

4 The Northland Region and Transport Patterns

4.1 Geography

The Northland region comprises a land area of 12,600 square kilometres (1.26 million hectares) along with some 12,000 square kilometres of coastal waters. It extends northwards of a line between the Oruawharo arm of the Kaipara Harbour and a point just south of the Mangawhai Harbour on the East Coast. Northland has one Regional Council and three District Councils, these being Far North, Kaipara and Whangarei.

Geographically, Northland is essentially a narrow peninsula, less than 100 kilometres across at its widest point, bounded by the Tasman Sea and the Pacific Ocean. The region is unlike most of New Zealand in that there are few mountain ranges and the highest point, Te Raupua in the Waima Range, is only 781 metres above sea level.

The typical topography is one of rolling hill country with landforms ranging from the ancient uplifted east coast greywacke rocks to relatively young volcanic lava and active coastal dunes. Many rivers, streams, tidal inlets and harbours dissect and break the pattern of hills. Areas of flat low-lying land are largely restricted to areas adjacent to the Awanui and Northern Wairoa rivers and the Marsden Point/Ruakaka area.

Northland is rich in both Maori and European history. The Bay of Islands was one of the earliest parts of New Zealand to be settled by Europeans and the Treaty of Waitangi was signed there in 1840.



Figure 4-1 : Map of Northland

4.2 Land Use and Regional Growth

Northland is a coastal region, with 3025km of coastline and no location being more than 40km from it. The region is commonly described as the “Birthplace of the Nation” as the Treaty of Waitangi was first signed at Waitangi in the Bay of Island.

Northland has a population base estimated by Statistics New Zealand (2006²) of 152,200 people and is identified by Enterprise Northland (EN) as having steady growth. In a recent EN report, “Northland State of the Economy - Economic Indicators Update 2005” two indicators reveal the increase in local growth; they are the number of businesses in the region and the estimated value of building consents issued. Between the period 2002 – 2005, numbers of businesses increased from 9,930 to 11,536. The total value of building consents issued increased from \$1.8 million to \$2.3 million in the same period.

² Statistics New Zealand - 2006 Census of Population and Dwellings: Provisional Counts

4.2.1 Whangarei District

Whangarei District forms the lower eastern portion of Northland. It has an estimated population of 74,100 as at 2006³. This is nearly half (48%) of the total of Northland's population. Within the district, some of the areas of significant individual population growth (as denoted by the change in population from the 1996 to 2001 census based on area units⁴) are: Abbey Caves 11.7%, Maungatapere 13.5%, Springs Flat 13.8%, Otaika – Portland 19.5% and Three Mile Bush, 27.9%.

Whangarei is the main urban centre supporting the district which has traditionally had a largely pastoral economy. However other industries of importance include tourism, horticulture, forestry, fishing and boat building and servicing. Major industrial contributors are the Marsden Point Refinery, the Marsden Point Port (Northport), the Portland Cement Works, Carter Holt Harvey's LVL Plant, and Fonterra's Kauri Dairy Factory.

To address the implications of growth, beyond what the Proposed District Plan projects, are two strategies: the District-wide Coastal Management Strategy and the Urban Growth Strategy both adopted by the District Council in 2003. Both documents identify areas suitable for future growth.

In its Long Term Community Plan 2006 – 2016, the District Council has particularly identified Marsden Point and Ruakaka as experiencing unprecedented levels of growth. A Marsden Point Structure Plan has been developed to better plan for future growth in these areas including for infrastructure services.

4.2.2 Far North District

The Far North is the northern most district and borders with both the Whangarei and Kaipara districts. The majority of land is rural with a notable concentration of tourist related activity in the east. The Far North has an estimated population of 59,700 as at 2006³ representing nearly 40% of Northland's population.

Population is dispersed throughout the district with some coastal concentrations. The majority of small town communities have between 1,000 and 6,000 people.

Within the district the areas of significant individual population growth (as denoted by the change in population from the 1996 to 2001 census based on area units) are; Taipa Bay – Mangonui 6.2%, Mangonui East 11.4%, Ahipara 13%, Kerikeri 16.7%, Omapere-Opononi 17.1% and Waitangi – Te Tii 30.6%.

In its Long Term Community Plan 2006 – 2016, the District Council has identified the following areas for growth, Kerikeri, Bay of Islands, Doubtless Bay, Ahipara, Pukenui – Houhora and Opononi – Omapere. The plan indicates that structure plans are proposed to be developed to assess and plan appropriately for these growth areas.

4.2.3 Kaipara District

The Kaipara District, is a predominantly rural area, with an extensive western coastline but only a small portion of the district adjoining the eastern coastline. The district is dominated by the Kaipara Harbour on the west coast and Mangawhai area on the east. The township of Dargaville situated on the bank of the Northerhn Wairoa River is the main urban centre.

The Kaipara District has an estimated population of 18,350 as at 2006³ representing 12% of Northland's population.

Within the district the areas of significant individual population growth (as denoted by the change in population from the 1996 to 2001 census based on area units) are; Maungaturoto 11.3%, Kaiwaka 21.9% and Mangawhai 24.1%.

³ Statistics New Zealand – 2006 Census of Population and Dwellings: Provisional Counts. Note: data for Census Areas Units for 2006 Census is expected to be available in November 2006.

⁴ Census area unit (CAU) is defined by Statistics NZ as a defined rural or urban area.

In its Long Term Community Plan 2006 – 2016, the District Council has identified the following areas for growth, the south-eastern portion of the district, the area around the Kaipara Harbour fringe and the small west coast settlements such as Bayleys Beach and Glinks Gulley.

Currently there is a Mangawhai Structure Plan that considers the existing Mangawhai community and its future growth and how that is to be directed. The instigation of the Mangawhai Ecocare (waste water treatment scheme) project will provide for increased opportunity for land use (residential) growth within this community.

The mandatory 10 year review of the Operative Kaipara District Plan commenced in 2006. The issue of land use will be reassessed and policies, objectives, rules, and methods prepared and amended accordingly.

4.3 Northland’s Current Land Transport Network

The present transportation network in the Northland Region comprises approximately 6,510 kilometres of road, rail links that terminate at Otiria and Dargaville, 3 airports, a major marine port at Marsden Point and a number of smaller coastal ports.

A contracted bus service in Whangarei City commenced in July 2000 and has had substantial growth since its introduction. A total mobility scheme also operates for people with disabilities in Whangarei. There are currently very few cycle facilities.

4.3.1 The Road Transport Network

Northland currently has 6,510 kilometres of public maintained roads, 753 kilometres of which are State Highway (refer to Table 4-1).

State Highway 1, which runs the entire length of the region, is the major transport route. It is the principal transport linkage with Auckland and a major carrier of freight, passenger and tourist related traffic, with the greatest traffic volumes between Auckland and Whangarei.

State Highways 10, 11, 12, 14 and 15 are also important strategic routes linking various townships and major farming districts along the east and west coasts. The integrity, safety and efficiency of the state highway network are vital to the economic and social wellbeing of Northland. The six state highways are administered by Transit New Zealand.

Table 4-1: Northland’s roading network

Road Type	Length (km)	Sealed (km)	%	Unsealed (km)	%
State Highway	753km	733	97.3	20	2.7
Local - Urban	491	458.7	93.4	32.3	6.6
Local - Rural	5,283.8	1,552.4	29.4	3,731.4	70.6
Waitangi Trust	2.9	2.9	100	0	0
Total	6,530.7	2,747.0		3,783.7	

Source: *Roading Statistics 2000/2001 (Transfund New Zealand) & State Highway Review 2002, Transit New Zealand*

4.3.1.1 State Highways

97.3% of the region’s State Highways are sealed, with the final 20km of SH1 at Cape Reinga due to be sealed within the next 5 years.

4.3.1.2 Local Roads

The Far North, Kaipara and Whangarei District Councils administer 5,775 kilometres of local roads in the region. Over 90% of the roads serve rural areas, and of these, only 29.4% are sealed (compared with 26% in 1998).

As is shown in Table 4-2, even with the inclusion of urban roads only 34.7% of the local roads in Northland are sealed compared to the national average of 59.7%. The comparable figures in 1998 were 32.5% of local roads being sealed compared to the national average of 56%. The Kaipara and Far North Districts have two of the lowest ratios of sealed to unsealed roads of all district councils in New Zealand. Kaipara District Council ranks 70th out of 74 District Councils and the Far North District Council ranks 67th.

Table 4-2: New Zealand Roding Standards – percentage sealed

Area	Local Roads Only
New Zealand	59.7%
Northland	34.7%
Whangarei District	53.4%
Kaipara District	23.2%
Far North District	29.1%

Source: *Roding Statistics 2000/2001, Transfund New Zealand*

4.3.1.3 Special Purpose Roads

There is one 'special purpose' road in the region, located at Waitangi in the Bays of Islands (Far North District). The road belongs to the Waitangi National Trust. The Trust has delegated the management and operation of the 2.9 kilometre stretch of road to the Far North District Council.

4.3.1.4 Other

The Northland region has a number of nationally recognised tourist routes. They include:

- Twin Coast Discovery Route - a scenic tourist route that uses a combination of state highways and local arterial roads to provide a continuous circuit of Northland;
- State Highway 12 - Waipoua Forest;
- State Highway 11 – Bay of Islands;
- State Highway 14 - Whangarei to Dargaville.

In addition a number of routes in the region are being promoted by Destination Northland as heritage trails involving trips through areas with significant historical and cultural features. These include:

- Cape Reinga through to the Waipoua Forest including, Clendon House (Rawene), Kauri Kingdom (Awanui), Waimate North and Mission House;
- Waitangi to Russell, Kerikeri and Paihia including the Treaty House, Pompallier House, the Stone Store, the Stone Church and various natural features;
- Dargaville to Matakoho including the Matakoho Museum.

There are also several beaches in the region that are extensively used for vehicular traffic. These include Ninety Mile Beach in the Far North District and Bayley's Beach in Kaipara District.

4.3.2 The Rail Network

The main rail line in Northland is of strategic importance to the New Zealand network as it provides a direct link into Auckland and points further south. The North Auckland Line is 281 kilometres long, originating in the industrial area of West Auckland and terminating at Otiria, west of Kawakawa, in the Far North. The first 30 kilometres of the North Auckland Line also serves some of the outer industrial areas of Auckland and is also an integral part of that region's growing passenger rail service.

In addition to the main line, there is a branch line that serves Dargaville. The line is 50 km long, originating at Waitotira on the North Auckland Line, and terminating at Dargaville. There is also a short branch line from the Far North township of Kawakawa to the port of Opuia in the Bay of Islands, used for a tourist rail service operation.

Northland is particularly dependent on the State Highway Network – particularly State Highway 1 to Auckland, to shift goods in and out of the region. However, freight is also transported by rail (although rail has had a declining role since the Whangarei Port closure.)

On average there are 600 heavy traffic movements per day between Auckland and Whangarei (1,200 counting both directions). In addition to this, there are 86 equivalent truck units on rail per day. On average 55 to 60 general containers per day are transferred outside the region five days per week for 52 weeks of the year. The majority are 20 foot containers with a maximum weight of 25 tonnes.

It is recognised there is additional capacity within the rail network to accommodate increased freight movement by rail. Where appropriate, rail freight can provide a more fuel efficient and environmentally sustainable alternative to road based freight transport. However, rail tunnels would need to be enlarged in order to accommodate new "High Cube" containers which are increasingly being used.

Since the last Regional Land Transport Strategy review there has been a decline in the forestry pulp log export, together with the relocation of Port Whangarei to Marsden Point. The impact of the Whangarei Port closure has resulted in a significant reduction in log transport by rail. Even though the logging industry is again increasing it is unlikely that any significant pulp log export traffic will be by rail - although there would be potential for log transport if the Marsden Point rail link was implemented. The effect of the new Marsden Point Port and its disconnection from the rail network has been significant. Pulp log exports were at a 900,000 tonnes over Port Whangarei in 2003 with a significant portion delivered by rail. Woodchip is no longer transported by rail, currently 200,000 tonnes per year is delivered by road from the chip mill at Portland to Marsden Point Port.

Now that Marsden Point is fully functioning and Port Whangarei is being phased out, approximately 430,000 tonnes of bulk materials annually are road transported to Whangarei, often in short, peak durations. This has placed the rail network at some risk of closure. The discontinuation of the existing rail system would result in a significant impact on the road network with an estimated 86 truck trips on SH1N south of Whangarei per day, equating to a 14% increase. Whilst, the State Highway would most likely cope with this increase, there would be adverse implications at key intersections with the State Highway network (Heavy Traffic Volumes Report, 2006).

4.3.3 Public Transport Services

The public passenger transport system in Northland comprises bus, taxi and ferry services. All commercial services available to the general public are required to be registered with the Regional Council under the Transport Services Licensing Act, 1989. The Council is responsible for monitoring the levels of services provided and deciding whether they are appropriate for the needs of people in the region.

Currently there is a only one contracted public transport service in Northland. This bus service operates within Whangarei City and was established in 2000. Patronage on the service has increased substantially since the service was introduced with approximately 215,000 annual passenger trips (compared to 79,972 in 2000/2001).

In addition, there are numerous school bus routes that also service large areas of the city and region. These services are funded predominantly by the Ministry of Education. 92 schools are serviced by over 250 school bus trips twice per day, comprising over 10,000km of travelling twice per day. Trip length varies from 22km to over 150km. The majority of these trips are operated during peak periods from 7.30am to 9.00am and 3.00pm to 5.00pm.

4.3.4 Ferry Services

There are three short ferry trips available in Northland. Frequent passenger services are offered between Paihia and Russell. Two vehicle ferries operate in the region which are suitable for all vehicles. One crossing the bay between Opuia and Okiato en route to Russell, Bay of Islands. The other across the Hokianga Harbour between Rawene and Kohukohu. From time to time a passenger ferry service has operated in the Whangarei harbour between Whangarei Heads and Marsden Point.

4.4 Cycling and Walking

Cycling and walking has huge potential as a mode of transport in the Northland Region for both recreation and commuter trips. However, walking and cycling to work has steadily declined and has halved in the 15 years from 1986 to 2001 as journeys to work. In 2001, 5.2% of Northland residents walked to work and 1.1% cycled to work compared to 12.5% (walked) and 2.2% (cycled) in 1986. In addition, very few Northland children cycle to school on a regular basis. However, anecdotal evidence suggests recreational cycle trips have increased significantly in the past few years.

A number of issues have been identified for cycling such as narrow carriageways, little or no road shoulders, and the number of heavy vehicles (freight transport). Poor driver behaviour towards cyclists is also a significant factor. Few cycling and walking projects have been undertaken to date, however there is a strong desire to promote increased levels of cycling and walking in the region. Recent increases in fuel prices have contributed to this desire.

4.5 Coastal Shipping

Movement of people and goods by sea is an important part of Northland's transport network. The region has major port facilities at Marsden Point. Figures obtained from Northland Port Corporation for 2000/2001 indicate that close to 2 million tonnes of cargo was moved through the Port Whangarei. The main products imported were fertiliser, coal and gypsum with the main export products being logs, woodchip, triboard, primary produce and cement.

The development of the new deep water port at Marsden Point came about after it was recognised that the current port facilities at Port Whangarei only have a limited remaining economic life. Port Whangarei closed in 2004 and all freight was directed to Marsden Point. All redirected freight is conveyed by road as there is currently no rail link to Marsden Point.

The initial development of the Marsden Point Port has been based on the need to provide for handling of forest product both as raw log and finished product. The staged development allows for the increase in log and chip volumes. The main products to go through in the intermediate term will be logs, processed forestry products, woodchips and fertiliser. Northport is projected to handle three to four million tonnes of forestry exports per annum, including some from outside Northland. All berths have been designed to be capable of accommodating container cranes and the long-term development plans provide for container traffic.

Marsden Point also has a specialised bulk oil handling facility. The refinery at Marsden Point has a wharf capable of accommodating large oil tankers but is not used for the passage or other types of cargo. Coastal ships are used to distribute finished product around New Zealand.

Golden Bay Cement at Portland in the Whangarei harbour has a terminal that is used regularly by specialised bulk cement carriers. Approximately 400,000 – 480,000 tonnes of cement per year is transported by sea via a bulk cement tanker. Shipped raw materials are trucked to Portland.

Opuia in the Bay of Islands has in the past been used as a port, handling various types of cargo. Cruising yachts and overseas cruise liners regularly visit the Bay of Islands and occasionally berth

at Opuia for a short stay. Whangarei is one of the few cities in the world where pleasure craft can berth in close proximity to the Central Business District.

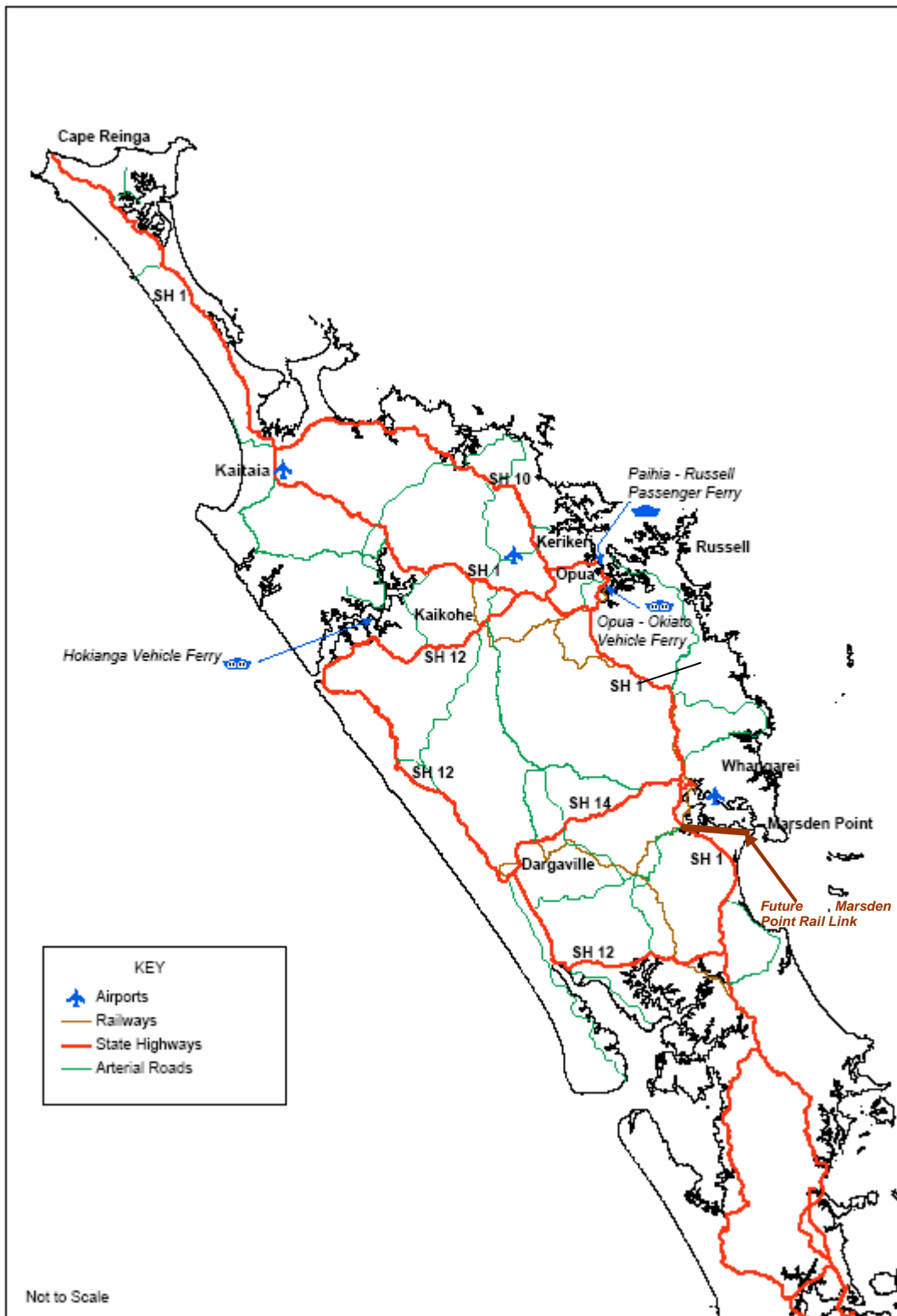
Barging operations in the Northland region only remain for the movement of sand between the Kaipara Harbour and Dargaville. Crushed aggregate is also barged down the Kaipara to Helensville.

4.6 Airports

There are commercial airports at Whangarei, Kaitaia and Kerikeri. The airfields and most of the associated buildings are owned by the respective District Councils. Commercial operators provide the services. There are also club-run airports at Dargaville, Ruawai and Kaikohe, and small airstrips at Haruru Falls and Waitiki Landing that provide services for tourists. A glider strip at Puhipuhi also caters for tourists.

There are a total of 160 commercial Air New Zealand flights arriving and depart from Whangarei (70), Kerikeri (66) and Kaitaia (24) airports each week as compared to a total of 74 commercial flights in 2003. In addition, Great Barrier Airlines operate twice per week and Mountain Air operate twice per week in the winter and four times per week in the summer to Great Barrier Island.

Figure 4-2 : Major transport routes & transport facilities in Northland.



4.7 Northland’s Traffic Volumes

Traffic volumes in the region are growing with annual increases of two to five percent being recorded on State Highways. Traffic volumes on Northland’s roads vary considerably. They range from over 20,000 vehicles per day on some Whangarei urban roads such as Riverside Drive, Bank Street, Otaika Road near Tarewa Park, and Kamo Road at Whau Valley, to less than 20 vehicles per day on unsealed back country roads.

Heavy vehicle traffic counts on most roads are high, ranging from 9 to 25 percent of all traffic. In 2004 a significant change in freight traffic occurred with the closure of Port Whangarei. This has resulted in traffic increases on SH1N south of Whangarei to gain access to the new port at Marsden Point.

The map below (Figure 4-3) shows indicative traffic volume growth (Source: RAMM database). The map differentiates between ‘ADT’ (annual daily traffic) and ‘HCV’ (heavy commercial vehicles).

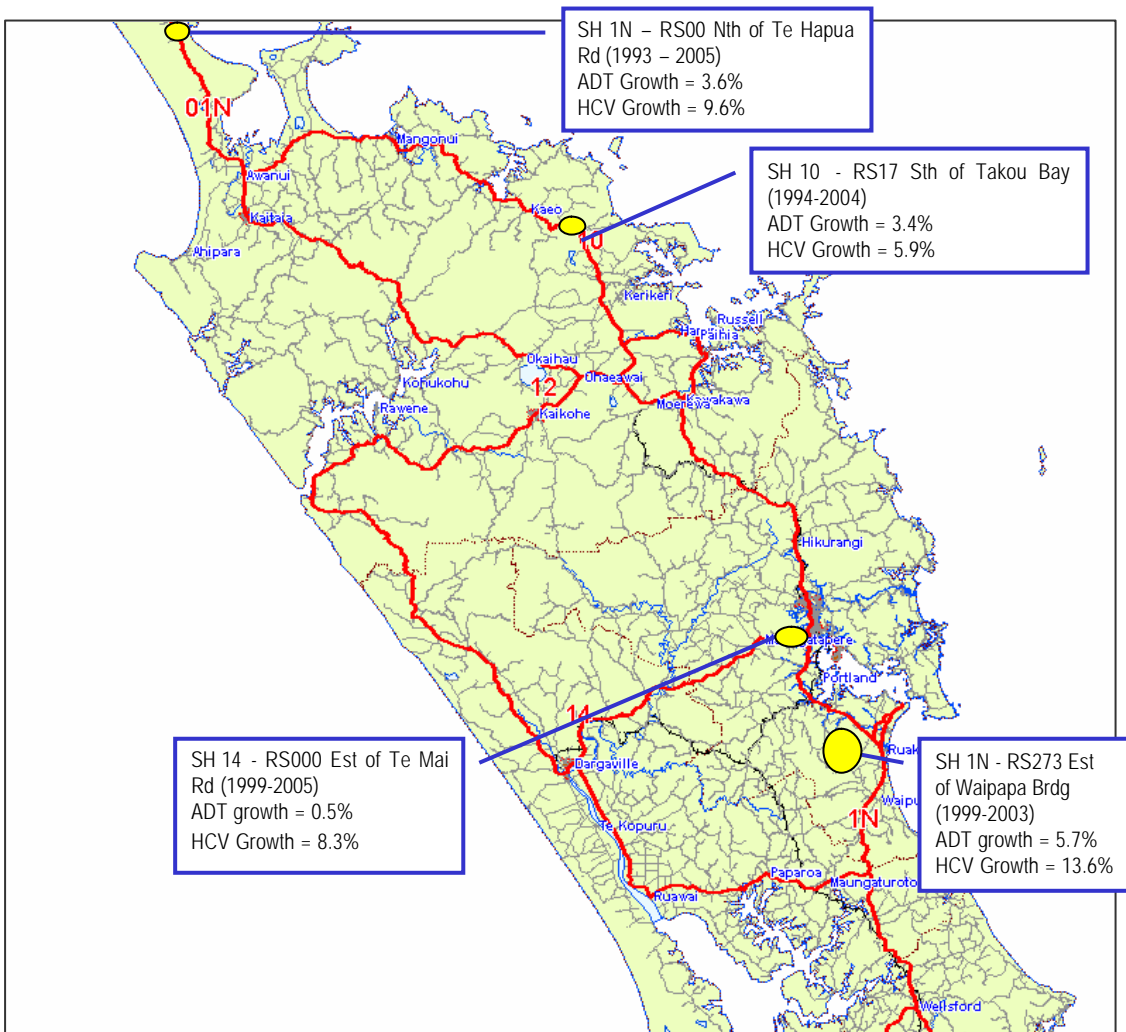


Figure 4-3 : Traffic volume growth at key sites in the Northland Region

Network	Time	Exacerbated by
SH1N at Wellsford	Weekends & holiday periods	SH1N & SH16 joining and through Wellsford
SH1N through Whangarei	Daily at peak periods	Holiday periods
SH10 through Kerikeri	Holiday periods	Holiday periods
Whangarei City	Daily at peak periods	Holiday periods

Table 4-3: Summary of traffic congestion in the Northland Region

There are areas where there is traffic congestion in Northland. These congestion points are summarised in Table 4-3.

In addition, there are significant delays on the State Highway network during a closure (usually due to a traffic accident), with long traffic delays. Alternative routes are poor and mostly unsatisfactory for heavy traffic.

4.8 Modal Share

Road transport is currently the main means of moving freight and people in the Northland Region. This is unlikely to change in the short-term given the low and dispersed population of Northland and lack of congestion. This strategy does not try to devalue the critical role that private car transport plays, and will continue to play, in the development of the region.

Much of the land in the district is rural with small groupings of communities which are reliant to some extent on the services and goods of the larger urban centres. The private car is by far the most efficient form of transport for moving around the region. However, the Strategy has a role to play in ensuring that those without access to a private car also have the ability to access public transport.

As indicated by the traffic volume data in Section 4.7, there is continued reliance on the private car. The 'journey to work' figures from the 2001 census indicated that 58% of Northlanders used their private vehicle to get to work, and less than 0.5% used public transport⁵. 6.3% of Northlanders either cycle or walk/jog to work (1.1% cycle and 5.2% walked/jogged). 17% of the Northland population worked at home on census day 2001 indicative of Northland's rural population (Statistics New Zealand).

⁵ Note: this figure is likely to have had a slight increase due to the Whangarei bus service established in July 2000.

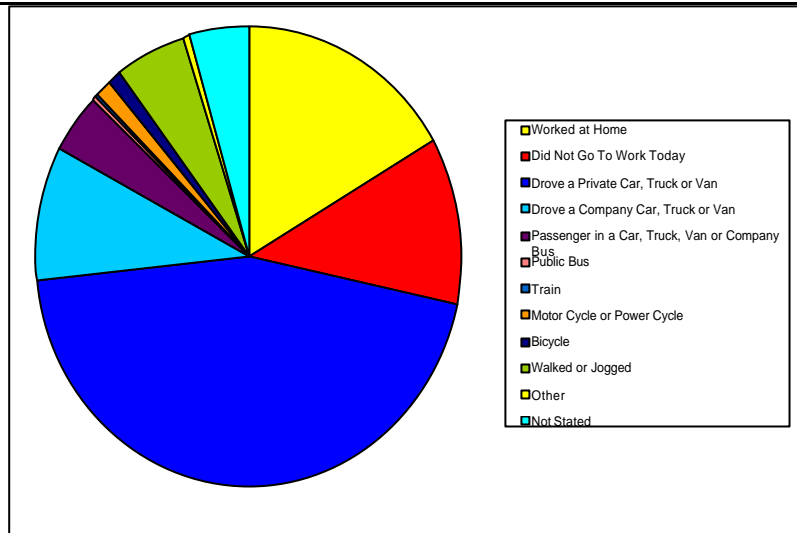


Table 4-4: Journey to work on census day, 2001⁶
 Source: *Census 2001*, Statistics New Zealand

4.9 Motor Vehicle Ownership

High private vehicle use is also represented in high car ownership levels with 42.5% (compared to national rate of 34.5%) of Northland households having two or more cars as compared to 43.2% in 1996 (although this is still slightly less than the national average). It is also important to note those without access to a motor vehicle and therefore there is a need for the region to promote alternative transport options.

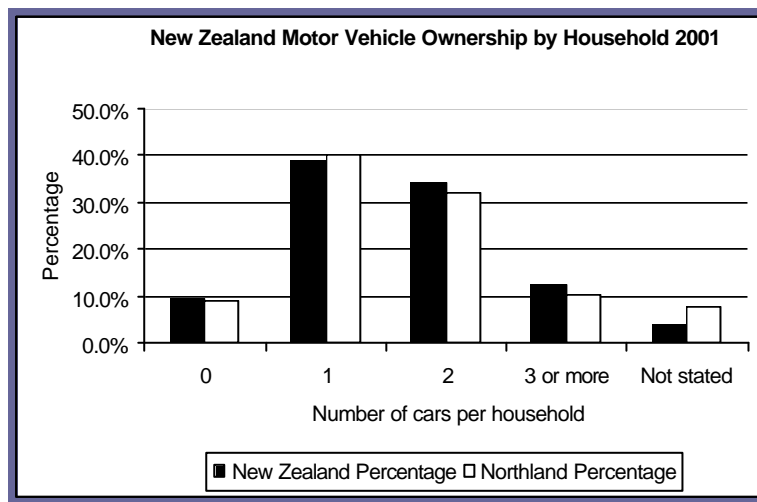


Figure 4-4 : Northland Region – number of cars per household – 2001⁷

Source: *Census 2001*, Statistics New Zealand

⁶ The 2006 Census data is not fully available until November 2006, at this time the statistics in this document will be updated.

⁷ The 2006 Census data is not fully available until November 2006, at this time the statistics in this document will be updated.

4.10 Public Transport Patronage

Whangarei City is the only area of the region with a subsidized bus service. Public transport patronage for the Whangarei bus service has increased significantly since the commencement of the service in July 2000.

Table 4-5 and Figure 4-5 below show passenger transport trips and patronage trends for the Whangarei bus service.

Table 4-5: Public transport trends for Whangarei city bus service

Year	Passengers
2000/2001	79,972
2001/2002	123,151
2002/2003	158,491
2003/2004	197,154
2004/2005	215,000

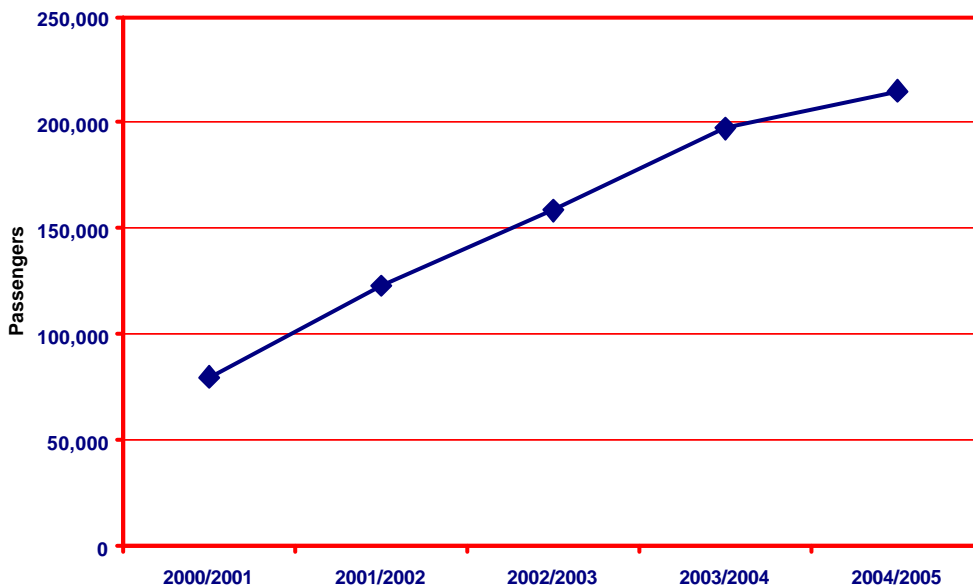


Figure 4-5 : Public transport trends for Whangarei city bus service

Source: Northland Regional Council Statistics, 2005

4.11 Total Mobility Scheme

Northland Regional Council administers the Total Mobility scheme for people with disabilities. The scheme currently operates in Whangarei but there are investigations underway to expand the scheme to other areas in Northland. The Whangarei scheme is currently funded by Whangarei District Council and Land Transport NZ.

Expenditure and passenger trips on this service are shown below:

Year	Expenditure	Passenger Trips
1999-2000	\$94,808	29,325
2000-2001	\$92,780	26,881
2001-2002	\$100,135	28,488
2002-2003	\$98,587	26,363
2003-2004	\$122,245	27,943
2004/2005	\$145,950	32,220

Table 4-6: Total Mobility passenger data

Source: Northland Regional Council Statistics, 2005

Funding has increased since 2000 and it is expected that the usage of the total mobility scheme will also increase.

4.12 Road Safety Trends

The overall number of fatal crashes in 2005 were down very slightly from those of 2004 (21 in 2005 compared to 23 in 2004). These crashes have reduced significantly from 1996 when there were 35 fatal crashes reported. Despite, the reduction in fatal crashes, the region continues to have a high rate of crashes. Most noticeable, is that there has been a reduction in crashes along the State Highway network attributed to increased safety improvements and enforcement. However, the Local Authority roads are showing little improvement in crash reductions, and have not received the same level of enforcement as the State Highways.

Figure 4-6 below shows the number of fatal, serious and minor crash numbers reported since 1996.

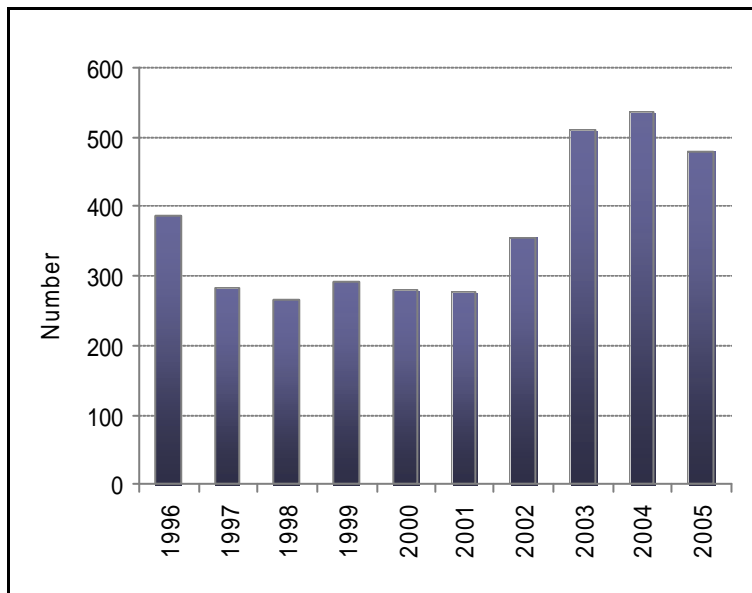


Figure 4-6 : Northland Region - serious and minor crash numbers

Source: Land Transport NZ, 2005

As indicated in Figure 4-6, there has been an increase in crashes from 2002. It is important to note that reporting of crashes has increased significantly since this time. In 2001, the reporting rate for Northland was lowest in New Zealand with only 30% of serious crashes being reported. By the end of 2004 this had increased to 59%.

The Region currently has the second highest rate of crashes per kilometre travelled on the open state highway network with 73% of crashes occurring on the open road (Land Transport NZ, July 2005).

The most common type of fatal and serious casualties was to car drivers and car passengers representing 81% of the total number of casualties. Pedestrian injuries accounted for 6% of fatal and serious casualties with cycle injuries accounting for only 1%.

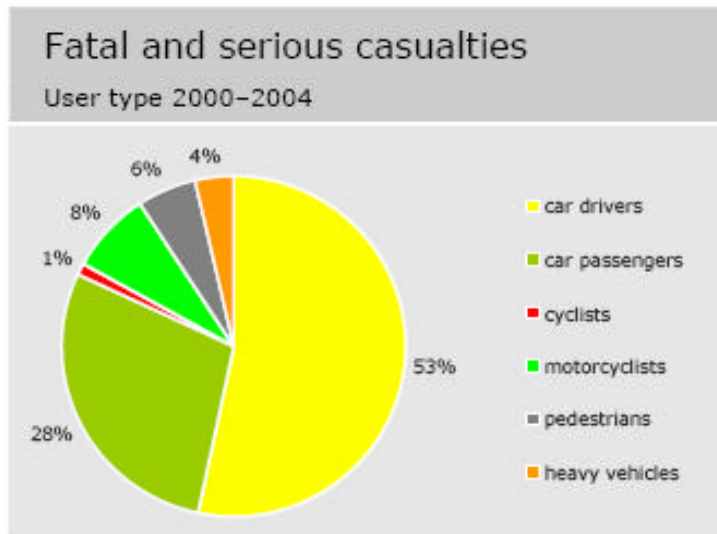


Figure 4-7: Northland Region - fatal and serious casualties

Source: Road Safety Issues Land Transport New Zealand, 2005

The major road safety issues for the Northland Region include loss of control on curves, alcohol, speed and road and environmental factors.

4.13 Summary of Regional Transport Determinants

A summary of the key transport determinants are identified below.

- A low and geographically dispersed population base and therefore high dependency on private vehicle use to move around the region (although passenger transport usage has increased in Whangarei).
- Strong rural-based and manufacturing economy comprising pastoral farming, forestry, fishing and tourism.
- Diverse socio-economic patterns within the region – high growth in the south (as a result of Auckland’s growth) compared to the north which is remote and sparsely settled. The east coast is characterised by high recreational use and coastal subdivision. The west coast has few settlements and has a slower (and in some areas, negative) population growth.
- Northland region continues to remain a favourable holiday destination with strong coastal development growth in areas such as Mangawhai, Kerikeri, Coopers Beach and Cable Bay. This causes traffic congestion at weekends and at holiday periods.

The next chapter (Chapter 5) discusses the issues with the current land transport system.

5 Current Land Transport Issues for Northland

5.1 Introduction

Chapter 4 discussed the Northland region and the current land transport network. Many of the key issues facing the Northland Region are influenced by the land transport network. The road network is reliant on the State highways forming the backbone of the regional network with local roads feeding off this network. The difficult terrain, dispersed rural population, coastal settlements, proximity to the Auckland region and its favourable holiday destinations all contribute to the challenges surrounding transportation in the region.

Coupled with this, the major sources of freight volumes in the region are currently transported on Northland's roads. This traffic is sometimes in conflict with tourism/visitor traffic.

This chapter identifies the current land transport issues for Northland as aligned to the Land Transport Management Act objectives. The first part of each of the sections details the Northland situation as it relates to each of the objectives. The next part of the section summarises the key stakeholders views on the current issues. The key stakeholders are defined as iwi and individuals and organisations in attendance at the consultation workshops or those that provided early input. It is noted that this consultation, while only limited in its extent is only for the identification of current key issues for the identification in the strategy. Full public consultation will be undertaken in July 2006.

The chapter also reviews and confirms issues from the previous RLTS (2003-2008).

5.2 Key Stakeholder Consultation Process

The direction and review has been prepared in line with key stakeholder consultation and iwi consultation. The workshop participants raised a number of issues for Northland which are summarized under the following LTMA objective headings. A full copy of the 'Key Stakeholders Workshop' report is available from the Northland Regional Council.

5.2.1 Key Stakeholder Workshops

A series of five two hour workshops were undertaken over a period of three days between 18th – 20th October 2005. The workshops were aligned to the LTMA objectives as structured below:

- Workshop 1: Assisting Economic Development
- Workshop 2: Safety and Personal Security
- Workshop 3: Improving Access and Mobility
- Workshop 4: Protecting and promoting public health
- Workshop 5: Ensuring environmental sustainability

5.2.2 Iwi Consultation

The direction and review of the strategy has also been prepared with feedback from iwi and hapu of the region. The iwi and hapu were all contacted and advised of the process of the Regional Land Transport Strategy review. An outline of the review was provided on the 5 key land transport management objectives and the need to align the objectives to issues for Northland.

The iwi and hapu were given the opportunity to comment on the land transport system and identify any specific issues. A feedback form was provided to enable easy input into the process. They were also given the opportunity to meet (hui) to discuss specific issues.

Three iwi/hapu provided feedback, while several others indicated that they had no issues. The issues raised were generally engineering and environmental issues, and have been incorporated in the following sections. For specific issues raised see Appendix D.

5.3 Key Issues Identification

Whilst, stakeholders noted a number of strengths and good initiatives that had been undertaken since the last RLTS strategy, a number of issues were raised and confirmed that require consideration when planning the land transport network. These are:

- Low and dispersed population base;
- Topography – challenging terrain and geography often leading to narrow windy roads (deep drains adjacent to rural roads was also an issue);
- Some deprived rural communities (particularly in the Far North);
- Lack of funding and low rating base of councils to fund significant infrastructural improvements;
- Need for strong political leadership/advocacy on key issues for Northland;
- Need to sustainably manage growth – particularly in rural and coastal lifestyles.

Keeping in mind the key issues above, the current condition of each New Zealand Transport Strategy objective in the region is discussed and the key points raised during the early consultation process.

5.3.1 Economic Development

5.3.1.1 Current Regional Conditions

Since 1990, the level of economic growth in the Region has increased. For the year ending March 2004 economic growth in Northland was 4.5% compared to 3.9% nationally. This growth is predominantly centred around the primary sector of agriculture (7,700 jobs), and goods producing sectors of the construction industry (4,000).

There is ongoing demand for forestry logging. In the early 2000's forestry logging was experiencing huge growth in Northland. While this trend has reduced in recent years volumes logged have again begun to increase and two new processing plants are now being planned for the Ruakaka/Marsden Point area..

Dairy farming is maturing, smaller holdings are amalgamated into larger business ventures. Beef and sheep farming appear to be static.

The Kiwi Fruit industry has been more or less static for sometime. However, significant plantings of avocados have occurred in the Whangarei and Far North areas. The Whangarei avocado plantings are already larger than the well known Bay of Plenty orchards.

Coastal lifestyle developments are accelerating. The Mangawhai, Kerikeri, Whangarei Heads, Ruakaka and Coopers Beach areas have experienced significant growth.

In addition, tourism is growing when comparing growth of visitor numbers and visitor nights to New Zealand as a whole. In the year ended June 2005, Northland visitor numbers were 844,300, compared to 809,100 visitors in 2003.

Unemployment rates have also fallen noticeably in the Northland Region. In the year to March 2004, the unemployment rate in Northland was 6.7%, down sharply from 8.7% in the year before.

5.3.1.2 Summary of Issues – Economic Development

- The need to maintain the road transport network due to the reliance of the existing regional economy on road transport;
 - The need for improved land use and transport planning in order to provide for future economic growth;
 - Critical regional importance of the Whangarei to Auckland State Highway link to economic development and therefore the need to place priority on the maintenance and enhancement of this transport link;
 - The need to develop corridor management plans in order to future proof key road corridors;
 - The limitations in the regional rating base in order to fund necessary improvements to the existing transport infrastructure;
 - The limitations that the regions high proportion of unsealed roads place on potential economic growth;
- The need to provide greater capacity in the transport network by protecting and improving existing rail corridors and providing for a rail link between Marsden Point and Whangarei.

5.3.2 Safety and Personal Security

5.3.2.1 Current Regional Conditions

There are a number of safety challenges in the region. The Northland Regional Road Safety Plan (2004-2010) identifies a number of factors that present challenges for the region. These include: a generally inadequate roading infrastructure; a geographically widespread population, and a significant influx of visitors during holiday periods.

The major road safety issues for the Northland Region include loss of control on curves, alcohol, speed and, road and environmental factors.

Loss of control on curves is an ongoing problem in the Northland Region. These crashes accounted for 59% of all open road crashes and 23% of urban crashes over the last five years. Major factors included: wet or slippery surfaces, driver behaviour – drink driving, excessive speed and poor handling of the vehicle.

Drinking and driving has traditionally been a problem in the Northland region comprising 32% of the region's serious injury and fatal crashes between 2000 and 2004. This figure is considerably higher than all other regions in New Zealand. The Far North District has a significantly higher rate than the other districts representing 52% of the region's alcohol related crashes.

Speed related crashes have increased over the past two years to nearly double the average of the previous three years. These crashes represent 45% of all fatal crashes in the past five years. Speed related crashes are closely linked to drivers losing control of their vehicles on curves and other factors such as not driving to the appropriate conditions of the road.

Road and environmental conditions are major contributors to crashes. They were the second most common contributing factors in open road crashes and over-represented in urban crashes. Factors such as slippery road surface, crashes at night, roadside objects and narrow road widths, shoulders and hazards such as ditches, cliffs and trees alongside the roadside contribute to crashes in the region. In addition, risk taking behaviour (drivers and pedestrians) with respect to crossing the rail corridors still remains a problem to be addressed.

5.3.2.2 Summary of Issues – Safety and Personal Security

- Northlands poor safety record and therefore the need for a coordinated & stream-lined approach to road safety planning in the region;
- The safety risks posed by Northlands narrow windy roads, narrow bridges and roadside hazards;
- The need to provide safe and secure public passenger transport facilities (increased lighting, clear sided bus shelters);
- Northlands historically high accident rate indicates the need for increased enforcement and road safety education campaigns at key high risk areas (focus on drink driving);
- The need for driver and pedestrian enforcement and safety education within rail corridors and at level crossings;

Due to the increasing number of vehicles on Northlands beaches, there is a need to reduce the conflict between vehicles and other beach users.

5.3.3 Access and Mobility**5.3.3.1 Current Regional Conditions**

The statistics for the region show that the Northland Region has a slightly higher proportion of the population that does not have access to a motor vehicle compared to the national average. In addition, Northland's communities are geographically dispersed and there are a number of poor communities. The provision of access to public transport is therefore an important consideration for the region, particularly with regard to accessing services such as health care.

Currently, there is a public transport service within Whangarei City which was established in 2000. The service is managed by Northland Regional Council and subsidized by Whangarei District Council and Land Transport New Zealand. Patronage on the service has increased substantially since the service was introduced with approximately 215,000 annual passenger trips (compared to 79,972 in 2000/2001). Currently, there are five low floor wheelchair accessible buses servicing the current routes.

In addition there are numerous school bus routes that also service large areas of the region. These services are funded predominantly by the Ministry of Education.

The Northland Regional Council also administers a Total Mobility Scheme for people with disabilities in Whangarei. Total Mobility entitles eligible people (those with a disability that prevents them from using the city bus services) to a discounted taxi fare. The scheme is funded by Land Transport New Zealand (40%) and Whangarei District Council (60%).

Outside of Whangarei City, there is currently no subsidised public transport, although there are some subsidised health orientated bus services between Kaitaia and Whangarei, and Dargaville and Whangarei. Some commercial bus services operate between towns in the region. Taxi services come and go in Kaitaia, Kerikeri, Kaikohe and Paihia. Reliable ferry services also operate in Hokianga and the Bay of Islands.

5.3.3.2 Summary of Issues – Access and Mobility

- Dispersed and poor communities and lack of access to transport alternatives to the private car including public transport services;
- Need to investigate the feasibility of extending the total mobility scheme to other areas to cater for the needs of the disabled community;
- Lack of adequate safe and accessible cycle and walking facilities, including provision for mobility scooters;
- Reliance of disabled persons on disability car parking and therefore the need for parking enforcement to maintain accessibility to these.

5.3.4 Public Health**5.3.4.1 Current Regional Conditions**

Whilst, Northland's air quality is generally good due to prevailing winds that disperse pollutant there are some areas for improvement. Investigations into air quality in Northland include a carbon monoxide study of suburban and central city Whangarei in 1994 and 2000. The results in 1994 showed that suburban Whangarei was within the Ministry for the Environment's air quality guidelines for carbon monoxide, nitrogen dioxide, particulate matter (PM10), and lead. However, the central city exceeded carbon monoxide levels for 5% of the monitoring period, with the results correlating well with traffic density. Results in 2000 suggest that the World Health Organisation's short-term exposure limits are unlikely to be significantly exceeded but the longer averaging periods, such as the eight-hour guideline, are more likely to be exceeded.

Current monitoring includes particulate matter (PM10) from a variety of sources, including combustion and unsealed roads. In March 2000 a PM10 high volume sampler was installed in Robert Street, Whangarei. The lack of a strong seasonal influence in the results suggests that material sourced at Robert Street is mainly from motor vehicles. PM10 concentrations at this site are rated good/acceptable approximately 74% of the time. The Deposited Particulate Monitoring Programme, with sites at Robert Street and Whangarei Airport, suggest that dust nuisance is a localised problem. Approximately 50% of the inhaleable particulate in Whangarei is sourced from vehicles.

Complaints about air pollution are considered to be a poor indicator of overall performance. This is because a number of the products of vehicular combustion are frequently colourless (carcinogenics e.g., benzene) or odourless (carbon monoxide). Public perception of vehicle emissions generally relates to visibility of the discharge, consequently the visible discharge from diesel engines is perceived to be worse than the discharge from an equivalent petrol engine. Using complaints about vehicle emissions as a surrogate measure of air quality would, in effect, reinforce this incorrect assumption.

Dust from gravel roads is also a significant air quality issue, particularly during the dry period beginning in November and continuing through to March. Dust nuisance is linked to a perceived increase in respiratory illness and asthma. Road dust also has a considerable nuisance element especially for houses, schools, community and recreation facilities, and crops situated close to the road. Dust can affect the quality of tank water supplies. While dust suppressants can be used to control this problem, sealing is the preferred option.

Noise generated by land transport modes is generally the most significant man-made source of noise in the region. On the open road the engine and exhaust system are the most prevalent sources of vehicle noise. In the urban environment deceleration, braking and acceleration become a significant source of noise. Other noise arises from the interaction between tyres and the road surface and from different types of loads (e.g. stock crates).

Social impacts associated with the land transport network include physical severance and isolation of segments of the community, reductions in property enjoyment, access and value, congestion, lowering of accepted safety standards and increased health risks. Land use is a critical determinant of traffic generation and the options available for the land transport network within urban areas, yet land use planning is often carried out in isolation from transport planning. Land uses in Northland must be compatible with the roading hierarchy and rail system and vice versa.

The Northland Region has experienced a rapid increase in diabetes and obesity, with higher rates amongst Maori and Pacific communities. Some of the factors associated with this relate to excessive increases in weight of the population associated with poor nutrition but also a lack of physical activity such as cycling and walking.

5.3.4.2 Summary of Issues – Public Health

- The benefits of walking and cycling to public health and therefore the need for increased cycle and walking facilities;
- The human health effects from dust from unsealed roads and from vehicle emissions;
- The potential for health impacts from some land transport projects and the need for health impact assessments for these.

5.3.5 Environmental Sustainability

5.3.5.1 Current Regional Environment Issues

The roading network provides physical access that allows the Region to continue to function sustainably. This section focuses on how roading can be improved to support environmental sustainability.

The environmental effects of the land transport network are greatly increased at environmentally sensitive sites. These effects are potentially most severe in previously undisturbed wilderness areas and include effects on:

- Coastal processes;
- Historic and Natural heritage sites;
- Landscape values;
- Ecological and habitat values.

Water quality in surface waters and lakes is a major issue in Northland. The attributing factors include forest clearance; wetland drainage and pastoral farming. All of these factors have impacted on water quality, particularly in the lowland areas. In 2002, there were more than 1000 consents to discharge to surface water or land in Northland that have the potential to result in contamination of surface water.

Stormwater runoff from sealed areas such as roads, carparks and service areas, the spillage of stock effluent, pollutants and hazardous substances and adverse effects caused by bridges and culverts all contribute to the contamination of water. Stormwater runoff can contain a variety of contaminants including heavy metals, silt and oil. Many of the region's roads are affected by effluent spilled from stock trucks or left by stock crossing roads or being herded along roads. Effluent discharged from campervans inappropriately can also affect water bodies. Northland also has a very high percentage of unsealed roads that have associated high run off sedimentation issues which impacts on the aquaculture environment.

Modification of the coastal environment for land transportation purposes can cause stormwater runoff, loss of habitat, erosion and adverse landscape effects. Coastal protection or reclamation works may be required and these can affect coastal processes, tidal estuaries and their aquatic habitats. The potential impact of climate change and sea level rise on the land transport network, particularly

changes in the frequency and intensity of rainfall, storms and tropical cyclones, should also be taken into account. Several of the major beaches in the region, including Ninety Mile Beach and the stretch of beach between Baylys Beach and Pouto Point have road access. There are effects from vehicle use on these beaches particularly to the duneland areas, shellfish and other wildlife. In addition, fore dune environments have been affected from growth in coastal area development in the region.

Northland's land transport network extends to or passes through a number of natural areas that have important conservation and landscape values, such as Waipoua Forest. Careful attention needs to be given to the effects of new road and rail works on natural areas including:

- Removal or alteration of vegetation with a subsequent loss of habitat;
- Introduction of noxious weeds and predators to natural habitats;
- Changes to natural drainage patterns and wetland systems;
- Creation of a physical barrier to the movement of some wildlife;
- Effects on wildlife from the noise, lights and movements of traffic.

The loss of or damage to historic buildings and sites is of concern during the construction, maintenance and operation of the land transport network. Historic buildings, sites and areas are offered varying levels of protection according to their importance under the Historic Places Act, 1993, and the District Plans for the Far North, Kaipara and Whangarei Districts.

The construction, maintenance and operation of the land transport network can have adverse effects on culturally sensitive areas, including waahi tapu, urupa and coastal areas. Northland has one of the highest density of archaeological sites in New Zealand..

The incidence of illegal dumping (vehicles and whiteware) has declined over recent years, although still an issue in some parts of Northland. In addition, it is noted that there are a high proportion of poor quality vehicles in some parts of Northland and associated problem of vehicle emissions. Road side litter is still common.

5.3.5.2 Summary of Issues – Environmental Sustainability

- The effects on the environment from dust pollution and high sediment run off from unsealed roads;
- Potential impacts of land transport projects on sensitive coastal environments and archaeological sites;
- The need for the safe disposal of stock truck effluent;
- The environmental effects of vehicle emissions;
- Environmental impacts from pollutants in stormwater runoff;
- The effects to the environmental from the spread of roadside pests, weeds and litter.

This chapter has identified the current land transport issues for Northland. The next chapter (chapter 6) establishes how each of the land transport modes contribute to the provision of transport in the region and addresses the potential for each mode to address the current land transport issues.

6 Strategic Options and Funding

6.1 Introduction

The Land Transport Act requires that a RLTS must:

“identify land transport outcomes sought by the region and the strategic options for achieving those outcomes”

This chapter outlines a number of possible strategic options Northland could adopt for its transportation system over the next 10 years.

The strategic options identified in this chapter illustrate different transport scenarios of where investment could be made. They are high level combinations of different transport modes and are indicative of ways to distribute funding.

The outcomes sought are discussed first to help set the scene for the options. Then the options are discussed in relation to four aspects of transport – travel demand management, public transport, roads and rail. A preferred option is then identified for the RLTS strategy and the structure and funding of the network discussed.

This Strategy recognises that in addition to the Regional Land Transport Committee and regional working groups, there is a need to form and maintain an interregional transport forum to discuss transport linkages between the regions. Such an interregional forum presently exists between the Northland Regional Council and the Auckland Regional Council.

6.2 Land Transport Outcomes

Land transport outcomes have been proposed by the Technical Advisory Group (TAG) and endorsed by the Regional Land Transport Committee. These are listed below:

Roading

- Maintained and predictable vehicle travel times between communities, businesses and regional destinations.
- Effective and efficient transport links between communities and regional destinations.
- 100% accessibility to remote dispersed populations.
- A road transport system resilient enough to deal with foreseen and unforeseen events that could affect it (e.g. appropriate alternative route choices and protection of existing roads).
- A road transport system that promotes economic development supporting business and tourism.
- Reduction in road congestion at peak periods through key urban centres and state highway bottlenecks.
- Provision of alternative heavy vehicle routes where practical to achieve traffic separation, protection of existing routes to minimise community severance and improve safety.
- A land transport system that provides for safe walking and cycling (including separate facilities where appropriate).

Rail

- An efficient and effective interregional rail freight network.
- A rail link to Marsden Point Port.
- Use of rail for public transport where feasible.

Passenger Transport

- Increased passenger transport patronage (includes school bus transportation).
- Efficient and reliable passenger transport.
- Quality passenger transport infrastructure.
- Improved accessibility (buses, ferry services, taxi).
- Improved customer satisfaction.
- Connectivity and integration between modes.

Travel Demand Management

- Increased travel plans/choices to schools.
- Increased travel choices to employment areas and commercial centres.
- Increased travel choices to coastal areas.
- Increased mode share for alternative journeys to work (passenger transport, walking and cycling).
- Improved parking management in key urban centres.
- Provision of freight alternatives (e.g. rail link to Marsden Point port, coastal shipping).
- Alternatives to travel (e.g. E-learning centres).

Walking and Cycling

- Safe facilities for pedestrians and cyclists.
- Increased focus on needs of the disabled community and their safety
- Increased walking and cycling activity.
- Walking and cycling safety is improved.
- An increase in cycle and walking events in Northland.
- Improved pedestrian and cyclist attitudes and behaviour with respect to the road and rail network through education and enforcement.
- Improved attitude and behaviour of motor vehicle drivers towards pedestrians and cyclists with respect to the road network through education and enforcement..
- Improve safety for pedestrians and cyclists with respect to the rail corridor through education and the provision of safe and efficient crossings

Road Safety

- Reduction in road traffic crashes.
- Improved driver attitudes, driver behaviour and the safety of identified at risk groups
- Improved reporting, recording and investigation of crashes.
- Safer tourist facilities/destinations.
- Coordinated road safety education and enforcement..
- Defined 'fit for purpose' emergency detour routes.

Environment

- Cleaner emissions and more fuel efficient vehicles.
- Reduced private vehicle usage.
- Reduced effects on communities from noise and vibration which originate from the transport system.
- Reduced discharges originating from the transport infrastructure (dust, contaminants, spills, abandoned vehicles, etc.).
- Management of sites of significant landscape and natural and historic heritage value from the effects of transport infrastructure.
- Management of significant ecosystems from the effects of transport infrastructure.
- Control of pest plants on road reserves.
- Reduced community adverse effects (e.g. physical severance and isolation of segments of the community, reductions in property enjoyment, access and value, congestion, lowering of accepted safety standards and increased health risks).
- Management of stock truck effluent disposal.
- Use of rail as a relatively fuel-efficient and cleaner mode of freight and passenger transport.

Integrated Land - Use & Transport Planning

- Growth locations that support public transport, walking and cycling opportunities.
- An agreed strategic approach to managing urban and coastal growth pressures.
- Improved District Planning where local, collector and arterial routes are planned including the protection of corridors on critical routes.
- Identification and protection of existing and future rail corridors.

6.3 Developing the Options

Seven potential strategic options have been selected to analyse against the key objectives of this strategy including, for the purposes of the baseline measurement, a planned investment or status quo option.. These options are high-level combinations of investments in travel demand management, public transport and roads. The options have been established to ensure that they take into account the Land Transport Management Act requirements and the long-term sustainability of the Northland region.

There is a set amount of funding available to the Northland region. In order to maintain the current land transport system, some assumptions have been made that are common to all of the options. These are:

- Maintenance and renewals of the road system;
- Investments targeting road safety improvements particularly on the state highway and Northland 'hot spots'; and
- Passenger transport provision.

These measures are important to ensure a safe and well maintained road network.

With the remaining funds, each of the options identify a number of indicative projects with funding estimates. As will be noted, Option 4 and Option 6 require significantly more funding than other options as they involve funding for infrastructure. The options are outlined below:

Options	Summary Description	TDM	Public Transport (PT)	Roads	Rail
1 (Planned investment)	<p>Planned investment or 'business as usual' in planned improvements to roads.</p> <p>Walking and cycling committed projects.</p> <p>Whangarei Bus services – improved route frequency, city coverage and vehicles.</p> <p>Increasing the total mobility scheme. Priority areas: Dargaville, Mangawhai & Bay of Islands.</p>	Low – completion of TDM Strategy	Low – Maintain current Whangarei District bus services with some small improvements to current bus service & increased the Total Mobility service.	<p>Medium – provides for regional & highway operation & maintenance. Priority for new roads include:</p> <p>Some cycle and walking facilities on state highways.</p>	Nil
2 (Advanced passenger transport)	<p>Planned investment or 'business as usual' in planned improvements to roads & TDM.</p> <p>Extension of bus services to servicing other destinations.</p>	Low - completion of TDM Strategy	Medium – Investment as above plus improvements to services between & within towns through building & developing existing services.	Medium – as per option 1.	Nil
3 (Advanced TDM)	<p>Planned investment or 'business as usual' in planned improvements to roads & PT.</p> <p>School, workplace and community travel plans.</p> <p>Increase in walking and cycling projects.</p>	<p>Medium</p> <p>Extensive school travel plans, some community & work based travel plans, walking & cycling improvements</p>	Low – however, may require some local bus route improvements.	Medium – as per option 1.	Nil
4 (Advanced Rooding)	<p>Higher investment in planned improvements in roads. Priority areas include existing alignment improvements, seal extension & development of alternative routes.</p> <p>Planned investment in passenger transport & TDM. Includes a strategy to integrate land use and transport planning.</p>	Low – as per option 1.	Low – as per option 1.	High – option 1 investment plus additional priorities.	Nil
5 (Advanced passenger transport & TDM)	Higher investment in bus passenger transport & TDM.	Medium – as per option 3.	Medium – as per option 2.	Low-Medium	Medium
6 (Advanced Rooding & TDM/PT) Combination of option 4 & 5	Higher investment in rooding and bus passenger transport & TDM.	<p>Medium –</p> <p>Extensive school travel plans, some community & work based travel plans, walking & cycling improvements</p>	Medium – Investment as above plus improvements to services between & within towns through building & developing existing services.	Medium	Medium
7 (Advanced Rail)	Marsden Point Rail Link; Freight services to	High (rail component)	High (rail component)	Low	High

Options	Summary Description	TDM	Public Transport (PT)	Roads	Rail
	Auckland; Passenger rail services between Auckland, Whangarei and other key destinations.				

For the purpose of this analysis four different aspects of the land transport network have been identified:

Roading: A focus of developing roads to maintain safe and predictable travel times between communities, businesses and regional destinations and the promotion of economic development to support business and tourism. The current anticipated spending (approximate) over the next 10 years is \$1,180.55 million (not including “R” funding). \$9 million is available for regional development funding per year to 2007/2008 – funding past this year is not confirmed. The majority of the regional development funding is for addressing road issues relating to forestry activities. This existing level of funding (excluding R funding) seeks some road safety improvements, and a similar level of historical level of seal extension.

Public Passenger Transport: A focus on bus services within Whangarei City and increasing the total mobility service. Option 2 and 5 provide an option to improve passenger transport services between towns through building and developing existing services such as taxi services.

Travel Demand Management: This aspect focuses on reducing demand for private vehicle use by using planning policy, land use, school and workplace travel plans. Funding will be increased for sustainable transport such as bus services, cycling and walking as part of school and workplace travel plans.

Rail: Upgrading and increasing the potential freight carried by rail between Northland and Auckland in the short and medium-term through increased rail maintenance, a rail link to Marsden Point Port and increased passenger rail services in the long-term. Passenger rail and rail freight (Marsden Point rail link) could reduce the number of large freight trucks using the state highway network and traffic volume on the state highway network. This potentially reduces vehicle conflict and may reduce road maintenance and enhancement costs. There is no anticipated spending on rail to improve the existing asset, however this is currently being assessed by ONTRACK along with the evaluation of the rail link to Marsden Point Port.

6.3.1 Options Analysis against RLTS outcomes

In order to test the seven transport options against the proposed land transport outcomes set out in Section 6.2, a five point scale was utilised. The scale rated the performance of the scenarios against each outcome (from strongly negative to strongly positive). The outcomes and options were reviewed at the Regional Land Transport Committee workshop on Thursday 9th March 2006.

The outcomes and options task report is available separately from Northland Regional Council.

The main trade offs identified are between the level of roading investment to maintain predictable travel times, provide route choices and promote economic development, reduce road congestion and increase safety improvements and options to increase passenger transport and travel demand management. Increases in walking and cycling not only requires cycle promotion but an investment in cycle infrastructure which is included in the advanced travel demand management options and advanced roading if cycling facilities are included under these roading proposals.

All options apart from advanced travel demand management have reduced or neutral impacts on the environment, although the advanced passenger transport and TDM have the ability to reduce the number of vehicles on the road network – particularly at peak times.

The advanced passenger transport option has the ability to improve the peak mode share in Whangarei, however will have limited improvements in other centres as the majority of community have preference for private vehicle travel. The promotion of passenger transport in other centres (outside of Whangarei) will require significant promotion.

The planned investment scenario scores positive on many of the roading outcomes (maintaining travel times and promoting economic development). However, the current level of investment will not achieve the 2010 safety targets and therefore would require major investment. It also looks at some passenger transport service improvements in Whangarei (apart from bus infrastructure such as information and shelters) and cycle route improvements and travel demand management strategies.

From this process, the Regional Land Transport Committee (RLTC) has identified **Option 6** as the preferred strategic option for the region. The RLTC believes this is the best option for meeting the outcomes of the Regional Land Transport Strategy.

This option is a combination of Options 4 and 5. The option looks at a higher investment in roading, passenger transport, travel demand management and improvements to the rail network.

6.4 Funding of the Land Transport System

The region is managed by four separate road controlling authorities. These are Far North District Council, Whangarei District Council, Kaipara District Council and Transit New Zealand. The Councils are responsible for the local road network in their respective areas and Transit New Zealand is responsible for the State Highway.

Figure 6-1 below illustrates the flow and range of funding from its origin, Land Transport New Zealand (LTNZ).

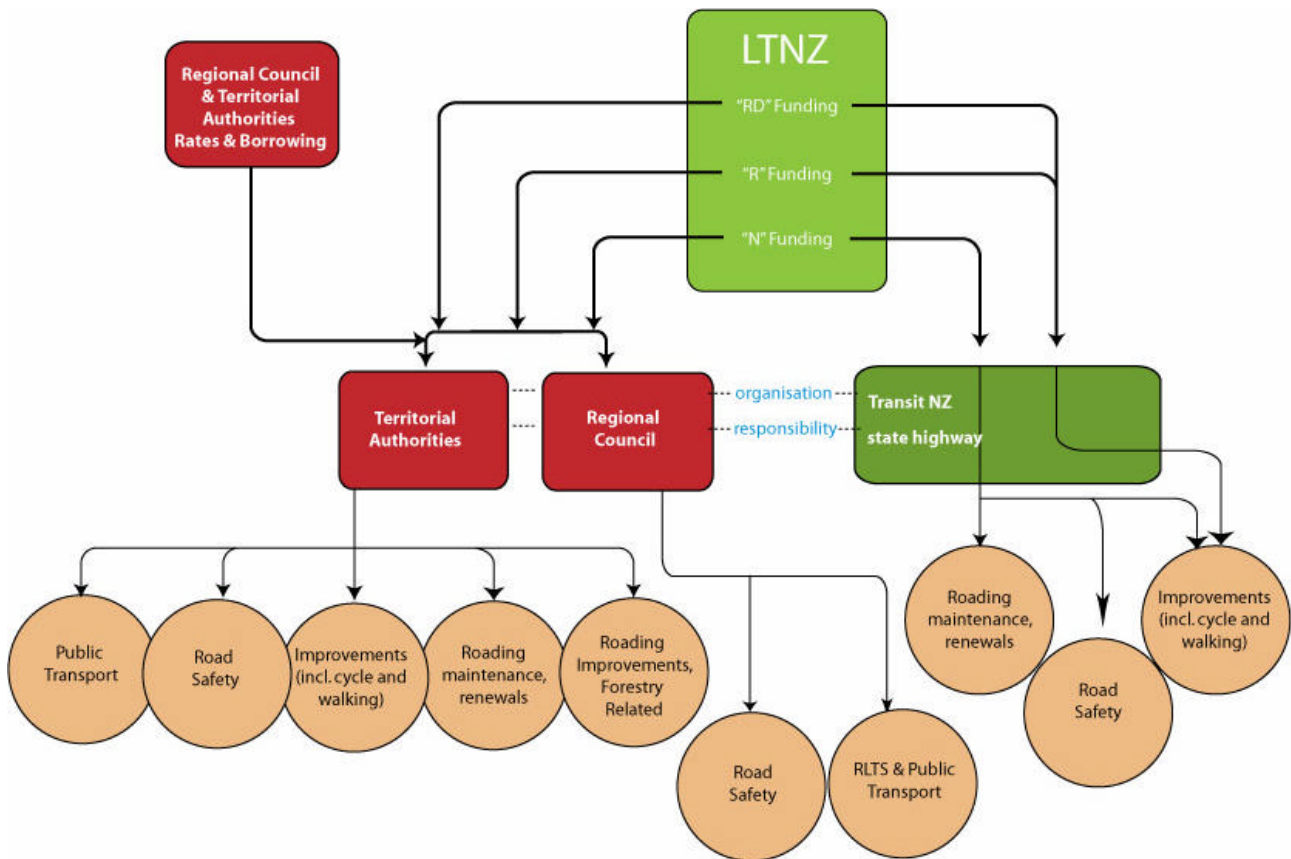


Figure 6-1 : Northland's funding flow diagram

The RLTS seeks to give a strategic direction for the region and can influence all decisions relating to land transport in the region. There are funding limitations to land transport systems, the Northland Region is no exception. This strategy is about the best allocation and prioritisation of spending on Northland transportation system.

An assessment of available spending indicates that approximately \$1,180.55 million is currently available for the Northland Region over the next 10 years.

The funding avenues are predominantly derived from Local Authorities and Transit New Zealand. Land Transport New Zealand provide 100% funding for Transit New Zealand and approximately 50% fund Local Authorities⁸. The remaining Local Authority funding is derived from local rates.

In addition to the 10 year funding of \$1.180.55 million there are other sources. These are:-

1. Emergency Works - 100% funded from Land Transport New Zealand for roading damage caused by extreme events such as cyclones.
2. Funding from a 5% increase in petrol tax. This equates to approximately \$7.5 million per year, and as yet this has not been allocated. Allocation will be for regionally important projects that align with this strategy.
3. Private developers also contribute by way of levy to Local Authorities (Developer Contributions) to fund transportation associated growth.
4. Direct funding from communities or residents. E.g. residents fund a share of the road seal adjacent to their property. The Territorial Authority then applies for the Land Transport New Zealand share of the funding.
5. Rail is funded by Central Government directly to ONTRACK. Funding requirements for Northland are presently being assessed and as yet are unavailable.
6. Public Transport (including ferry operations) is funded through a variety of mechanisms, including private commercial operators.
7. Coastal shipping funding is unknown.

Table 6-1 has been developed to provide an understanding of the spending available for the next 10 years from 2006/2007:

⁸ Note: The actual percentage of Land Transport New Zealand funding to territorial authority funding varies nationally.

Table 6-1: Estimated current funding allocation for Northland for 10 years from 2006/07

District Councils' \$million	Current \$millions
Bridge Renewals & Upgrades	38.6
New Projects	93.4
Rehabilitation Programme	194.2
Safety Improvements	62.4
Parking	2.0
Walking & Cycling	5.3
Road Maintenance	309.6
Professional services	15.1
Regional Development Funding ¹⁰	29.9
Public Passenger Transport	3.3
Total Mobility	1.0
Investigations/Studies/Strategies	1.8
Total	756.6
Northland Regional Council	
Passenger transport & RLTS	1.2
Administration Support	1.8
Travel demand management (school travel plans & promotion)	3.9*
Regional Road Safety Education	4.5*
Total	11.4
Transit NZ	
Maintenance	191.7
Improvements	136.3
Walking and Cycling	0.5
Studies	0.4
Total	328.9
NZ Police	
Regional Police Road Safety	92.05
TOTAL	1,180.55

The \$1,180.55 million is an indication of the level of spending currently planned for the roading system over the next 10 years and is best described as a continuation of the current situation.

Table 6-1 indicates that a large percentage of current spending in the region is used for maintenance and renewals of the existing road asset. This spending is not available for improvements or further development of the transportation system in Northland and as such is “fixed” and not included within the strategic options. Passenger transport spending is also “fixed” as Northland Regional Council has a responsibility to provide public transport in its role as a Regional Council.

The table shows that approximately 39% of total current spending is available for new capital projects for the transport network. Approximately \$9 million (per annum) for the next two years is made available for roading improvements through a special funding category – Regional Development Funding. This specifically targets Northland and Tairāwhiti to assist forestry logging

Current funding derived from local authority LTCCPs and Transit NZ's 10-year State Highway Forecast.

⁹ Includes Land Transport New Zealand subsidy

¹⁰ Assumes Rural Development Funding for 3 years only 2006/2007, 2007/2008 & 2008/2009

and processing. This funding is expected to be available until 2007/2008. Application will be made to extend the Regional Development Funding but funding beyond 2007/2008 is not guaranteed.

Funding for the rail system and shipping has been excluded from this analysis, these funding sources also significantly contribute to Northland's transport system. They have been excluded as the NRLTS is about the prioritisation and allocation of Land Transport New Zealand and Local Authority spending.

6.5 Funding of Option 6

The options analysis favoured Option 6 but it recognises that there is a current shortfall of funding required to complete a number of improvements to Northland's transport system. The option looks at increases in roading investment as well as extensive school travel plans, some community and work based travel plans, walking and cycling improvements and higher investment in planned improvements in roads. There is medium investment planned for public transport through changes to the current Whangarei service, extended use of the total mobility service plus improvements to services between towns through building & developing existing services. In addition Option 6 supports investigation into rail passenger transport, upgrading of the existing rail assets and supports the establishment of the link to Marsden Point.

The planned expenditure over the next 10 years is \$1,180.55 million. Option 6 identifies an increased investment of \$299 million will be required to complete the transport projects identified in the actions (Chapter 8). It is noted that the additional funding excludes funding for the rail network. The funding source for the additional \$299 million is still to be resolved. The cost for preferred Option 6 is identified under Table 6-2.

Table 6-2: Estimated additional funding for Preferred Option 6 for Northland for 10 years from 2006/07

District Councils¹¹ \$million	Estimated \$millions
Bridge Renewals & Upgrades	15.0
New Projects	35.0 ¹²
Rehabilitation Programme	
Safety Improvements	0.64 ¹³
Parking	0.1
Walking & Cycling	18.6 ¹⁴
Road Maintenance	24.0 ¹⁵
Professional services	
Regional Development Funding ¹⁶	
Public Passenger Transport	See funding under NRC
Total Mobility	3.0
Investigations/Studies/Strategies	0.35 ¹⁷
Total	96.69
Northland Regional Council	
Passenger transport & RLTS	5.2
Administration Support	
Travel demand management (school travel plans & promotion)	4.75
Regional Road Safety Education	3.0
Total	12.95
Transit NZ	
Maintenance	30.0 ¹⁸
Improvements	126.9 ¹⁹
Walking and Cycling	20.0
Studies	
Total	176.9
NZ Police	
Regional Police Road Safety	2.0
TOTAL	288.54

Current funding derived from local authority LTCCPs and Transit NZ's 10-year State Highway Forecast.

¹¹ Includes Land Transport New Zealand subsidy

¹² Kerikeri to Paihia road link \$16 million, Kerikeri CBD Bypass \$14 million, access to industrial/urban/commercial areas around Kerikeri & Waipapa \$5 million.

¹³ Includes \$240,000 for installation of barrier crossing arms and \$400,000 for a trial Safer Routes Project.

¹⁴ Includes \$17 million for walking & cycling projects, \$0.5 million for Onerahi to Whangarei Cycle route, \$1 million for promotion.

¹⁵ Includes \$46.69 million for increased seal extension (Far North \$20 million, Whangarei \$10 million, Kaipara \$4 million,

¹⁶ Assumes Rural Development Funding for 3 years only 2006/2007, 2007/2008 & 2008/2009

¹⁷ Corridor Management Plans \$250,000, Pedestrian Strategy \$100,000

¹⁸ State Highway Curve Easing.

¹⁹ \$10 m Whangarei Congestion Relief, \$30 m upgrade of alternative routes to SH1N between Whangarei & Wellsford, \$40 m SH4 laning Whangarei to One Tree Point, \$30 m SH pull off areas & \$7.5 m SH major intersection upgrades, Realignment & widening of SH11 \$8 million, stock truck effluent sites \$900,000 and camper van disposal sites \$0.5 m.

* This funding has provisionally been allocated to the Northland Regional Council as there is as yet no final agreement as to which organisation/s will be responsible for these activities.

In summary, the estimated additional funding for Option 6 is proposed to be allocated as:

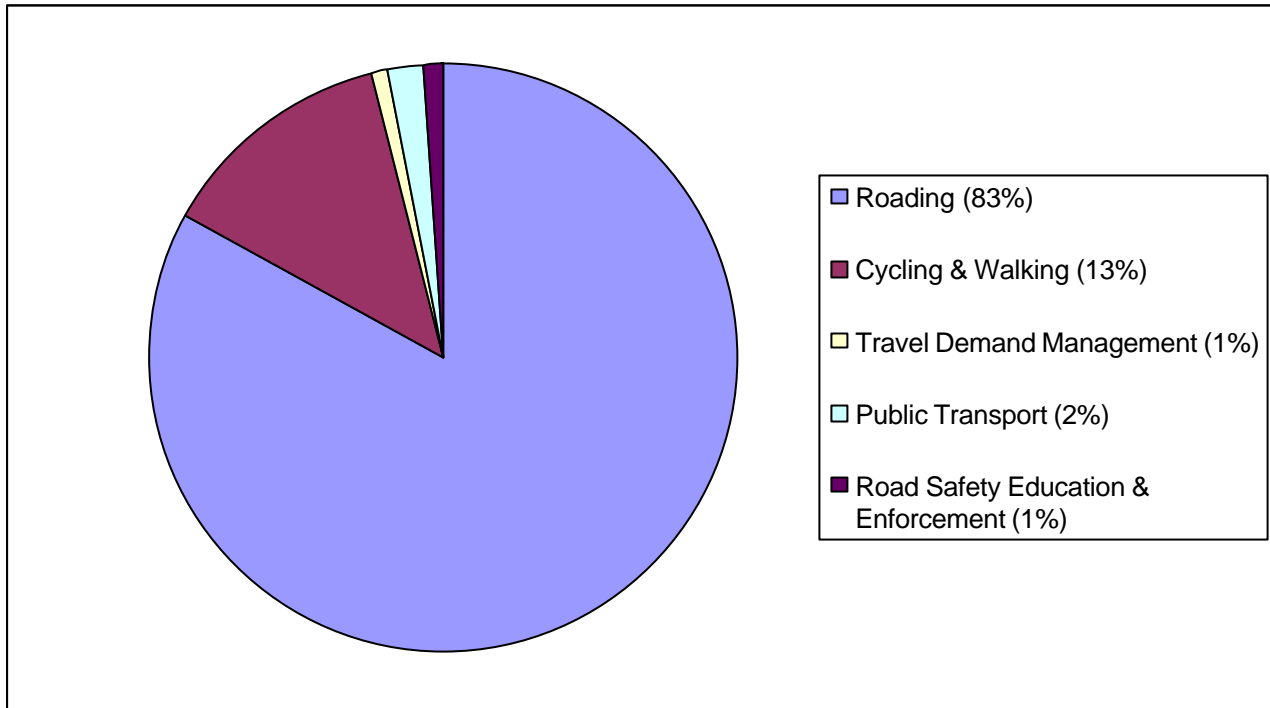


Figure 6-2 : Funding split for the Preferred Option (Option 6 – Advanced Roding, Travel Demand Management & Passenger Transport)

Option 6 recognises that funding is a key challenge for the delivery of Northland's land transport system. With Northland's low population and relative remoteness of communities, the share collected from rates from district councils and the regional council is often not enough to ensure an adequate land transport network is provided.

6.5.1 Funding Identification

The success of the implementation of Option 6 will obviously rely on the allocation of additional transport funding.

Base funding for the strategy will be derived from Land Transport New Zealand, Northland Regional Council and the three councils – Far North District Council, Kaipara District Council and Whangarei District Council. However, it is noted that there is likely to still continue to be a funding shortfall. Other potential funding sources have been identified through the following mechanisms:

- Tolls;
- Developer Contributions;
- Other governmental agencies (e.g. Ministry of Health and Ministry for Environment for walking, cycling and 'Total Mobility' projects);
- Community services and industries such as hospitality industry e.g. Funding for Far North worker bus services;
- Increased borrowing;
- Increased rates;
- Increased Land Transport NZ subsidies to Local Authorities;
- Public and Private partnerships.

These funding avenues will be explored and potential mechanisms for funding the additional projects required in Option 6. It is likely that advocacy to central government will still be required to enable increases in funding from current funding mechanisms for the region.

6.6 Summary

This chapter has outlined a number of possible strategic options Northland could adopt for its transportation system over the next 10 years. The preferred strategy (Option 6) is an increase in investment in roading, passenger transport, travel demand management and improvements to the rail network. The next chapter (Chapter 7) outlines how this will affect the current modal share and Chapter 8 then sets out the actions identified to achieve the preferred strategy.