable**

The Ministry of Transport will investigate options for encouraging better integration of rail with other services, including options for:

- Encouraging port/road and rail links for freight. This may include, for example, improving linkages in and out of ports or to provide access to rail sidings for intermodal transfers.
- Encouraging better links to passenger rail services, for example, integrated ticketing, park and ride facilities and better integration of train and bus services.

## Assessing Progress

Table 2 sets out key results and performance indicators that will allow progress towards achieving the Strategy's national rail objectives and key priorities to be assessed. More detailed performance indicators will also be established for the Strategy. This will include baseline measures and the development of targets and timetables, where practicable, for the level of change sought. Additional indicators may also be developed.

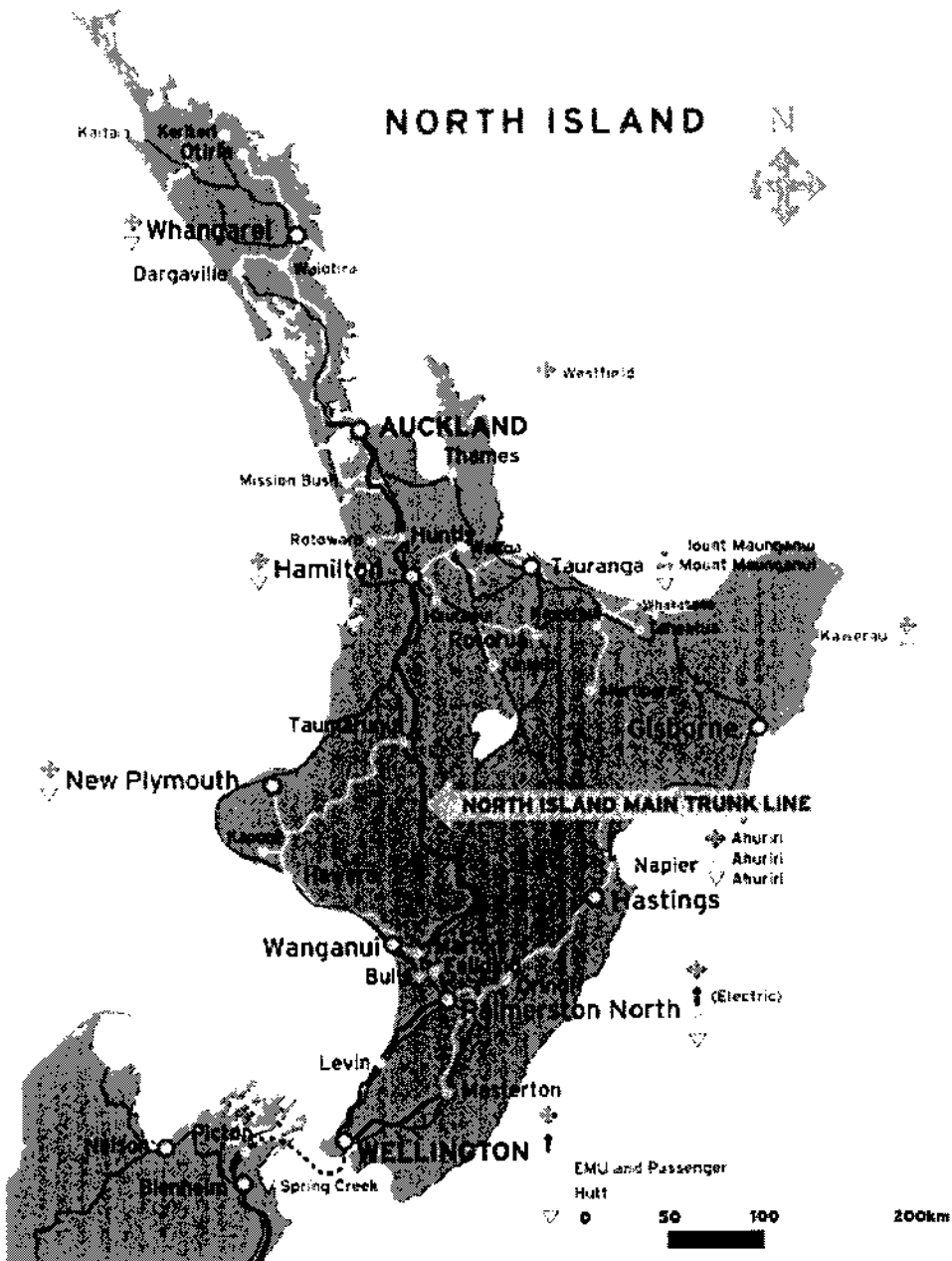
Regular monitoring and review will be undertaken to ensure progress is made. This will help to inform future development of the Strategy.

Responsibility for implementing the Strategy rests with a number of agencies across the government rail sector, and will be reflected in their accountability and other documents. The Ministry of Transport will have overall responsibility for monitoring and reviewing progress.

**Table 2: Key Results Sought**

<b>Key Results</b>	<b>Performance Indicators</b>
<ul style="list-style-type: none"><li>▪ More freight carried by rail</li></ul>	<ul style="list-style-type: none"><li>▪ Increased tonnes per km</li><li>▪ Increase in modal share</li></ul>
<ul style="list-style-type: none"><li>▪ More passengers carried on urban rail services</li></ul>	<ul style="list-style-type: none"><li>▪ Increased numbers of passengers</li><li>▪ Increased passenger kms</li><li>▪ Increase in modal share relative to private car</li></ul>
<ul style="list-style-type: none"><li>▪ Improved level of rail safety</li></ul>	<ul style="list-style-type: none"><li>▪ Reduction in death and serious injury rates for rail</li></ul>

# New Zealand's National Rail Network



A23



- Freight Branch
- Passenger and Freight Line
- Freight Only Line
- Passenger Only Line
- .... Interisland and The Lyne

Source: Toll NZ Limited

A24

## Re Draft National Rail Strategy

Thank you for the opportunity for Waitakere City Council to comment on the draft National Rail Strategy.

Waitakere City Council supports the general approach of the National Rail Strategy and its key focus to move more freight and urban passengers onto rail services to help ease road congestion, reduce travel times, improve safety and benefit the environment.

The following are particular issues which we request to be considered in finalising the National Rail Strategy:

### 1. Economic Development - Medium to High-density development along urban rail corridors

The provision of urban passenger services has a significant impact on economic development. Improvements in rail infrastructure and services in the Auckland region are attracting significant investment, both public and private, around stations and along the rail corridor. The permanence of rail encourages medium to high-density development. This is critical for the economic success of the Auckland region, which is starting to experience the congestion resulting from low-density development over large distances. The Auckland region must rely on a significant increase in modal shift to trains in order for its transport system to function, particularly in peak hours. This helps to minimise the expenditure and extent required for roads.

In order to attract medium to high-density development along urban rail corridors, stations need to be upgraded to reflect their position as a focal point of a town centre or community.

In order to attract medium to high-density development along urban rail corridors, the rail corridor needs to be upgraded so that it is consistent with urban medium to high-density residential living. The national rail strategy should signal Government support for initiatives on urban rail corridors such as electrification, grade separation (where appropriate), safe crossings, control of weeds, litter and graffiti, encouragement of connections with different modes (including light rail, walking and cycling), and encouraging beautification of the corridor.

In summary:

The urban rail corridors should not:

- Deter investment along the corridors;
- Cut off communities,
- Provide unsafe access,
- Emit excessive noise,
- Be neglected with weeds, litter and graffiti,
- Be unsightly places overlooking the back of the community.

The urban rail corridors should:

- Encourage investment along the corridors,
- Provide safe crossings for pedestrians, cyclists and motor vehicles so that communities are joined,
- Minimise noise effects,

- Control weeds, litter and graffiti,
- Provide high visual amenity including artwork.

## 2. Expansion of the urban rail network

The strategy needs to look beyond the 2014 timeframe and consider the demand for expansion of the urban rail network. This expansion may take the form of connections to roads by light rail vehicles or extensions to the main line, such as the proposed connections to Manukau City and from Britomart to Mt Eden. The strategy should provide guidance on the Government's role in such decisions about planning, funding and implementation.

## 3. Walk and cycle ways

Proposals for the development of a rail corridor should involve consideration of other the different modes of transport using or crossing the corridor, particularly walking and cycling. With appropriate fencing, a walk/cycle way alongside a rail corridor can provide a significant commuter and recreational route, similar to the routes alongside state highways. A similar approach to that required by Transit New Zealand when assessing modes along a proposed state highway corridor should be considered.

In urban corridors, particularly where residential densities are medium to high, it is important to have safe pedestrian access across the rail corridor. Such links to communities also encourage a choice of transport other than the motor vehicle.

## 4. Coordination of freight and passenger services

The strategy recognises that there needs to be an increase in both freight and passenger services. Competing priorities arise in urban centres. The strategy should provide a mechanism for New Zealand Rail Corporation, the relevant regional Council and the freight and passenger operators to coordinate these activities to ensure a proper fit. The strategy should provide guidelines and the overcome the incentive for New Zealand Rail Corporation to favour freight operations.

## 5. Safety of rail corridor

Safety becomes an increasingly important issue with the proposed increase in passenger and freight services, and also the increase in crossings by traffic and pedestrians from increasing population and intensification along urban rail corridors. The strategy notes that the Railways Bill is seeking to clarify the organisations responsible for safety of the rail corridor. This clarity is sought and welcomed.

## 6. Targets relating to the above issues

The targets in the strategy need to expand the cover the issues raised in this submission. For example, the level of intensification along urban rail corridors should be higher than elsewhere in a city.

Once again thank you for the opportunity to comment.