

# Auckland Regional Land Transport Strategy 2010-2040

OUR REGION, OUR FUTURE





# Auckland Regional Land Transport Strategy 2010–2040

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AUCKLAND REGIONAL LAND TRANSPORT STRATEGY 2010-2040

April 2010

The Auckland Regional Land Transport Strategy 2010-2040 (the RLTS) reflects the work of the 2008-2010 Auckland Regional Transport Committee (RTC), which is a standing committee of the Auckland Regional Council (ARC), under the Land Transport Management Act (LTMA) 2003: Schedule 7, Clause 3.

## The 2009 Regional Transport Committee consists of the following representatives:

Cr Christine Rose (ARC Chair)	Ms Pauline Kingi (Cultural interests)
Cr Michael Barnett (ARC – Deputy Chair)	Mr Simon Lambourne (Access and mobility)
Cr Ken Baguley (Auckland City Council)	Cr Michael Lee (ARC)
Dr Denise Barnfather (Auckland Regional Public Health)	Mr Wayne McDonald (New Zealand Transport Agency)
Mayor Len Brown (Manukau City Council)	Cr Jill Morris (Franklin District Council)
Cr Joel Cayford (ARC)	Mr Chris Orr (Access and mobility)
Cr Caroline Conroy (Papakura District Council)	Ms Kathleen Ryan (Environmental sustainability)
Cr Linda Cooper (Waitakere City Council)	Mr Simon Tapper (Economic development) (until October 2009)
Cr Chris Darby (North Shore City Council)	Cr Paul Walbran (ARC)
Mr Tony Garnier (Economic Development)	Mayor Penny Webster (Rodney District Council)
Cr Dianne Glenn (ARC)	Mr Bevan Woodward (Access and mobility).
Supt John Kelly (Safety and Personal)	

## Observers:

Mr Stephen Collett (ONTRACK) and Mr Fergus Gammie (ARTA).

## Alternates:

Cr Felicity Auva'a (Papakura District Council)	Cr Brent Morrissey (ARC)
Cr Derek Battersby (Waitakere City Council)	Cr John Lister (Auckland City Council)
Cr Clive Carter (ARC)	Cr Christine Rankin (ARC)
Cr David Collings (Manukau City Council)	Cr John Rennie (Franklin District Council)
Cr John Kirikiri (Rodney District Council)	Cr Jan Sinclair (ARC).
Cr Ken McKay (North Shore City Council)	

## Process:

- Approval of consultation draft – 21 October 2009
- Submission period – 2 November to 18 December 2009
- Hearings – 4, 5, 8, 10, 11 and 17 February 2010
- Deliberations – 25 February, 4 and 17 March 2010
- RTC finalisation of the strategy – 21 April 2010
- ARC adoption of the strategy – 26 April 2010

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## Foreword – He Whakapuakitanga

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In 2009 1.4 million people lived in the Auckland region, 33 per cent of the New Zealand population. At the same time, the Auckland region generated 37 per cent of national GDP. Within the period covered by this strategy, the population of Auckland is expected to grow to 2.1 million. An effective and reliable transport system is critical to sustain Auckland's quality of life, and to support Auckland's growing contribution to New Zealand's economic productivity.

The way we plan to achieve a transport system suited to Auckland's role in the national economy is set out in the Auckland Regional Land Transport Strategy 2010–2040. The strategy aims to develop a balanced transport system which provides high levels of accessibility, reliability and safety, and where people and businesses have realistic choices about how they travel and transport goods and services. The strategy needs to be implemented with a sense of clear purpose and urgency.

This strategy builds on the 2005 Auckland Regional Land Transport Strategy vision of a modern public transport system, balancing the current transport network with improved investment in trains, buses and ferries. Current growth in public transport patronage vindicates the region's recent investments in public transport, and supports economic development, increased productivity, job creation and urban form improvements. The opening of the Britomart Transport Centre in the Auckland CBD in 2003 marked a turning point in the revival of public transport in Auckland. It set a new standard in quality public transport infrastructure which was followed by the opening of the Northern Busway in 2008 and rail station refurbishment across the network.

Constructing an underground rail link through the CBD as planned will mean more than 200,000 people living and working within 30 minutes travel of the CBD. It will transform Britomart from a terminal into a through station, with benefits for the whole region by enabling higher train frequencies, faster journeys from the west, and will support a rail link to the airport.

There is a need to promote other more sustainable transport alternatives as well, particularly walking and cycling. These active modes improve health and reduce reliance on energy derived from fossil fuels, but also reduce the need for car travel and free up roads for longer distance travel and for freight and business needs.

While improved public transport and increased walking and cycling are essential to make the transport system more sustainable, reduce congestion and therefore support economic productivity, the continued growth of Auckland means that additional road capacity will also be required. The agreed strategic road network needs to be completed, and greater attention needs to be given to making the regional arterial road network operate more efficiently and safely for all modes of transport.

This strategy provides a realistic way forward that recognises the need for Auckland's transport system to become more sustainable, but also recognises that the pattern of land use in Auckland and the Auckland economy have been built around road access. Reducing the reliance on motor vehicles will take some time as more efficient land use patterns change travel demand, and as public transport, walking and cycling networks are improved so that they offer realistic alternatives to car travel.

This Regional Land Transport Strategy has benefitted from engagement and consultation with Aucklanders. Over a seven week consultation period, 166 submissions were received, making over 2,000 comments on the draft strategy. The submissions covered a wide range of matters and were received from transport stakeholders, public agencies, transport interest groups, environmental groups, community groups, business interest groups, companies and individuals. Submitters ranged from major stakeholders such as New Zealand Transport Agency (NZTA), Auckland Regional Transport Authority (ARTA) and KiwiRail to passionate individuals committed to seeing change and innovation happen in their local communities.

I would like to thank everyone involved in developing the strategy, including those who have taken the time to provide their feedback. The input of interested parties has meant a stronger strategy to guide us on the transport journey into Auckland's future. We all look forward to the development and implementation of its principles and projects as Auckland moves on the path ahead.



Cr Christine Rose  
Chair of the Regional Transport Committee  
Auckland Regional Council



Councillor Christine Rose, Chair  
Auckland Regional Transport Committee

## Executive Summary – He Kupu Whakataki

The 2010 Auckland Regional Land Transport Strategy (the RLTS) is a statutory document prepared under the Land Transport Management Act (LTMA) 2003. The RLTS sets the direction for the region's transport system for the next 30 years. The strategy identifies the actions, policies, priorities and funding needed to achieve a land transport system that enhances the Auckland region as a great place to live, work and play.

Auckland Transport is expected to be required to act in a way that is consistent with the new RLTS.

### Need for strong, effective transport strategy

With a 2009 population of 1.4 million, the Auckland region is currently home to 33 per cent of the population of New Zealand. By 2041 the population of the Auckland region is expected to grow to 2.1 million, making up 40 per cent of the country's population.

Latest population projections indicate Auckland is growing at 1.5 per cent each year, compared to the rest of New Zealand at 1.1 per cent each year. The Auckland region covers an area of 499, 898 hectares, of which 55,922 hectares are urban.

Auckland plays a vital role in the national economy, generating 37 per cent of national GDP, the highest proportion of a nation's GDP generated by a single city/region in the Organisation for Economic Co-operation and Development (OECD). Auckland ports handle 26 per cent by value and 11 per cent by weight of all NZ exports, and 48 per cent by value and 21 per cent by weight of all NZ imports. The Auckland Airport handles 79 per cent by value and 83 per cent by weight of all NZ exports transported by air and 93 per cent by value and 91 per cent by weight of imports transported by air.



View of Auckland Harbour Bridge (courtesy of Auckland City Council)

Auckland does not exist in isolation. Auckland has strong interregional links with its neighbours Waikato, Bay of Plenty and Northland. Significant population growth and economic activity currently occurs in these four regions and is projected to increase in importance, with potentially significant implications for the future of Auckland region's transport system. It is expected that by 2031, these regions will account for 78 per cent of New Zealand's population (currently 52 per cent). In addition, by 2025 Auckland, Bay of Plenty and Waikato are expected to generate half of the country's GDP, and currently these three regions are responsible for the production and attraction of over half of all road and rail freight in New Zealand.

For quality of life, Auckland consistently ranks in the top 10 with OECD cities such as Vancouver. However, in respect of infrastructure provision, while Vancouver ranks fifth, Auckland ranks in the bottom group at 46.

An effective and reliable transport system and addressing Auckland's long-standing transport infrastructure deficit are critically important to the region's and New Zealand's economy, and to the well-being of Aucklanders. Business surveys report that transport is the number one issue of concern for more than 90 per cent of businesses. Currently the region has about 200,000 heavy and light freight vehicles, and 20 per cent of total motor vehicle registrations. Freight volume trips are projected to double by 2020. Other surveys of Aucklanders consistently report traffic congestion, poor public transport and air pollution caused by traffic as main concerns. The need for improvements is driven both by the need to "catch up" with the effects of past growth while catering for expected future growth.

Currently the Auckland transport system is highly dependent on the use of motor vehicles. This means that the effective operation of the transport system is vulnerable to increasing and volatile oil prices, to climate change concerns, and to potential actions to reduce the use of fossil fuels. Dependence on motor vehicles also means that increasing vehicle use impacts on local communities and emissions from motor vehicles impact on air and water quality. It can be difficult for those without access to a motor vehicle to fully participate in society and contribute to the economy.

The Auckland transport system needs to provide users with good accessibility and choice, be reliable, adaptive to change, and resilient to major incidents and external shocks.

It is important that Auckland develops and implements an effective and affordable transport strategy.

## Vision

The vision for this strategy is a transport system that enhances the Auckland region, where:

- people and goods are able to move when and where necessary
- the transport supports vibrant, well designed, attractive and environmentally sustainable urban and rural centres, business and economic activity, and access to social, cultural and recreational activities
- the streets are safe and attractive places for people and the community
- the distinct volcanic and coastal (whenua, moana/awa) character of the region and the cultural values of its inhabitants (nga tangata katoa) is protected and enhanced
- getting around by all modes is integrated, safe, effective, and accessible to all including people with disabilities
- people have choices which enable them to participate equitably in society, especially those with mobility issues, such as children and the elderly, and those most disadvantaged
- the natural environment and human health are protected and enhanced
- the transport resources are used efficiently, supported by sustainable, innovative design practices
- the transport system is resilient in the event of shocks and is adaptable to change.

## The strategy

The strategy for achieving this vision in Auckland is to develop a transport system which provides balanced levels of access, high reliability and safety, and where people and businesses have realistic choices about how and where they travel.

While this will require continued investment to complete the agreed strategic roading system, including giving greater attention to improving the efficiency of the network of arterial roads, there is a strong need for significantly greater investment in public transport (both infrastructure and services), walking, cycling, and behaviour change measures to counter long term under investment in these modes.

The investment in public transport, walking, cycling and behaviour change measures will limit growth in private car use and when combined with some improvements to the road network will be more effective in reducing growth in congestion and supporting national economic growth and productivity than road investment alone.

By providing greater balance, variety and choice to all parts of the region, this strategy will result in a transport system which is more resilient than the current system. It will be better able to cope with external shocks such as economic downturns, oil price volatility and climate change concerns, and to benefit from advances and innovations in engine, fuel, public transport, highway management and other technologies.

This strategy is integrated with Auckland's land use strategy. It seeks to shape travel demand to reduce the impact on the economy that would otherwise arise from increasing congestion and energy costs. Auckland's land use strategy is to manage the expected growth of Auckland by accommodating an increasing proportion of businesses and households in higher density, mixed used centres and corridors with good transport connections, and reducing the proportion of growth which is accommodated in the expansion of the urban area and generalised infill. This land use strategy will require investment in high capacity, highly reliable public transport links between the centres. In turn this form of urban development will make walking, cycling and public transport use more attractive and will contain individual reliance on car travel.

The above measures will result in a reduction in emissions of greenhouse gases per capita. The significant reductions required to meet the targets of the National Energy Efficiency and Conservation Strategy and New Zealand Transport Strategy (NZTS) 2008 will also require improvements in engine efficiency and the increasing use of non fossil fuels as transport energy sources. This is expected to be achieved by a combination of government leadership and regulation and commercially driven technological improvements.

### Components of the strategy

#### Main components of the strategy are:

- Integrated transport ticketing and fares by 2012.
- Expanding the rapid transit network (RTN) and quality transit network (QTN) networks by:
  - electrifying the rail network and increasing frequencies by 2015
  - constructing the central business district (CBD) rail link by 2021 and further increasing frequency and capacity
  - constructing a rail loop to Auckland Airport in the period 2031-2040 with interim public transport and roading improvements
  - constructing the Avondale-Southdown rail connection in the period 2031-2040
  - extending the Northern Busway to Albany in the period 2021-2030 and then to Orewa in the period 2031-2040
  - developing the Panmure-Botany-Manukau bus connection as a QTN, with upgrading to rapid transit network (RTN) in the period 2021-2030
  - developing the Henderson-Westgate-Albany bus connection as a QTN.
- Higher frequency of services on the RTN and QTN and improvements to the local connector network (LCN).
- Continuing growth in behaviour change initiatives.
- Expanding the road network by:
  - completing the Western Ring Route by 2015
  - constructing the Auckland Manukau Eastern Transport Initiative (AMETI) (Panmure elements by 2020, Pakuranga to Botany in the period 2021-2030)
  - improving airport road access in the period 2021-2030.
- Widespread arterial road improvements with a focus on public transport and the regional strategic freight network (RSFN).
- Walking and cycling infrastructure improvements, including completion of 50 per cent of the regional cycle network by 2016 and 100 per cent by 2026.

#### Other important elements include:

- continued maintenance and renewal of the network
- safer and more reliable linkages to Northland, Waikato and the Bay of Plenty,
- road safety and rural transport improvements
- investigation into extending the rail system to the North Shore
- protection of the route for an additional crossing of the Waitemata Harbour
- investigation of a potential strategic road connection between East Tamaki and State Highway 20.

The strategy includes parking measures in those centres across the region which are planned for growth and good public transport. These measures include setting limits on parking, parking charges, park-and-ride facilities and providing cycle parking in accordance with the Regional Parking Strategy 2009.

Charging for road use was evaluated in the development of the strategy, and is potentially useful, but has not been included in this strategy. Charging for road use could be considered when realistic, equitable transport options are available.

### Comparative project evaluation

This strategy proposes that an analysis of high cost projects using modern wider economic benefit assessment techniques that take into account agglomeration, employment and productivity benefits over the long term be undertaken to ensure projects offer value for money. As is a developing practice overseas, this analysis could see major road, rail and other transport projects being evaluated against a common set of wider economic benefit criteria than the traditional Benefit Cost Ratio (BCR) system.

### Funding the strategy

The principal sources of funding for transport are the New Zealand Transport Agency (NZTA), local government and the New Zealand Government (in the case of rail investment). While the level of funding available beyond the next 10 years cannot be confidently predicted, it is estimated that over the 30-year period of this strategy, a range of \$33 billion to \$47 billion will be available. The cost of implementing this strategy is estimated at \$46 billion.

The National Land Transport Programme (NLTP) allocates 53 per cent of the Auckland transport budget over the next three years to state highway infrastructure and only 19 per cent to public transport. If a similar allocation were to be made over the 30-year life of the strategy, a significant shortfall in the funds required for Auckland's priority projects could result. However, it is noted that arrangements for funding rail infrastructure improvements are currently funded directly by the government and do not form part of the NLTP. The process for rail funding may well change in the future.

This strategy recognises the need to work with the Government for a change in funding arrangements to ensure funds are available to implement the strategy. A focus will be considering of whether financial assistance rates can be adjusted to encourage investment to support the strategy.

### Implementing the strategy

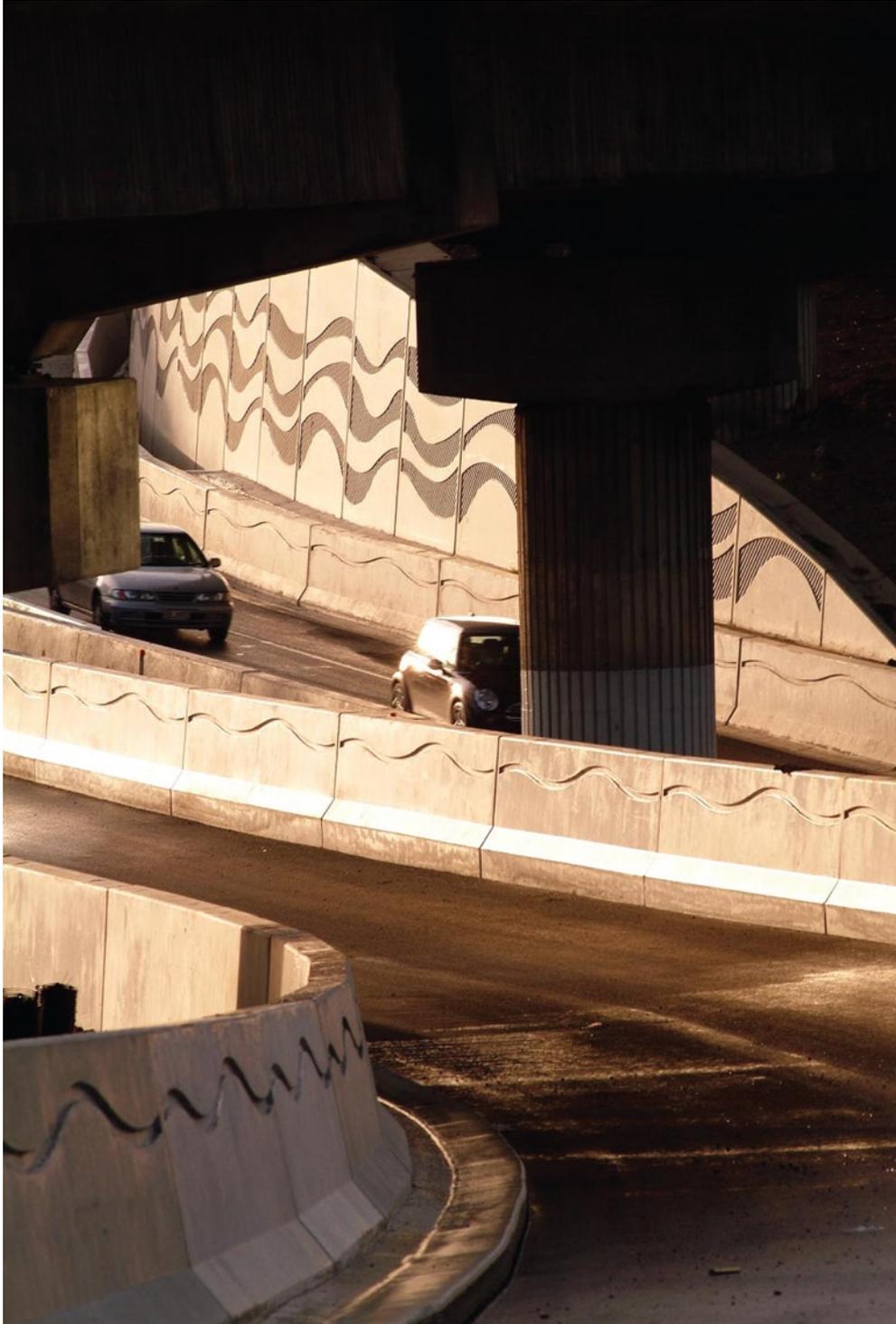
Chapter five of this strategy contains 13 policies listing the actions needed by local and national government and by key stakeholders to implement the strategy. The policies are grouped into demand policies (land use, economic measures and behaviour change), supply policies (improving transport choice, network management and additional road capacity) and process policies (giving effect to the RLTS, funding, affordability, integration, safety, responsiveness and sustainability). Each policy identifies the organisations responsible for implementing the policy.

Local government and central government agencies will need to work together to implement the strategy. There will be a need to integrate funding, operating and construction projects, and to undertake the investigations and forward planning which will enable future projects to be properly identified and to be constructed when necessary. NZTA and local government are active in investigating future projects but KiwiRail is a relatively new organisation and there is a need for it to fully resource the development of a robust forward programme.

## Chapter 1

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# Introduction – He Tīmatanga



Auckland motorway barriers with artwork depicting waves of the ocean, and Auckland's relationship with the sea

# Chapter 1: Introduction – He Tīmatanga

## 1.1 Purpose

The 2010 Auckland Regional Land Transport Strategy (RLTS) sets the direction for the region's transport system for the next 30 years. The RLTS identifies what is needed to achieve an affordable, integrated, safe, responsive, and sustainable land transport system that can cope with population growth and the changing economic environment. It does this by setting regional objectives and policies. The RLTS is a statutory document prepared under the Land Transport Management Act (LTMA) 2003.

## 1.2 External changes since the 2005 RLTS

The RLTS is a statutory document prepared by the Auckland Regional Council (ARC) under the LTMA 2003. Amendments to the LTMA introduced in August 2008 require the RLTS to cover a period of 30 years instead of 10 years and introduced a number of new requirements. This strategy replaces the 2005 Auckland Regional Land Transport Strategy.

Other legislative and policy changes have occurred in the past few years at national, regional and local levels and were considered in developing this RLTS. These documents are thoroughly reviewed in Appendix A and summarised here.

**This RLTS was developed by considering the following:**

- The New Zealand Transport Strategy (NZTS) 2008 sets ambitious national transport targets to which the Auckland region is expected to contribute.
- The May 2009 Government Policy Statement (GPS) on transport funding signals a change in focus in the short to medium term on prioritising national economic growth and productivity. The GPS acknowledges the importance of land use/transport integration, supporting planning for future growth and safeguarding future transport corridors, supporting the need for transport choices in times of volatile oil prices and recognising the need for modal shift in Auckland and other major centres.
- The Auckland Sustainability Framework (ASF) sets out eight goals and eight shifts to achieve an Auckland region that is an interconnected community, celebrating knowledge, diversity and opportunity. Working within the ecological limits of the region, the framework will nurture social and economic prosperity creating a region that will be enjoyed forever.
- Auckland is the nation's largest and fastest growing region. Between 2001 and 2006 the population increased by about 144,000. This made up half of all the population growth in New Zealand during that time. Current projections estimate that Auckland's population will increase from 1.4 million people to 2.1 million by 2041.
- A transport system needs to be affordable for all users. A key component of affordability is the need for all investment in transport to be cost-effective and represent value for money.
- An important determinant of Auckland's future economic development is reduced dependence on oil based transport fuels and an increase in public transport, active mode infrastructure and services.
- Combustion of fossil fuels by the transport sector produces carbon dioxide, a major greenhouse gas contributor to global climate change. In the Auckland region, climate change will result in increases in temperature, changes in rainfall patterns, and increases in extreme climatic events.

## 1.3 Document structure

The following outlines the structure of the RLTS:

### Chapter 1 Introduction

This chapter gives an overview of what the RLTS is, what's in the document, why it has been revised and who is involved in delivering the strategy.

### Chapter 2 Vision

This chapter provides an overview of the vision, objectives and outcomes, including inter-regional and intra-regional transport outcomes. The chapter also introduces targets to assess the transport system.

### Chapter 3 Challenges

This chapter provides a summary of the issues and challenges that need to be addressed in the region and an expanded discussion of regional and NZTS national targets.

### Chapter 4 The Strategy

This chapter describes the strategic priorities, the process followed to develop the strategic transport options, how the options were evaluated, the resulting preferred strategic option (as a lead into the next chapter) and the funding implications of the preferred option.

### Chapter 5 Policies

This chapter contains a hierarchy of policies to guide and identify the organisations that are responsible for delivering activities in the strategy. The first six policies identify what needs to be done to the transport system to make the preferred strategic option a reality, both short and longer term. These are aimed at land use, economic measures, behaviour change, improving choice, network operations and new capacity. The last seven policies describe how those things should happen.

This chapter includes maps and descriptions of the priority transport projects for the region.

### Chapter 6 Risks, monitoring, and review

This chapter sets out the risks of implementing the strategy, outlines how these risks will be monitored and describes how monitoring the strategy's implementation will inform future reviews of the RLTS.

## 1.4 RLTS related legislation

There are a number of national and regional policies or strategies under which this strategy has been prepared. The following section summarises the major legislative requirements.

### Land Transport Management Act (LTMA) 2003

In August 2008 a major amendment to the LTMA was passed providing new guidance for Auckland in the developing of the RLTS.

This RLTS must contribute to achieving an affordable, integrated, safe, responsive and sustainable land transport system. Details of all the RLTS requirements are described in Working Paper 1 Legislative requirements (Appendix E).

The RLTS must be consistent with regional Resource Management Act (RMA) plans and take into account a number of other documents. The RLTS has been assessed against these and a variety of other documents. It is considered that the RLTS meets these requirements. This assessment has been detailed in Working Paper 12<sup>1</sup>, Working Paper 7<sup>2</sup> and summarised in Appendix B<sup>3</sup>.

The LTMA requires the RLTS to contain a statement by an independent process auditor. This is included in Appendix C.

### Changes to Auckland governance structure

Under the new legislation, the Local Government Tamaki Makaurau Reorganisation Act 2009, a unitary authority for Auckland will be established. The Auckland Council will include 21 local boards with responsibility for local decision making. The Auckland Council begins operating from 1 November 2010. All existing local authorities in the Auckland region will be dissolved at this date. Auckland Transport is to be established as a council controlled organisation owned by the Auckland Council, with responsibility for the local road and public transport functions previously undertaken by the seven territorial authorities and the Auckland Regional Transport Authority (ARTA).

The new Auckland Council may wish to review this RLTS but until the new Auckland governance structure is established, this strategy fulfils the Auckland region's requirement under the LTMA to prepare and approve a RLTS by April 2010.

At the time this strategy was completed, legislation establishing Auckland Transport had not been passed. Once the legislation has been passed, references to ARC, ARTA and territorial authorities will need to be read as references to Auckland Council, local boards and Auckland Transport as appropriate.

## 1.5 RLTS partners

The development of the RLTS has relied heavily on input from national, regional and local partners. The ARC has implemented a multi-phased approach for gathering feedback. Early drafts of the RLTS were prepared with assistance from local authorities. Initial consultation, including workshops and meetings with over 300 individuals<sup>4</sup> or organisations occurred in late 2008.

1 Assessment of LTMA Clause 3 and 4 (the RLTS).

2 Assessment of compliance with clauses 3 and 4 of the LTMA (RLTS).

3 The Regional Transport Committee has recorded compliance with clauses 3 and 4 of the LTMA in the monthly RLTS progress

4 The RLTS stakeholder database has over 300 records of individuals and organisations who were given the opportunity to provide early feedback.

## Central government

At a national level, the legal, institutional and policy framework for all modes of transport is under the jurisdiction of the Minister of Transport (MOT), supported by policy advice from MOT. Other organisations with transport responsibilities are:

- New Zealand Transport Agency (NZTA) – a Crown entity established on 1 August 2008, under the amended LTMA, bringing together the functions of Land Transport New Zealand (LTNZ) and Transit New Zealand (TNZ) to provide an integrated approach to transport planning, funding and delivery. The NZTA is responsible for:
  - land transport planning
  - managing the state highway system
  - regulating access to, and participation in, the land transport network
  - promotion of land transport safety and sustainability
  - allocation of government funding for land transport.
- Maritime Safety Authority (MSA) and Civil Aviation Authority (CAA) – establish and monitor adherence to standards in the maritime and aviation sectors respectively.
- KiwiRail/ONTRACK – owns and is responsible for operating, maintenance and development of the rail network.
- Transport Accident Investigation Commission (TAIC) – investigates and reports on rail, marine and aviation incidents.
- NZ Police – core business includes road safety and enforcement.

## Regional government

At the regional and local level a number of organisations have transport responsibilities including:

- ARC – responsible for physical and environmental planning. The ARC group consists of the council and its subsidiary organisations Auckland Regional Holdings (ARH) and ARTA.
- ARTA – responsible for planning, funding and developing the Auckland regional land transport system. ARTA must give effect to the RLTS and prepare the Auckland Land Transport Programme (ALTP) and the Regional Public Transport Plan (RPTP).
- Auckland Regional Holdings (ARH) – responsible for managing assets and investments on behalf of the ARC, primarily those transferred from Infrastructure Auckland (now disestablished).
- Territorial authorities (TAs) – local councils are responsible for planning transport investment and regular maintenance at a local level, and developing and implementing district plans that shape local development. TAs are also road controlling authorities responsible for implementing the RLTS at the local level.
- See Appendix D for a full acknowledgement list.

The RLTS is part of a suite of regional strategies and policy documents that have all been considered during the review of this strategy. These are described in Appendix A.

To support the robust analysis of the issues and future needs of Auckland's transport network, a number of working papers were developed with the support of numerous working groups consisting of local, regional and national representatives. Please see Appendix E for a list of working papers developed in support of this RLTS.



State Highway 1 with Remuera rail station and main trunk line running parallel

## 1.6 Tiriti o Waitangi/Treaty of Waitangi

Te Tiriti o Waitangi/The Treaty of Waitangi is the foundation document of New Zealand. The ARC acknowledges the importance of Te Tiriti/The Treaty.

The Treaty of Waitangi plays a significant role in the history of the region. Beyond the signing at Waitangi on 6 February 1840, a number of meetings were held within the region where debates, similar to those at Waitangi, occurred amongst the local tribes over the pros and cons of entering into an agreement with the Crown. The treaty was signed on at least four occasions on the Waitemata and Manukau Harbours by rangatira of Ngāti Paoa, Ngai Tai, Ngāti Whatua and Ngāti Te Ata in 1840. The descendants of these rangatira continue to maintain relationships with the Crown and local government today.

Te Tiriti o Waitangi/The Treaty of Waitangi within a regional context provides a useful framework in assisting councils and government agencies on how to respond to tangata whenua and Māori communities, especially as more meaningful approaches are developed in working with tangata whenua as reflected in principle by Article Two and with Māori residents and ratepayers as reflected in principle by Article Three.

Transport planning should be based on an understanding of the treaty and on kaitiakitanga that guides Māori response to infrastructure development. Iwi and hapu need to have active participation in resource planning and management.

The ARC has a number of plans and policies, such as the Auckland Regional Policy Statement (ARPS), which recognise the unique status of Māori and the Treaty of Waitangi. The ARPS states that:

**“The Treaty of Waitangi needs to be recognised in the sustainable management of ancestral toanga.”**

ARPS 1999, 3.2.3

In 2003 the ARC entered a memorandum of understanding with Te Uri o Hau, the first agreement with Māori in a number of years. Within the agreement the Treaty of Waitangi is acknowledged as follows:

**“The Treaty of Waitangi is the founding document of this country and recognises a partnership between Te Uri o Hau – Ngāti Whatua and the Crown. An overarching purpose of this agreement is to recognise and provide for that partnership within the context of local government relations between the Parties.”**

Te Uri o Hau MOU 2003, p4

In 2009 the ARC has further reflected its view of the Treaty of Waitangi through the review of the Regional Parks Management Plan as follows:

**“To involve tangata whenua in park management processes in ways which take into account the principles of Te Tiriti o Waitangi/Treaty of Waitangi.”**

Draft RPMP 2009 p62

## Chapter 2

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# Vision – He Tirohanga

## Chapter 2: Vision – He Tirohanga

The region's transport network vision, objectives, outcomes and targets are described in this chapter. They are informed by, and align with, the regional and national strategies and plans listed in Chapter 1 and address the challenges facing the region's transport network. These challenges are discussed further in Chapter 3. A main target is identified for each objective, which is supported by a broader monitoring programme, described in Chapter 6.

The relationship between the vision, objectives, outcomes and targets is summarised below:

Figure 1: Vision, objectives, outcomes and targets



## 2.1 Vision

The vision for this strategy is a transport system that enhances the Auckland region, where:

- people and goods are able to move when and where necessary
- transport supports vibrant, well designed, attractive and environmentally sustainable urban and rural centres, business and economic activity, and access to social, cultural and recreational activities
- streets are safe places for people and the community
- the distinct volcanic and coastal (whenua, moana/awa) character of the region and the cultural values of its inhabitants (nga tangata katoa) is protected and enhanced
- getting around by all modes is integrated, safe, effective, and accessible to all, including people with disabilities
- people have choices which enable them to participate equitably in society, especially those with mobility issues, including children and the elderly and those most disadvantaged
- the natural environment and human health are protected and enhanced
- transport resources are used efficiently, supported by sustainable, innovative design practices
- the transport system is resilient in the event of shocks and is adaptable to change.

In 2040, the regional transport system provides a high level of access for both people and freight travelling within and through the region. Travel to and between key destinations such as Auckland central business district, regional growth centres, Auckland Port, regional freight hubs, Auckland International Airport and Auckland Hospital, is quick, easy, and reliable. There is reduced congestion and improved reliability on key freight routes, and improved links to other regions. People are able to get around easily, affordably and reliably via a choice of modes. Improved levels of service and coverage of the public transport network provide a choice of travel options, and a reduced reliance on private vehicles. More people choose to walk and cycle for short trips.

The transport system contributes to Auckland's standing as an international city, one that attracts migrants, businesses and tourists. Traffic congestion is managed at levels that balance the need for access against the ability to fully provide for peak demands because of community impacts and cost constraint considerations. It has helped in concentrating growth and high trip generating activities in centres and corridors, linked by high frequency public transport services and walking and cycling connections.

Street design supports pedestrian movement and improved social interaction and social cohesion. Streets are places where people feel safe walking, cycling and using public transport. The street network is developed in a way that avoids, mitigates or minimises the impacts of transport on sites of historic, environmental, and cultural value.

Travelling within or through the region, is much safer. There are fewer people hurt or killed in transport related incidents, and there is an improvement in the attitudes of transport users to others using the network and adherence to the road rules. More people feel safe using the transport network and there are few people who are the victims of crime on the transport network.

The transport network in the urban area provides viable alternatives to travel by private car for most trips. It provides improved mobility options for people without access to a private vehicle and for moving vulnerable road users. The public transport system effectively connects people with key destinations, with trip times and comfort competing reliably and favourably with private cars for many trips. All services are fully accessible, including physical access, access to information and simple streamlined ticketing.

The transport system has a reduced impact on human health and the environment. The number of people exposed to health-impacting levels of pollution has reduced and there has been an increase in the number of people walking and cycling (and the distance they travel) improving public fitness and health. The impact on the environment arising from greenhouse gas emissions, energy use and pollutants entering the air and stormwater system is low.

Transport resources are used efficiently and sustainably. People are generally walking or cycling for short and medium length trips on pedestrian and cycling networks that are convenient, safe and pleasant to use. People are travelling less because they have access to excellent telecommunications, local job opportunities and live closer to their main destinations for work and play. People are increasingly using sustainable transport modes in recognition of the risk and impact of climate change and the cost of diminishing non-renewable resources. More people are using public transport to get around during the peak periods along key commuter routes. There are more vehicles running on renewable fuels that are non-polluting. There is improved transport fuel efficiency in moving both people and freight in the region.

More bulk freight is being moved by rail and coastal shipping. There is an increased use of sustainable products (recycled or renewable) and reduced amounts of waste going to landfills from transport projects. There is improved delivery of benefits over costs for transport projects, and cost effective maintenance of the network's assets.

The transport network is resilient and secure – it has an improved ability to recover from adverse economic and network conditions or events. There has been a significant shift towards the use of a broad range of energy efficient travel modes.

## 2.2 Objectives, outcomes and targets

Seven objectives have been defined that describe what the region will focus on to achieve the vision. The first five objectives align directly with legislation used to prepare this strategy. The last two have been identified as being important to Auckland and are continued from the 2005 Auckland Regional Land Transport Strategy.

Many of the objectives relate to each other. For example, improving access and mobility assists economic development as it improves the ability of employees to move around. Improving environmental sustainability by reducing air pollution also relates to protecting and promoting public health. However, in order to measure progress clearly, and reduce overlap between the objectives, outcomes and indicators, each objective has been framed to focus on a specific aspect of the vision.

The objectives are further defined by a set of specific outcomes desired by 2040. The outcomes have been described as 'main outcomes' and 'related outcomes' to clearly signal priorities for the strategy over the next 30 years. Main outcomes of the strategy are:

- improved regional and interregional freight efficiency
- improved transport system safety
- improved public transport (PT) accessibility for all
- reduced exposure to the negative impacts of transport pollution on human health
- increased walking and cycling
- reduced greenhouse gas emissions from the transport network
- improved public transport links to and between identified higher density growth centres
- improved value for money from transport investment.

Targets for 2040 (and intermediate targets for 2020) have been identified (where possible)<sup>5</sup> to signal the magnitude of changes that the RLTS seeks in relation to each of the strategy outcomes. These targets provide a benchmark against which to measure progress, enabling the region to monitor whether the strategy is achieving progress in the general direction set by the outcome and to the extent desired.

The targets are aspirational, reflecting the shift in emphasis and urgency needed to achieve the outcomes. Their achievement will be very challenging, but realistic if they are given adequate emphasis and funding, and all potential policy measures implemented.

In addition to indicators related to the outcomes targets, there is also a set of contextual measures gathered and reported as part of the monitoring programme. Contextual measures have no targets associated with them, primarily because it is not the intent of the RLTS to change these. However, they provide a view of the environment that the transport system operates within. They help to identify the demands on, and investment in, the transport system and can be used to identify trends that might be relevant to the strategy.

### Objective: Assisting economic development

An effective transport system will assist Auckland and New Zealand in achieving its economic potential by efficiently moving people, freight and services around and between regions. Businesses need to transport people and freight reliably between locations, often to meet 'just in time' requirements of their customers. A transport system that enhances quality of life will also help to attract and retain the skilled and talented people and innovative businesses that will assist in making Auckland an internationally competitive, inclusive and dynamic economy. Providing pedestrian and cycle friendly environments supports local economies, enabling social and business interactions.

This objective focuses on achieving an efficient, effective and reliable transport system that supports business growth, productivity and competitiveness. It is an objective of short to medium term priority for central government. The May 2009 Government Policy Statement on transport funding (GPS) specifies the short to medium-term impact it wishes to achieve to contribute towards economic growth and productivity as:

- improvements in the provision of infrastructure and services that enhance transport efficiency and lower the cost of transportation through:
  - improvements in journey time reliability
  - easing of severe congestion
  - more efficient freight supply chains
  - better use of existing transport capacity.
- better access to markets, employment and areas that contribute to economic growth
- a secure and resilient transport network.

A transport network can affect the health and productivity of employees. Additional economic development benefits, such as improved land values associated with good urban design, are discussed under Objective 6: Integrating transport and land use. Fuel price volatility and availability represents an economic risk to Auckland, which is addressed by this strategy as it reduces reliance on motorised vehicles. This is discussed in Chapter 6 Risks, monitoring and review.

The table below presents the outcomes defined to achieve this objective and the performance targets used to measure progress towards achieving the outcomes. The main outcome sought is improved regional and inter-regional freight efficiency, facilitating the most commercially efficient movement of freight to meet the diverse needs of Auckland's economy.

<sup>5</sup> A number of targets have not been established because of the lack of baseline data for the indicators. As noted in Chapter 6, further work is required on developing of a full and comprehensive monitoring programme.

Table 1: Assisting economic development – Outcomes and targets

Outcome	Performance target
Main Outcome: Improved regional and inter-regional freight efficiency.	Congestion for freight vehicles on the regional strategic road freight network will remain at or below the average of 2006-2009 levels (average daily speed of 45kph and average delay per kilometre of 0.53 minutes) <sup>6</sup> .
	Variability of journey times on the regional strategic freight network will remain at or below the average of 2006-2009 levels (27% of the average daily travel time).
	Contextual indicator: Level of congestion and variability across the strategic road network.
Improved ability of the transport system to recover from adverse events.	An indicator based around the resilience and security of the transport system to disruptive events. (Currently under development by the Ministry of Transport).
Improved contribution of the transport system to Auckland's competitiveness.	An indicator based around a rating of the transport system in international benchmarking. (Currently under development by the New Zealand Transport Agency).

### Objective: Assisting safety and personal security

People need to be able to travel throughout the region with confidence. This means minimising crashes, injuries and fatalities. It also means protecting property and creating places where people feel safe walking, cycling and using public transport. Safety and personal security need to be considered at all stages of the design, construction, operation and maintenance of all parts of the transport system.



Vehicle messaging sign on approach to the Auckland Harbour Bridge

<sup>6</sup> See Map 2 in Chapter 5.

This objective focuses on achieving a safe and secure transport system that supports safer communities, thereby reducing the number of transport related casualties and fatalities.

The table below presents the outcomes defined to achieve this objective and the targets used to measure progress towards the outcomes and the objective. The main outcome sought is improved transport system safety.

**Table 2: Assisting safety and personal security – Outcomes and targets**

Outcome	Performance target
Main outcome: Improved transport system safety.	<p>Reduction in road deaths to no more than 55 (in 2020) to 40 (in 2040) and serious injury from crashes to no more than 418 (2020) and 288 (2040). (61 deaths and 483 serious injury from crashes in 2007).</p> <p>Contextual indicator: The number of road deaths and serious injury from crashes for each mode of travel:</p> <ul style="list-style-type: none"> <li>• Car – 44 (2007)</li> <li>• Cycling – 0 (2007)</li> <li>• Motorcycling – 4 (2007)</li> <li>• Rail – 0 (2007)</li> <li>• Walking – 13 (2007)</li> </ul> <p>Increasing the perception of different transport modes as being safe:</p> <ul style="list-style-type: none"> <li>• Car – to more than 90% by 2040 (86% in 2008)</li> <li>• Cycling – to more than 80% by 2040 (26% in 2008)</li> <li>• Motorcycling – to more than 50% by 2040 (31% in 2008)</li> <li>• Public transport – to more than 80% by 2040 (68% in 2008)</li> <li>• Walking – to more than 80% by 2040 (57% in 2008)</li> </ul>
Improved road safety culture.	<p>Reduction in the proportion of drivers exceeding the speed limit on urban and open roads. (Urban roads – 78.6% and open roads – 54.5% in 2009).</p> <p>Improvement in the attitudes of transport users to others and to road rules (measured in terms of the perception that the risk of being caught is ‘small’ for speeding (30% in 2009), drink driving (42%) and not wearing a seat belt (57%)).</p>
Improved personal security.	<p>An indicator based around the number of people whose security is compromised on the transport network, and an increase in the number of people that feel safe to use the transport network. (Currently under development by MOT, cf Monitoring Framework SS011).</p>

### Objective: Improving access and mobility

Transport networks exist so people can get around easily and travel safely to work, places of education, shops, recreation and other destinations to meet their social, economic and cultural needs. Provision needs to be made for a range of travel choices, with some active modes such as cycling and walking, needing more active encouragement. To enable everyone to actively participate in society, special attention needs to be given to those whose travel choices are limited by disability, socioeconomic status, ethnicity or provision of choices. Personal security and safety concerns are significant barriers to increasing walking, cycling and public transport use that need to be addressed as part of improving access and mobility.

This objective focuses on improving the ability of people to get around easily, affordably and reliably, with travel options.

Outcomes and indicators focused on increasing walking and cycling are covered under “Protecting and promoting public health”. The table below presents the outcomes to achieve this objective and the targets used to measure progress towards achieving the outcomes and the objective.

The main outcome sought is improved public transport accessibility for all.

**Table 3: Improving access and mobility – Outcomes and targets**

Outcome	Performance Target
Main outcome: Improved public transport (PT) accessibility for all.	Increase in weekday PT mode share for all trips (measured in trip legs) to 7% (2020) and 12% (2040) (3.4% in 2007).
	Increase in the proportion of PT vehicles with low floors and wheelchair provision to 75% (2020) and 100% (2040). (56% in 2009).
	All services running on the rapid transit network (RTN) and quality transit network (QTN) meet the strategy’s minimum service level guidelines (outlined in Appendix A) by 2020.
	Improvement in the perceptions of the affordability of PT compared to private vehicle use. (23% feel that PT is more expensive than using a private vehicle in 2008). Contextual indicator: The level of PT subsidy per passenger. (\$2.45 in 2009).
Improved community connectedness.	Increase in walking and cycling mode share in urban areas (measured in terms of trip legs) to 23% (2020) and 35% (2040). (17.2% in 2009).
	Improvement in residents perception of walking and cycling accessibility (measured in terms of the proportion of people who felt that a person could get around the region extremely or quite well by walking or cycling). (Cycling 39% and walking 52% in 2008).
	Improvement in the perceptions of access to work and study (measured in terms of the proportion of people who rated each mode suitable for ‘most’ or ‘all’ of their trips to study or work). (PT 24%, private transport 67%, motorcycles 26%, cycling 14% and walking 17% in 2009).
	Improvement in regional public transport access to key employment areas and essential services (measured in terms of generalised costs <sup>7</sup> ).
	Completion of 50% of the regional cycle network by 2016 and 100% by 2026. (21% in 2009).
Improved quality of PT services.	Improvement in journey times on selected QTN and RTN routes versus equivalent journeys by car. (No baseline data available).
	The roll-out of QTN and RTN are delivered according to plan or faster.

<sup>7</sup> Travel cost made up of the financial cost and the time cost. Often calculated using transport models.

### Objective: Protecting and promoting public health

Transport plays a vital role in building healthy communities. Reducing the levels of congestion, the amount of travel by motor vehicles, and improving fuel quality and engine technology can improve public health by reducing harmful pollutants. Encouraging active transport choices including walking and cycling can also improve individuals' health – both mental and physical.

This objective looks to improve community health by promoting active modes of transport, and to protect public health by reducing exposure to health-impacting pollutants from the transport system.

Improved access to a variety of services increases community participation and improves public health. This area is dealt with under the improving access and mobility objective.

Improved street design, embodying good urban design principles, offers opportunities to increase active transport choices by increasing safety through natural surveillance and by reducing the speed of passing vehicles.

Transport can also provide benefits for mental well-being by providing safe and enjoyable walking, cycling, driving and public transport use. The assisting safety and personal security Objective addresses this area.

The table below presents the outcomes defined to achieve this objective and the targets used to measure progress towards the outcomes and objective.

The main outcomes sought are reduced negative impacts of transport pollution on human health and increased walking and cycling.

**Table 4: Protecting and promoting public health – Outcomes and targets**

Outcome	Performance Target
Main outcome: Reduced exposure to the negative impacts of transport pollution on human health.	A reduction in the average annual concentrations of transport-related pollutants (PM <sub>2.5</sub> , PM <sub>10</sub> , NO and NO <sub>2</sub> {NO <sub>x</sub> }) at selected roadside locations. The number of times that health standards for the following air quality measures are exceeded at selected roadside locations is no more than: NO <sub>2</sub> (9 exceedences per annum), PM <sub>10</sub> (1), PM <sub>2.5</sub> (0), CO (1). Improvement in noise-related exposure. (New measure under development).
Main outcome: Increased walking and cycling.	Increase in walking and cycling mode share in urban areas (measured in terms of trip legs) to 23% (2020) and 35% (2040). (17.2% in 2009). Increase in the average distance travelled by walking per person over five years of age to 1.3kms per day (0.65 kms per day in 2009). Increase in the number of cyclist movements at defined survey points.
Improved street design for people.	Improved residents perceptions of walkability of local neighbourhood. (New measure – baseline data not available).

### Objective: Ensuring environmental sustainability

The transport system and motor vehicles in particular are currently a major source of adverse environmental effects in the region. The transport system can have adverse effects on ecosystems (including communities), water and air quality, climate change, cultural and natural heritage sites, noise and amenity. The pressures imposed by the transport system on the natural and physical environment (including the built environment) are likely to increase as the region grows. A well-designed transport system reduces reliance on non-renewable resources, improves energy efficiency and fits into the natural and physical environment in ways which avoid, remedy or mitigate adverse effects on the environment.

This objective looks to reduce the negative impacts of the transport network on the environment, and promote sustainable approaches to transport to reduce reliance on non-renewable resources.

Auckland's transport network must take into account the effects it will have on the environment. This reflects greater global awareness of land transport environmental impacts and the need for sustainable development.

Some aspects of transport related pollution (particularly air and noise) have direct impacts on human health, and as a result, the outcomes and targets for air and noise pollution are covered under the objective protecting and promoting public health. The table below presents the outcomes defined to achieve this objective and the targets used to measure progress towards the outcomes and the objective.

The main outcome sought is reduced greenhouse gas emissions from the transport network.

**Table 5: Ensuring environmental sustainability – Outcomes and targets**

Outcome	Performance target																
Main outcome: Reduced greenhouse gas emissions from the transport network.	Reduce per capita greenhouse gas (gross CO <sub>2</sub> equivalent) emissions from domestic transport, relative to 2007 levels, by 23% by 2020 and 50% by 2040. (1,800 kg per capita per year in 2006).																
Increased use of sustainable modes of transport for moving people.	PT mode share during the morning peak period increases across the isthmus and CBD screenlines <table border="1" data-bbox="539 1509 1190 1688"> <thead> <tr> <th></th> <th>2006</th> <th>2020</th> <th>2040</th> </tr> </thead> <tbody> <tr> <td>Harbour Bridge (southbound)</td> <td>27%</td> <td>38%</td> <td>50%</td> </tr> <tr> <td>Isthmus (inbound)</td> <td>12%</td> <td>18%</td> <td>26%</td> </tr> <tr> <td>CBD (inbound)</td> <td>39%</td> <td>52%</td> <td>58%</td> </tr> </tbody> </table> Increase in walking and cycling mode share across CBD screenlines. (Walking 8.2% and cycling 1.4% in 2009).		2006	2020	2040	Harbour Bridge (southbound)	27%	38%	50%	Isthmus (inbound)	12%	18%	26%	CBD (inbound)	39%	52%	58%
	2006	2020	2040														
Harbour Bridge (southbound)	27%	38%	50%														
Isthmus (inbound)	12%	18%	26%														
CBD (inbound)	39%	52%	58%														
Improved protection of sites with historic, environmental and cultural value.	No accurate measures are available, however, transport projects are expected to undertake environmental impact assessments as standard project planning and design.																
Improved stormwater quality.	Measures of stormwater quality specifically related to transport causes are not available.																

Outcome	Performance target
Increased use of sustainable modes of transport for freight movement.	Indicators are currently under development by the Ministry of Transport (MOT) for measuring the mode share for freight movement <sup>8</sup> . Contextual indicator: Uptake of government incentives for adopting more fuel efficient technology options for freight vehicles.
Increased use of recycled and renewable material, and reduced waste from transport projects.	MOT is developing indicators for measuring the amount of recycled and renewable material used and volume of waste going to landfill <sup>9</sup> . Auckland Regional Council is also investigating the following options: <ul style="list-style-type: none"> <li>• The volume of recycled material used in transport projects increases.</li> <li>• The volume of waste from transport projects going to land-fill decreases.</li> </ul>

### Objective: Integrate transport and land use supportive of the Auckland Regional Growth Strategy (ARGS) and Auckland Regional Policy Statement (RPS)

A sustainable transport system is integrated with the land use pattern it serves and is served by. While Auckland continues to expand at the edges it is also becoming denser. The RGS aims to manage the majority of future growth into well-designed urban growth centres and corridors as identified in the ARPS (incorporating Plan Change 6). The successful development of these centres and corridors will require transport infrastructure that is well designed and supports urban development, reduces travel demand, and supports public transport and active modes.

This outcome involves ensuring that the transport system supports the RGS by improving public transport, roads and walking and cycling links to and between high density growth centres, as well as supporting the development of corridors.

<sup>8</sup> MoT Monitoring Framework TV023, TV024.

<sup>9</sup> MoT Monitoring Framework LM014, LM015.



State Highway 1 motorway crossing the Eastern rail line at the Mt Wellington interchange.

Many aspects of integrating land use and transport are covered under other objectives such as, protecting and promoting public health, improving access and mobility and achieving economic efficiency. The table below presents the outcomes defined to achieve this objective and the targets used to measure progress towards the outcomes and the objective.

**Table 6: Integrate transport and land use supportive of the RGS and ARPS  
– Outcomes and targets**

Outcome	Performance target
<p>Main outcome: Improved public transport links to and between identified higher density growth centres.</p>	<p>Increase in the number of identified growth centres with RTN services from 14 or 36% (2009) to 18 or 46% (2020) and 25 or 60% (2040) of the identified growth centres and corridors <sup>10</sup>.</p> <p>Increase in the percentage of people who live within 400m of a quality transit network (QTN) or 800m of a RTN stop.</p> <p>Increase in the relative land values within 800m of RTN stations.</p> <p>Contextual indicators:</p> <ul style="list-style-type: none"> <li>• Number of employees and businesses within defined growth centres.</li> <li>• Number of residents and number of dwellings within defined growth centres.</li> <li>• The proportion of growth in developments occurring outside the metropolitan urban limit (MUL).</li> <li>• Number of building consents in different land categories (general rural, countryside living, MUL, infill, growth centres, corridors).</li> </ul>

<sup>10</sup> Currently there are 42 identified growth centres and corridors across the Auckland region.

### Objective: Achieving economic efficiency

Economic efficiency means that the region's limited financial resources invested in the transport system minimises costs and externalities and maximises the tangible and intangible benefits it generates (the benefits are described in the preceding six objectives). Transport initiatives that deliver better regional fuel efficiencies will also result in significant benefits such as reduced cost, improved security of energy supply and reduced greenhouse gas emissions.

This outcome looks to ensure that better regional fuel efficiency and investments in the transport system deliver value for money, for both new investment and for maintaining and utilising the existing transport network infrastructure.

The table below presents the outcomes defined to achieve this objective and the targets used to measure progress towards achieving the outcomes.

The main outcome sought is improved value for money from transport investments.

**Table 7: Achieving economic efficiency – Outcomes and targets**

Outcome	Performance target
Main outcome: Improved value for money from transport investments.	No projects deliver less than the projected benefit/cost ratio. Contextual indicator: Maintenance costs of road by vehicle kilometres travelled (VKT).
Improved use of the existing transport network.	Increase in the average number of PT boardings per person per annum from 40 (2009) to 74 (2020) and 143 per annum (2040). Contextual indicators: <ul style="list-style-type: none"> <li>Volumes of vehicles at locations on network over day.</li> <li>PT passenger km/seat km.</li> </ul> Increase in the average occupancy rate of vehicles. (1.3 persons per vehicle in 2009).
Increased energy efficiency from the transport network.	Reduction in energy use in petajoules (PJ) per person kilometres travelled (PKT) by domestic transport <sup>11</sup> . Contextual indicator: <ul style="list-style-type: none"> <li>Proportion of energy use in the transport sector by source of energy (petrol, diesel, liquefied petroleum gas (LPG), compressed natural gas (CNG), and electricity in the transport sector.</li> </ul> Reduction in transport fuel spend as a percentage of GDP.

## 2.3 Relationships between objectives and outcomes

As outlined in section 2.2 above, many of the objectives relate to each other and there are also overlaps in the outcomes expected. However, for the purposes of measurement, outcomes have been deliberately chosen to fit with only one objective, that which is perceived to have the closest relationship (defined as the primary relationship). Other relationships have been defined as secondary. The matrix on the next page illustrates these relationships.

**Table 8: Relationships between objectives and outcomes**

Key: \*\* = primary relationship, \* = secondary relationship

Outcomes	Objectives						
	Economic development	Safety & security	Access & mobility	Public health	Environmental sustainability	Integrate transport & land use	Economic efficiency
Improved regional and inter-regional freight efficiency.	**		*			*	*
Improved ability of the transport system to recover from adverse events.	**		*				*
Improved contribution of the transport system to Auckland's competitiveness.	**	*	*	*	*	*	*
Improved transport system safety.		**	*	*		*	*
Improved road safety culture.		**		*			*
Improved personal security.		**	*	*			*
Improved public transport (PT) accessibility for all.	*		**	*	*		*
Improved community connectedness.	*		**	*	*	*	*
Reduced PT travel time relative to travel by private car.	*		**	*	*		*
Reduced exposure to the negative impacts of transport pollution on human health.	*			**	*		*
Increased walking and cycling.	*	*	*	**	*	*	*
Improved design of streets for people.	*	*	*	**	*	*	*
Reduced greenhouse gas emissions from the transport network.	*			*	**		*
Increased use of sustainable modes of transport for moving people.	*		*	*	**	*	*
Improved protection of sites of historic, environmental and cultural value				*	**	*	
Improved stormwater quality.				*	**		
Increased use of sustainable modes of transport for freight movement.	*		*		**		*
Increased use of recycled and renewable material and reduced waste from transport projects.				*	**		*
Improved PT links to and between identified higher density growth centres.	*		*	*	*	**	*
Improved value for money from transport investments.	*		*		*		**
Improved use of the existing transport network.	*		*		*		**
Increased energy efficiency from the transport network.	*		*		*		**

## Chapter 3

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# Challenges – Nga Whakatara

## Chapter 3: Challenges – Nga Whakatara

Meeting the objectives identified in Chapter 2 poses short-term and longer term challenges. The challenges are discussed in this chapter, under the headings of each objective. Current trends facing the region provide the background for strategic priorities, options and policies presented in Chapters 4 and 5.

The central challenge that has faced Auckland's transport system since the first RLTS was created in 1993 is traffic congestion caused by population growth and decades of under-investment in public and active mode transport networks. Building a resilient transport network that keeps the region moving reliably and rapidly under all conditions will be a key contributor to Auckland's standing as an international city-one that attracts migrants, businesses and tourists. Achieving this goal with limited funding is an added challenge.

Since the 2005 RLTS, three additional challenges have been added to the region's transport network. They affect not only the destination itself but how we get to that destination. These challenges are:

- to support the development of a compact urban form
- to support national economic growth and productivity
- and to reduce the impact of transport on the environment, such as climate change and energy use.

### 3.1 Economic development

#### Current trends

Some relevant trends are highlighted as follows:

- Travel distances – Almost half of the morning peak period trips are less than 5km in length and almost 20 per cent of trips less than 2km. At present, the majority of these short local journeys are by car and often school related. The average length of work related trips is around 11km in the morning peak.
- Car ownership – There is approximately one car in the region for every two people. The total number of additional cars in the region is estimated to increase by 300,000 by 2021<sup>12</sup>.
- Access to public transport – The highest levels of public transport accessibility continue to be based around the main transport routes that converge on Auckland's central business district (CBD), with lower levels of accessibility in peripheral areas of the region (relative to the distance from the CBD).
- Congestion – Peak period congestion (measured in terms of delay per kilometre) has fluctuated over the last few years on the region's main road network. The number of cars on the strategic network during the peak period has in recent times also been suppressed by other external factors such as rising fuel prices and a shift to other modes.
- Freight movements – Current freight movements by road transport are dominated by trips taken within the region (against inter-regional trips). National estimates on the volume of future freight movements indicate significant increases over the next 20 to 30 years.

Table 9: Transport targets for ensuring economic development and current situation

Targets	Current situation
<p>New Zealand Transport Strategy (NZTS) national target – For identified critical routes:</p> <ul style="list-style-type: none"> <li>• Improve reliability of journey times.</li> <li>• Reduce average journey times.</li> </ul>	<p>Since 2006 average daily travel speed across the entire network has declined steadily from 44kph to 41kph in 2009. The morning peak travel speed between 2006 and 2009 decreased from 36kph to 33kph. For economic development purposes critical routes are defined as the Auckland Regional Strategic Freight Network (ARSFN) (Map 1), see below box for additional analysis.</p>
<p>RLTS target<sup>13</sup> – Maintain the level of congestion for freight vehicles on the regional strategic road freight network<sup>14</sup> to or below the average of 2006-2009 levels.</p>	<p>The regional strategic freight network average daily speed decreased slightly between 2006 and 2007 from 48 kph to 44 kph and has held steady at that speed through 2009<sup>15</sup>. The daily average congestion indicator on the same network increased between the years 2006 and 2007 from 0.48 minutes of delay per kilometre to 0.55 minutes of delay per kilometre and has held steady at that rate through 2009.</p>

### Challenges

Transport policy and investment needs to play its part in supporting economic recovery from the global downturn in the short term and support economic growth in the longer term.

Economic activity and growth in the region is affected by the movement of people, goods and services both within the region and by trips that cross regional boundaries. Maintaining and increasing the level of regional economic productivity in the near and long term is affected by transport factors including travel distances, increasing numbers of cars on the road, limited access to reliable and affordable public transport, as well as other viable alternatives.

These factors have contributed to increasing traffic congestion and delays along some of the region's main transport routes. Congestion and delays have a direct impact on the cost of doing business and contributes to loss of productivity from people sitting in congestion. This includes the ability to move freight around the region and servicing key infrastructure, such as the port and airport.

Two main challenges for the region to address, with increasing uncertainty in global economic conditions, are to:

- minimise transport related costs of doing business in a way that balances the region's objectives around energy use and managing environmental standards
- develop a regional transport network that demonstrates a high level of resilience to changing economic and network conditions.

For instance, the challenge to reduce local congestion with practical active modes for short distance (1.5km) vehicle trips during the peak period, seems simple but is limited by perceptions of safety and other factors that prevent people from taking advantage of other transport options, such as lack of investment in walking and cycling infrastructure.

Furthermore, the regions high reliance on road based freight movement means there are also challenges to identify practical and cost effective alternatives, including consideration of coastal shipping and rail.

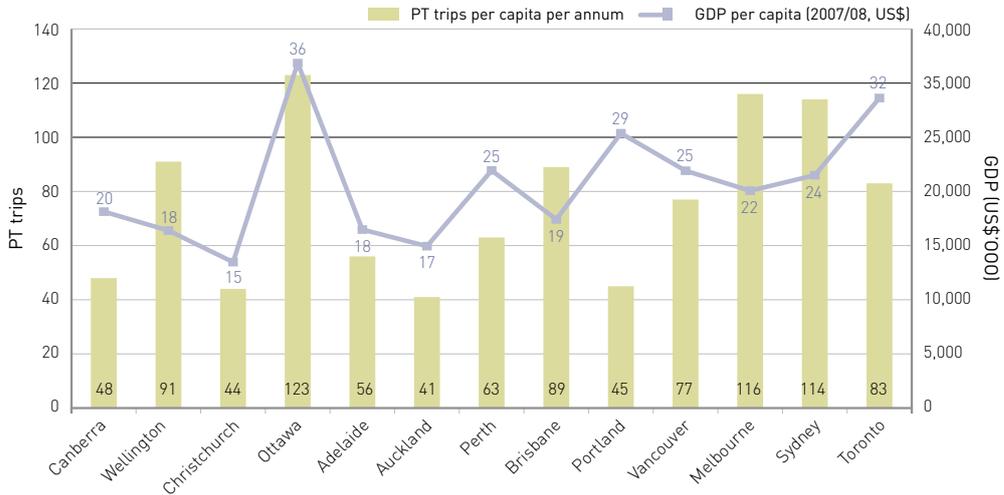
<sup>13</sup> As set out in Chapter 2.

<sup>14</sup> see Map 2 in Chapter 5.

<sup>15</sup> Auckland Regional Council (ARC) and New Zealand Transport Agency (NZTA) survey as part of a national survey.

As shown in Figure 2 below, there is a link between use of public transport and the economic prosperity of cities. It is noted that Auckland does not rank well on either count.

Figure 2: Public transport trips and GDP per capita (2007/08 US\$)



Source: Booz Allen Hamilton

## 3.2 Safety and personal security

### Current trends

Road safety in Auckland is a major issue. Although road deaths in the region have generally declined over the last decade (from 105 deaths in 1998 to 61 deaths in 2007), the number of overall road injuries has increased both in real terms and per capita in the last eight years. The number of injuries and fatalities is too high and needs to be reduced, especially as the region grows.



NZ Police compulsory breath testing checkpoint

Table 10: Transport targets for ensuring safety and personal security – current situation

Targets	Current situation
NZTS national target: Reduce road deaths to no more than 200 per annum by 2040.	Between 1998 and 2007 road deaths in Auckland fell from 105 to 61.
NZTS national target: Reduce serious injuries on roads to no more than 1,500 per annum by 2040.	Between 1998 and 2007 serious injuries on roads fluctuated between 639 and 483 with no clear trend.
RLTS target <sup>16</sup> : Reduce road deaths to 40 and serious injury from crashes to 288 by 2040.	In 2007 the Auckland region had 61 road deaths and 483 serious injuries from crashes.

### Challenges

In addition to addressing serious road injuries and casualties, it is important that all transport users have a high degree of personal security, both real and perceived. The transport system should provide an environment where personal security is assured, whether the individual chooses to travel by private vehicle, public transport, walking or cycling.



School zone speed limit signage

<sup>16</sup> As set out in Chapter 2.

## 3.3 Access and mobility

### Current trends

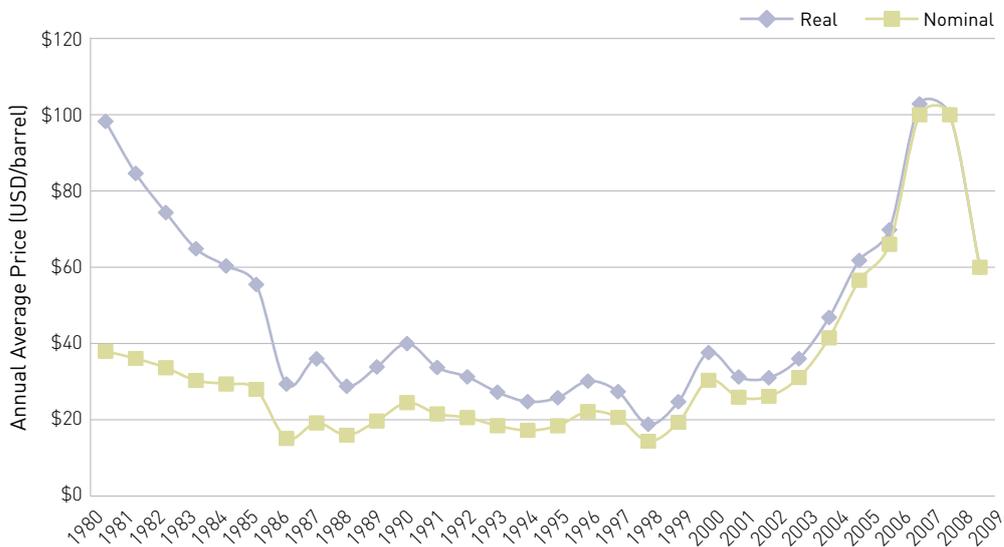
The primary goal of transport policy is accessibility. Accessibility refers to the ease of reaching goods, services, activities and destinations (together called opportunities). Mobility or the ability to travel is a means of achieving accessibility. A regional transport policy needs to ensure there are sufficient transport options for people and businesses to be able to access the opportunities they seek, when they want to.

Accessibility can be hindered by a number of factors. These include an urban form designed around the private car, the lack of modal choice, the time a trip takes, affordability and poorly designed infrastructure that creates barriers to accessibility.

Another challenge is to provide for the needs of those whose travel choices are limited by barriers or disabilities (eg visual, hearing or physical impairments), to enable them to participate in community activities and services.

A significant factor which will influence access and mobility in the foreseeable future will be rising and fluctuating fuel prices. As shown in the figure below, the real price of oil has increased steadily over the last decade with a rapid acceleration in oil prices occurring from 2002 to 2008 dropping sharply thereafter. The volatility of oil prices has highlighted the need to reduce the reliance of transportation on non renewable fossil fuels. Although the world economic downturn in 2008 has resulted in decreasing oil prices, the longer term outlook is for shortages and higher prices.

Figure 3 Recent trends in oil prices (nominal and real price) 1980 to 2009



Source: US Energy Administration

In the next 10 years, oil prices are expected to be volatile, with petrol and diesel prices potentially stabilising at around \$3 per litre. Beyond this period, oil prices are expected to plateau but remain unstable. The risks associated with higher fuel prices can be mitigated with an appropriate suite of mutually reinforcing transport and land use policies which would make the transport system more resilient in the face of volatile fuel prices and better enable an enduring improvement in accessibility and mobility. This will require a significant shift to a broad range of energy efficient travel options.

Improvements in the public transport network and services have increased growth in public transport trips into the Auckland CBD and total boardings over the last decade. Growth has also been assisted by higher fuel prices. Public transport patronage is currently growing at about 4 per cent per year and this growth is estimated to continue with at least 11 per cent of peak period trips to be taken by public transport by 2016.

**Table 11: Transport targets for ensuring access and mobility – current situation**

Targets	Current situation
NZTS national target: Increase walking, cycling and other active modes to 30% of total trips in urban areas by 2040.	Currently 18% of trips in New Zealand are active mode trips <sup>17</sup> .
NZTS national target: Increase use of public transport (PT) to 7% of all trips by 2040.	Current PT daily mode share is 2.2% in New Zealand.
RLTS target <sup>18</sup> : PT mode share increases to 12% of all trips by 2040.	Current PT mode share is 3.4% in Auckland.
RLTS target <sup>19</sup> : Walking and cycling mode share increases to 35% of total trip legs in urban areas by 2040.	Walking and cycling and other active modes are 17.2% in Auckland.

<sup>17</sup> 2010 Auckland Regional Land Transport Strategy (the RLTS) Working Paper 08 Trends and Issues.

<sup>18</sup> As set out in Chapter 2.

<sup>19</sup> As set out in Chapter 2.

## Challenges

A key challenge for the region is to make public transport (PT) and active mode alternatives to the private vehicle attractive enough to compete favourably with the car in terms of travel time, costs (eg parking availability and price) and other benefits, such as health and community participation.

PT is the main transport alternative for most peak period commute journeys. Despite recent positive trends, there are major challenges to better match transport choices with peoples origins and destinations.

### Some of the specific challenges associated with transport choices include:

- providing options for the proportion of the population without access to a private vehicle (eg people who choose not to drive, the transport disadvantaged who are unable to drive and children)
- addressing the key findings of The Accessible Journey: Report of the Enquiry into Accessible Public Land Transport
- allocating of resources to provide transport choices to and from peripheral settlements (eg rural areas)
- better alignment between where land use growth is occurring and where transport improvements are planned
- availability of transport options such as public transport in response to car dominated travel
- recognising and planning for mobility options that address a variety of trips and travel needs (eg non CBD peak period trips, short local trips and longer distance cross-region trips)
- providing infrastructure and facilities that encourage walking, cycling and public transport use.

## 3.4 Public health

### Current trends

The region's transport system provides the basic links and connections that support community and social interactions. Transport provides both opportunities and barriers to employment, education, shopping, health care and leisure.

The planning, design, development and operation of the transport system can influence the safety and health of communities in terms of:

- the region's population being exposed to risk from air pollution, noise, vibration and road accidents/fatalities. Vehicle emissions contribute to mortality rates, increased cardiovascular and respiratory illnesses, medical costs and losses in productivity
- access to affordable transport options in areas with low social and economic resources
- levels of amenity and sense of personal security in and around transport facilities and town centres
- moving vulnerable road users including the elderly, the young and people with disabilities
- enabling opportunities for exercise that contribute to fitness and general health (eg walking and cycling)
- severance arising from transport corridors reducing community linkages and access by walking and cycling.

Table 12: Transport targets for ensuring public health and the current situation

Targets	Current situation
NZTS national target: Reduce the number of people exposed to health endangering noise levels from transport.	No data available. However, the impacts and potential exposure to noise will result from increasing vehicle kilometres travelled (VKT), increasing speeds and denser urban areas. Indirect health effects include sleep disturbance, possible links to coronary artery disease and stress levels and performance of school children <sup>20</sup> . There is some subjectivity around the level of impact from transport related noise and the impacts are often experienced at the local level. It is difficult to quantify at the regional level the health consequences of noise levels. Residents next to motorways exposed to unreasonable noise (>65dbA Leq) may face possible negative health effects.
NZTS national target: Reduce the number of people exposed to health endangering concentrations of air pollution in locations where the impact of transport emissions is significant.	Air pollution from motor vehicles in the region causes around 255 people (over the age of 30) to die prematurely <sup>21</sup> .
RLTS target <sup>22</sup> : The number of exceedences per annum of health standards for the following air quality measures is no more than: NO <sub>2</sub> (nine exceedences per annum), PM <sub>10</sub> (1), PM <sub>2.5</sub> (0), CO (1).	Overall the number of exceedences of health standards has dropped from 53 in 1998 to 9 in 2007. However this overall drop is masked by a large decline in CO from 32 to 0. PM <sub>2.5</sub> and PM <sub>10</sub> has remained relatively flat. NO <sub>2</sub> has fluctuated dramatically from year to year with a range between 38 to 1.

20 Intersection between transport and health: impacts of transport on health, background paper by the Public Health Advisory Committee, April 2003, page 22.

21 "Health effects due to motor vehicle air pollution in New Zealand", Report to the Ministry of Transport, G.W. Fisher, K. A. Rolfe, Prof. T. Kjellstrom, Prof. A. Woodward, Dr S. Hales, Prof. A. P. Sturman, Dr S. Kingham, J. Petersen, R. Shrestha, D. King, January 2002.

22 As set out in Chapter 2.

### Challenges

Health effects from air pollution – The Auckland region is not currently meeting national environmental standards for air quality. It is estimated that the region must halve its PM<sub>10</sub> emissions by 2013 to meet the national standard. Air pollution from motor vehicles in the region causes around 255 people (over the age of 30) to die prematurely.

Access to transport options in areas of high deprivation – In recent years there has been an improvement in the percentage (estimated change from 16 per cent in 2001 to 25 per cent in 2006) of people living in areas of higher deprivation with access to high levels of public transport service.

The overall challenge is to improve transport opportunities while minimising adverse impacts on public health and enhancing positive effects. Transport can protect and promote public health through encouraging walking, cycling and other active modes, increasing economic wellbeing, participation in society, reducing air pollution and adverse noise and vibration.

## 3.5 Environmental sustainability

### Current trends

The majority of current transport related activities are energy intensive and rely on consuming non-renewable resources in terms of fuel, materials and land use. These activities contribute to the larger issues such as greenhouse gases (eg CO<sub>2</sub> emissions) and climate change.

At the local level, the location, form, scale, construction and use of the transport system can impact on:

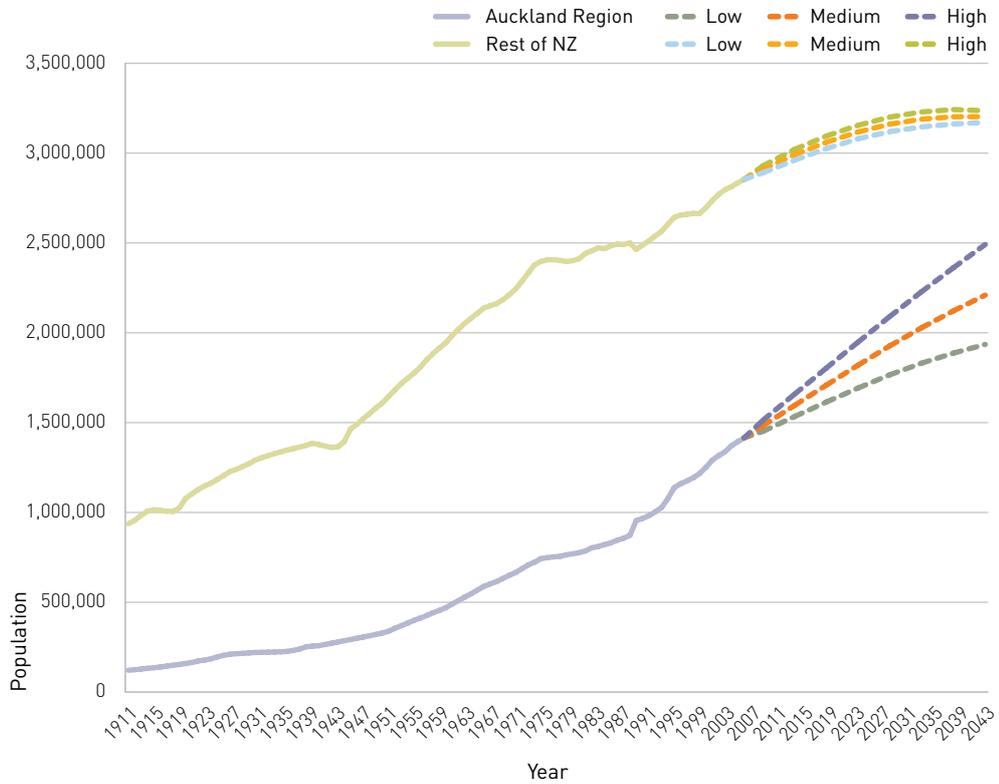
- the loss or degradation of waterways, freshwater harbours or marine habitats
- sensitive marine receiving environments such as harbours and estuaries due to the discharge of stormwater contaminants, including sediment
- stormwater flows being increased and/or diverted, leading to flooding and erosion,
- noise and vibration
- the loss or reduction of native plants and wildlife
- the loss or fragmentation of natural and cultural heritage, public open space and landscape
- air quality.

### High population growth

The projected population growth in Auckland will undoubtedly increase travel demand significantly. Current projections estimate that the region's population will increase from 1.4 million to 2.1 million people by 2041<sup>23</sup> as shown in the figure on the next page. The consequences of this growth in demand will depend on the development of effective and robust transport policy at national, regional and local levels.

23 Based on 2006 medium scenario population projection.

Figure 4: Auckland region population projection



Source: NZ Statistics and Auckland Regional Council

The future population growth expected in the region will bring with it an additional 350,000 dwellings and 370,000 jobs. A major challenge will be to allocate transport resources that can meet the rising demands from the expected population growth.

### Greenhouse gas emissions (GHG)

Currently, motor vehicles are almost exclusively fuelled by fossil fuels, such as petrol and diesel, which result in GHG emissions. The latest New Zealand energy greenhouse gas inventory shows that emissions from the domestic transport sector are tracking at 64 per cent higher than 1990 levels. The bulk of this increase comes from road transport emissions which have grown by more than 68 per cent.

Current estimates indicate that CO<sub>2</sub> emissions, a subset of GHG, from the Auckland transport network will increase by 22 per cent by 2016, from 2006 levels. This works out to be a 6 per cent reduction in CO<sub>2</sub> on a per capita basis (based on forecasted population growth). While improvements have been made towards reducing emissions, there is still considerable work to be done to halve per capita GHG emissions from transport, and to reduce total GHG emissions to below 1990 levels.

The current national Kyoto protocol commitment requires New Zealand to reduce its greenhouse gas emissions to 1990 levels, by 2012. The government will be participating in the international negotiations in Copenhagen in December 2009 to set the emissions target for 2020, and early indications are that New Zealand will be opting for a 10 to 20 per cent reduction on 1990 levels. In the longer term, the government is seeking a 50 per cent reduction on 1990 levels by 2050.

**Table 13: Transport targets for ensuring environmental sustainability and the current situation**

Targets	Current situation
NZTS national target: Halve per capita greenhouse gas emissions from domestic transport by 2040 (relative to 2007 per capita emissions).	Estimated 6% reduction in CO <sub>2</sub> per capita by 2016.
NZTS national target: Reduce kilometres travelled by single occupancy vehicles (SOV), in major urban areas on weekdays, by 10% per capita by 2015.	No available data on SOV kilometres travelled. 2006 census average of 1.07 people per vehicle. 2006 private vehicle occupancy survey of 1.2 people per car and in 2009 1.28 per car <sup>24</sup> .
NZTS national target: Increase coastal shipping share of inter-regional freight to 30% of tonne kilometres by 2040.	Coastal shipping is currently at 15% <sup>25</sup> .
NZTS national target: Increase rail share of freight to 25% of tonne kilometres by 2040.	Rail freight shipping is currently at 20% <sup>26</sup> .
RLTS target <sup>27</sup> : Halve per capita gas emissions from domestic transport by 2040 (relative to 2007).	Estimated 6% reduction in CO <sub>2</sub> per capita by 2016.

### Challenges

The NZTS records a range of policy contributions that will be necessary to meet the objectives. These include integrated planning, making the best use of existing networks and infrastructure, investing in critical infrastructure, increasing the availability and use of public transport, cycling, walking and other shared and active modes, considering options for generating revenue, using new technologies and fuels, working within and respecting the ecological constraints of the region, and maintaining international freight links.

The changing make-up of the population will also present challenges in terms of how these transport demands are to be met. These include an aging population characterised by declining birth rates and increasing life expectancy.

<sup>24</sup> See Target 7 for ensuring economic efficiency.

<sup>25</sup> National Freight Demands Study, September 2008.

<sup>26</sup> National Freight Demands Study, September 2008.

<sup>27</sup> As set out in chapter 2.



Britomart Transport Centre in Auckland's CBD, adjoining the bus station and ferry terminal

## 3.6 Integrate transport and land use

### Current trends

Transport and land use planning determine the efficiency, effectiveness, resilience, affordability and environmental sustainability of a transport system. By shaping the pattern of development and influencing the location, scale, density, urban design and mix of land uses, planning can help to facilitate an efficient transport and land use system. It can do this by:

- reducing the need to travel
- reducing the length of journeys
- providing a choice of travel modes
- making it safer and easier for people to access services
- reducing the adverse impacts of transport on communities and the natural environment
- improving freight access to key terminals and improving freight flows
- enabling efficient distribution of goods and services to business and the community
- making roads and streets safer for economic and social purposes
- ensuring flexibility to meet the demands of a changing economy and market conditions.

Integrating transport and land use planning lies at the heart of the Auckland Regional Growth Strategy (RGS) and Auckland Regional Policy Statement (RPS). Their spatial vision focuses on accommodating growth primarily in a network of highly accessible centres, from the neighbourhood level up to the regional CBD. Concentrating growth, and high trip generating activities in particular, in centres and corridors, linked by high frequency public transport corridors and good walking and cycling connections where appropriate, allows people to access opportunities with less need for travel, and improves the feasibility of public transport.

Where we travel from and where we travel to in the region is largely determined by land use planning. Historical land use planning in the region has tended to reinforce patterns of transport demand that are heavily reliant on cars. Decisions on proposed land use directly impacts on transport and vice versa.

In rural areas with low population and dispersed activities, it is more difficult to achieve the benefits of land use transport integration that exist for urban areas. Nevertheless, a contribution can be made through focusing growth in centres and appropriate corridors where feasible.

The Growing Smarter Report (2007) on the implementation of the RGS and the ARPS highlighted that a pattern of land use since the plans' inception was consistent with the intended spatial outcomes to a certain extent. But there was also a prevailing pattern of land use which was contrary to these and which accordingly threatens the effectiveness of the transport strategy unless addressed.

**These contrary land use outcomes include:**

- population growth outside the Metropolitan Urban Limits (MULs) is faster than that within
- little significant residential intensification in centres other than the CBD
- low density development in centres doesn't support the provision of public transport
- retail activity is becoming more dispersed and less centres based, so is not supportive of growth in centres
- community facilities (sports, health, education) are not establishing in growth centres
- very little comprehensive development taking place in centres
- a looming shortage of industrial land in the region, not least due to commercial activity consuming suitable land
- lack of alignment in planning, co-ordinating and delivering infrastructure to support the RGS.

**Table 14: Transport targets for ensuring the integration of transport and land use – current situation**

Targets	Current situation
RLTS target <sup>28</sup> : The planned levels of service to and between growth centres are achieved within defined timeframes.	36% of growth centres receive rapid transit network (RTN) services and 100% of growth centres receive quality transit network (QTN) service.

Challenges for the region to achieve better integration between land use and transport include:

- improving public transport provision as a catalyst for intensive development
- managing land use to more effectively support local access and public transport by promoting and providing for appropriately located and designed land uses, and restricting inappropriate land uses
- ensuring that the needs and links of rural areas, are sufficiently provided for, noting their low population densities, dispersed activities and contribution to the regional economy
- co-ordinating the use of transport corridors by utilities in an effective and efficient manner
- co-ordinating different transport and land use mechanisms for achieving comprehensive development in town centres
- ensuring the impacts of transport on sites of historic, environmental or cultural value are avoided, minimised or mitigated
- Identifying, acknowledging and celebrating the environmental and cultural heritage significance of traditional Māori transport routes and portages, along with early European transport developments such as the original 'main trunk line' and rail stations established from the 1880s.

## 3.7 Economic efficiency

### Current trends

There was a significant gap between the desired outcomes of the 2005 Regional Land Transport Strategy and the money available to achieve it, particularly for public transport and travel demand management.

The availability and allocation of funds for regional transport priorities is an ongoing issue. Funding certainty is a fundamental consideration that involves central, regional and local government interests.

Achieving the modal targets, increasing occupancy and fuel efficiency, as desired by central government, will require a fundamental change in how people use the transport network and how it is funded.

**Table 15: Transport targets for ensuring economic efficiency – current situation**

Targets	Current situation
RLTS target <sup>29</sup> : The average number of PT trips per person increases from 42 to 143 per annum.	Since 2000 the average number of PT trips per person has fluctuated slightly between 35 and 40, with no clear trend. The region had 35 average number of PT trips per person in the 2007/08 years.
RLTS target: The occupancy rate of vehicles increases.	According to the ARC cordon count taken in 2001, 2006 and 2009; occupancy rates have remained relatively constant since 2001 at 1.28, dipped slightly in 2006 to 1.21 and increased back up to 1.28 in 2009.

### Challenges

#### Fuel efficiency

In New Zealand our energy use is dominated by transport and we rely on imported oil for approximately half of our energy needs. In the case of fossil fuels, some commentators think we are fast approaching the depletion of oil. This makes us vulnerable to international supply or price disruption. The domestic transport sector in 2008 accounted for over 42 per cent of the national consumer energy usage.<sup>30</sup> As outlined in Section 3.3, oil prices are predicted to continue to be volatile and will increase significantly as the current global financial crisis begins to abate.

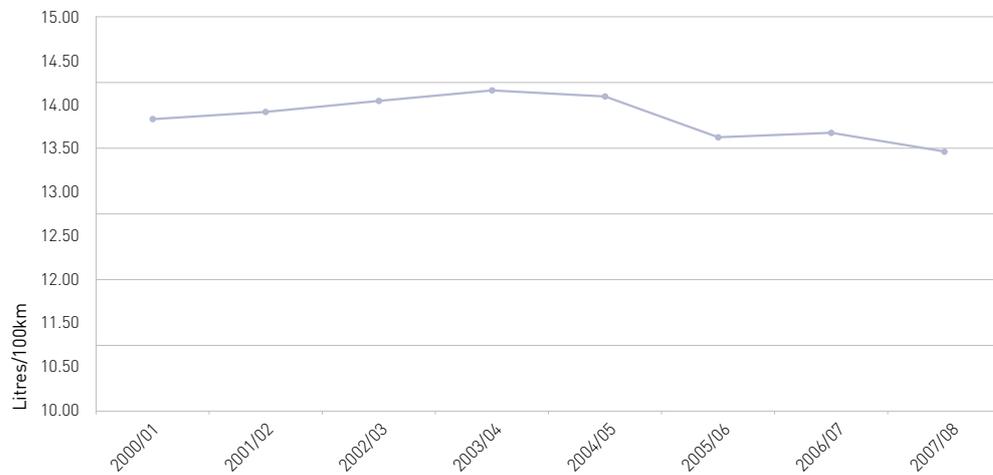
Transportation accounts for approximately 56 per cent of all energy use in the region, with more than half of this used in road transport.<sup>31</sup> In the past decade total sales of liquid transport fuels (petrol and diesel) have increased rapidly by 71 per cent above 1990 levels but evening off in recent years. Whilst still high, both fuel use per capita and average fuel consumption in Auckland have also begun to improve since recording peaks in 2004 as seen in the figure below on average fuel consumption. Part of the reason for these improvements is the impact of more fuel efficient vehicles entering the fleet. Transport initiatives that deliver better regional fuel efficiency will also result in significant co-benefits in terms of reduced costs, improved security of energy supply, and reduced greenhouse gas emissions.

<sup>29</sup> As set out in Chapter 2.

<sup>30</sup> New Zealand Energy Data File, Ministry of Economic Development, 2 July.

<sup>31</sup> Regional Energy-use Database, Auckland Regional Council.

Figure 5: Average fuel consumption of the Auckland region (per capita per 100km)



### Funding

Challenges influencing the availability and allocation of funding include:

- equitable financial assistance rates for different modes. For example, state highways are fully funded from the Land Transport Fund, while public transport services and infrastructure, local roading, walking, cycling, and travel demand management generally require a local body contribution of around 50 per cent.
- limitations on the level of revenue gathered and allocated to transport infrastructure, planning and services by local and central government.

The funding constraints around transport mean that there will be challenges to identify and assess new funding from alternative sources, such as:

- development levies as land values increase
- private-public partnerships for transport or urban redevelopment projects
- road pricing revenues.

## Chapter 4

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# The Strategy – Te Rautaki

## Chapter 4: The Strategy – Te Rautaki

This chapter sets out in broad terms the transport strategy for the Auckland region for the next 30 years. It discusses the strategic priorities for the transport network along with four initial options that were tested to identify the best of the possible approaches. A preferred strategic option is identified, along with the strategic role each transport mode plays.

The RLTS 2010 builds on the work that went into developing five previous strategies between 1993 and 2005. Each of these strategies involved extensive consultation.



Albany bus station – improving public transport and promoting the different active transport modes of walking and cycling

Since the completion of the RLTS 2005, concerns have strengthened, both internationally and within New Zealand, over the contribution of the transport sector to climate change (particularly through the emission of greenhouse gases), the unreliability of transport fuel supply and the volatility of fuel prices. These increasing concerns have emphasised the need to reduce reliance on a car based society and economy through the development of a more sustainable urban form, the provision of more transport choice by improving public transport, walking and cycling and encouraging people to use more sustainable and energy efficient modes of travel. More recently, the global economic crisis has led to a focus on economic growth and productivity. Making best use of existing transport infrastructure, particularly the regional arterial road network, will be an important means of achieving this aim.

The National Energy Efficiency and Conservation Strategy (2007) and the New Zealand Transport Strategy (2008) reach similar conclusions. This strategy continues to be led by public transport improvements. It addresses growing concerns about environmental sustainability, network resilience and managing an increasing demand for travel, and includes a renewed emphasis on economic growth and productivity. The actions required to deliver the strategy are described in Chapter 5 Policies.

## 4.1 Strategic priorities

There are six strategic priorities for Auckland's land transport network that can best achieve the objectives, targets and outcomes identified in Chapter 2.

### Support and contribute to a compact and contained urban form consisting of centres, corridors and rural settlements

Investment in transport infrastructure can support or frustrate the location of land uses. For example, high quality rail services can enable higher density mixed use development around stations while new roads can encourage development on the fringes of the urban area. The way in which land uses are arranged is the main driver of transport demand. The location of households, businesses, recreational, educational, cultural and health facilities determines the trips necessary to link activities, and strongly influences the mode of transport used.

Regional land use policy (as articulated in the Auckland Regional Policy Statement and Regional Growth Strategy), supports concentrated residential and business growth in denser, well-designed, mixed-use centres and corridors. Primarily these are located on the rapid transit and quality transit networks. Managing growth in this way will lead to a reduction in the number and length of vehicle trips, and will reduce the need for car travel by enabling a greater proportion of trips to be made by public transport, walking and cycling. The increased accessibility provided by the rapid transit and quality transit networks will allow these centres to achieve a critical mass of population, support a range of local enterprises, improve equity of access and improve urban amenity. Attention to street design that fosters walking, cycling and public transport use is important.

### Implementing behaviour change programmes

There are a significant number of trips currently made by car which could equally be made by other modes, such as public transport, walking, cycling, or ride sharing. Behaviour change programmes reduce car use by understanding local needs, investing in local improvements (eg through neighbourhood accessibility plans, cycle ways and footpaths) and educating people about transport alternatives. School, university, business and community travel plans are successfully changing travel behaviour.

### Continue major investment in rail, bus and ferry infrastructure and service improvements

Investment in public transport, both services and infrastructure, has not kept pace with the growth in travel demand. This means that for many people there is little or no choice but to use private vehicles. Those with limited or no access to cars are severely disadvantaged. It also means Auckland has only very recently started to develop high capacity, reliable public transport on major routes where public transport has the ability to significantly contribute to reducing congestion and providing more environmentally sustainable transport.

A major investment programme is now underway to improve public transport, by electrifying the rail system and completing the Northern Busway and by improving services on these routes. The region has placed a great deal of emphasis on the development of rapid transit and quality transit networks. The rapid transit network (RTN) comprises the Northern Busway and rail corridors, where public transport operates on its own right of way. Building on high capacity bus routes, the quality transit network (QTN) is where buses are increasingly accorded priority use of road space (with bus lanes and special signal phasing).

Studies have also progressed supporting the need to expand the RTN through additional links such as the CBD rail link to turn Britomart into a through station, rail to the Auckland International Airport and extending the Northern Busway to Orewa. As well as contributing to a more robust, resilient and sustainable transport system, this will provide the transport framework which will enable and support land use changes outlined above.

### Improve the operation of existing roads, especially regional arterials

Over recent years major investment has been made in completing the urban motorway system. While some gaps remain, the construction programme is nearing completion. However, only limited investment has been made in the regional arterial road network.

The focus of roading investment now needs to shift to make the most of the existing road network, both within the region and connecting to adjacent regions. This strategy recognises the need to maximise the throughput of priority users on all transport corridors both at present and in the future. This will include measures to improve corridor management such as improved incident management, safety, better motorist information, education, improved traffic signal co-ordination, better provision for walkers and cyclists, priority for buses and/or freight where appropriate, smoothing local bottlenecks and special treatment of arterial road corridors through town centres.

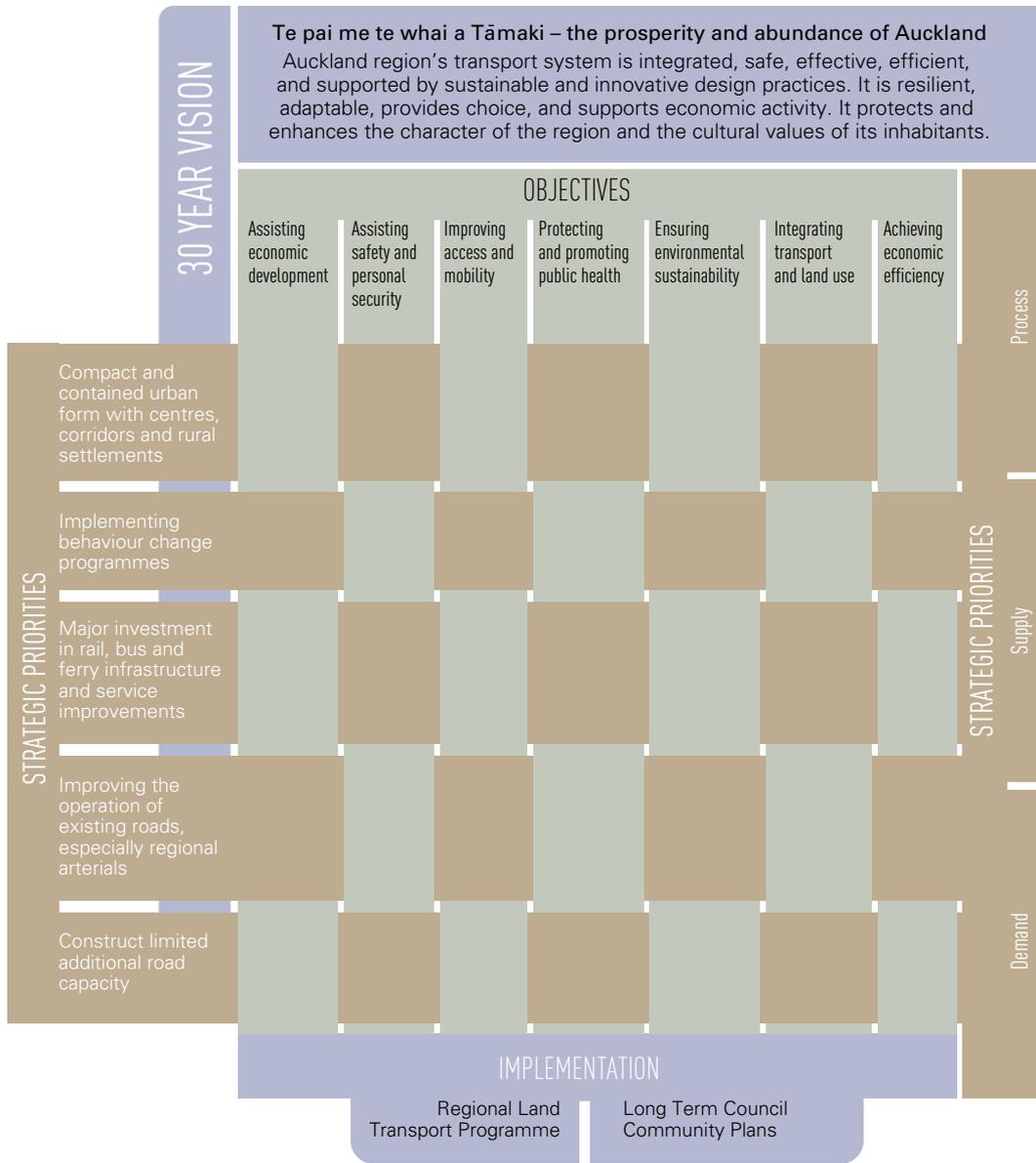
### Construct limited additional road capacity

The above direction will change the nature of Auckland's transport system over time. However, the majority of trips are likely to continue to be made by motor vehicle for the period of this strategy, and there needs to be continued investment in roading capacity. That investment will be limited and focused on developing a resilient and integrated transport network, closing the remaining gaps in the network, improving economic productivity and supporting identified growth centres. Any additional roading capacity will need to clearly demonstrate a contribution towards achieving RLTS objectives and targets. From a practical point of view, there is limited space within the built up urban areas for additional roads.

### Reduce the impacts of transport on the natural environment and communities

Transport impacts on the environment and communities through taking land and impacting on local ecologies, emissions including greenhouse gases, disruption to local communities and town centres. All these impacts should be avoided, remedied or mitigated where realistic, generally through good processes, good design and the separation of sensitive land uses from major transport routes.

The relationship between the objectives and the strategic directions is shown on the next page.



The Auckland Regional Land Transport Strategy 2010-2040’s 30-year vision integrating the objectives, strategic priorities and responses

## 4.2 Development of the strategy

There are a number of potential approaches to achieving these strategic priorities. Four different approaches were considered, referred to as the initial strategic options. Each strategic option was evaluated against the RLTS objectives and its strengths and weaknesses identified. From this process the most effective elements of each strategic option were brought together to form the transport strategy for the region.

The following matters formed the context of each of the strategic options:

**Regional economic considerations** – Auckland’s economy, its industries and firms are influenced by a number of economic drivers of change. These drivers are global, national and local. They are interconnected and do not operate in isolation but interact in a complex manner, with responses at individual, business, industry and government levels. To understand this, the region has developed the Auckland region’s economic futures model to measure the flow between sectors of the economy. This economic model produces forecast total employment (full time employment equivalents or FTE) for the region by industry type. All RLTS strategic options have been developed and tested using the “business as usual” economic forecast for the region, developed in September/October 2008.

**Land use considerations** – The agreed form of urban development in Auckland is described in the Auckland Regional Growth Strategy 1999 (RGS) and consists of an increasing proportion of residential and business growth locating in well-designed, higher density, mixed-use centres and corridors, primarily located on the RTN and QTN. The Local Government (Auckland) Amendment Act 2004 (LGAA) required changes to the Auckland Regional Policy Statement (RPS) and the region’s district plans to give effect to the growth concept contained within the RGS. For the ARPS these changes are mainly contained in Plan Change 6. All RLTS options were developed and tested using land use assumptions based on Plan Change 6.

A high level of amenity is required in town centres to make this strategy attractive to people and businesses, and to ensure the desired increases in walking, cycling and use of public transport are achieved.

**Transport energy** – The analysis of future transport options assumes that as easily available supplies of oil are depleted, other higher cost transport energy sources will be developed, and that transport users will respond to the higher price of these alternative sources of energy. Work was undertaken for this RLTS to develop estimates of a “best guess” and “high estimate” price for transport energy in 2041 (detailed in Working Paper 5). A petrol price of \$3.71 per litre was adopted as the best estimate of energy price in 2041 for all the strategic options and a sensitivity test was undertaken on the “high estimate” price of \$6.00. These prices are in \$2006 and compare with a base 2006 petrol price of \$1.55.

**Longer term planning horizon** – A planning horizon of 30 years (or until 2040) was adopted.

### Initial strategic options

Four initial strategic options were prepared to compare and contrast various ways the transport system may develop, and to identify the optimum combination of approaches. The initial strategic options are described below.

#### Strategic Option 1: Demand management

This option involves factors which “push” people away from motor vehicle use (such as road pricing and parking management) towards a reduction in vehicle trips, particularly through greater use of public transport, walking and cycling. The option includes additional public transport infrastructure and services, and walking and cycling facilities to meet diverted demand. No additional road improvements are proposed.

### Strategic Option 2: Mixed investment

This option involves continuing the current strategy of improvement in all modes, with some shift away from road investment. It is the business as usual option. The main components include completing the strategic road network (including the Waterview connection); widespread arterial roading capacity increases for general traffic, freight and public transport; completing the current rail program with the addition of the CBD rail tunnel and frequency increases; completing the remainder of the proposed RTN using buses; and higher frequencies on the QTN.

### Strategic Option 3: Public transport led change

Under this option, additional public transport service and infrastructure improvements, supported by walking and cycling improvements, would be used to work towards the NZTS mode share targets. In contrast to Option 1, this option focuses on very attractive public transport to “pull” people away from cars. It includes completing the strategic road network (except the Waterview connection), a modest programme of arterial road improvements focused on public transport requirements, and extensive improvements to the public transport network.

### Strategic Option 4: Quantum shift

This option involves a combination of the push factors from Option 1 and the pull factors from Option 3, together with a greater focus on land use intensification around the RTN than was assumed in Options 1 to 3 (known as the “what-if” land use scenario variants). Two land use variants were developed, one with a more centralised CBD development focus and another variant that focused along the RTN.

Each initial strategic option was evaluated against the RLTS objectives and its contribution to the NZTS performance targets in Chapter 2. The evaluation is described in RLTS 2010 Working Paper 19.

The conclusion of this evaluation was that none of the four approaches on their own would achieve the NZTS targets, although significant improvements in transport performance are achievable. A preferred strategic option was developed by combining the most effective elements of each of the initial strategic options. The preferred strategic option forms the 2010 strategy and is described below.

## 4.3 The Auckland transport strategy

The Auckland transport strategy is to develop a transport system where people and businesses have realistic choices about how they travel.

While this will necessitate continued investment to complete the agreed strategic roading system including giving greater attention to improving the efficiency of the network of arterial roads, there is a strong need for significantly greater investment in public transport (both infrastructure and services), walking, cycling, and behaviour change measures in order to counter long term under investment in these modes.

The investment in public transport, walking, cycling and behaviour change measures aims to reduce private car use per capita and when combined with some improvements to the road network will be more effective in reducing the growth in congestion and supporting national economic growth and productivity than road investment alone.

By providing greater balance, variety and choice to all parts of the region, this strategy will result in a transport system which is more resilient than the current system. It will be better able to cope with external shocks such as oil price volatility, climate change concerns and economic downturns, and to benefit from advances and innovations in engine, fuel, public transport, highway management and other technologies.



State Highway 18 cycleway

This strategy is integrated with Auckland's land use strategy in a way that shapes travel demand to reduce the impact on the economy that would otherwise arise from increasing congestion and energy costs.

Auckland's land use strategy is to manage the expected growth of Auckland by accommodating a growing proportion of businesses and households in higher density, mixed used centres and corridors with good transport connections, and reduce the proportion of growth which is accommodated in the expansion of the urban area and in generalised infill. This will require investment in high capacity highly reliable public transport links between the centres. In turn this form of urban development will make walking, cycling and public transport use more attractive and will reduce reliance on car travel.

While these measures will result in a reduction in emissions of greenhouse gases per capita, the significant reductions required to meet the targets of the NZTS will require improvements in engine efficiency and the increasing use of non fossil fuels as transport energy sources. This will require a combination of government leadership and regulation, and commercially driven technological improvements.



NZBus – Waka Pacific

## 4.4 Main components of the strategy

Improve public transport by:

- Expanding the RTN and QTN networks through:
  - electrifying the rail network and increasing frequencies by 2015
  - constructing the CBD rail link by 2021 and further increasing frequencies and capacity
  - constructing a rail loop to Auckland Airport in the period 2031–2040
  - constructing the Avondale–Southdown rail connection in the period 2031–2040
  - extending the Northern Busway to Orewa (Constellation to Redvale in the period 2021–2030 and from Redvale to Orewa in the period 2031–2040)
  - developing the Panmure–Botany–Manukau bus connection as a QTN, with upgrading to RTN in the period 2021–2030
  - developing the Henderson–Westgate–Albany bus connection as a QTN.
- integrated transport ticketing and fares by 2012
- higher frequency of services on the RTN and QTN and improvements to the local connector network (LCN)
- ensuring the Local Transport Network meets local needs and connects effectively with the RTN and QTN networks
- investigate extending the rail system to the North Shore.

Infrastructure and services would be provided in advance of the road network reaching high levels of congestion in order to provide an attractive alternative to car use as demand grows.

The public transport network included in the strategy for evaluation purposes is described in detail in the RLTS Working Paper 19.

### Continuing growth in behaviour change initiatives

These policies aim to change travel behaviour by providing information about and encouraging the use of more sustainable transport modes. They also aim to reduce the need to travel wherever possible, through measures such as the wider use of information technology.

Current behaviour change activities are centred on travel planning initiatives developed with schools, businesses and communities to encourage safe and sustainable transport choices. Behaviour change measures also include measures delivered on a wider basis such as car pooling schemes and region wide educational initiatives.

Improvements in walking and cycling infrastructure, including completion of a regional cycle network by 2026, are important in enabling behaviour change and are dealt with in this strategy as behaviour change measures.

Behaviour change measures are only effective where there are realistic alternatives and, in many instances, are complementary to public transport service improvements.

Behaviour change measures are applicable in rural areas and small townships as well as in urban areas, although the appropriate measures are likely to differ.

The behaviour change measures included in the strategy for evaluation purposes are described in detail in RLTS Working Paper 14.

### Improve the road network by:

- Expanding the network through:
  - completing the Western Ring Route by 2016
  - constructing the Auckland Manukau Eastern Transport Initiative (Panmure elements by 2020, Pakuranga to Botany in the period 2021–2030)
  - improving airport road access in the period 2021–2030
- Widespread arterial road improvements with a focus on the public transport and the Regional Strategic Freight Network (RSFN).
- Safer and more reliable linkages to Northland, Waikato and the Bay of Plenty.
- Protection of the route for an additional crossing of the Waitemata Harbour
- Investigation of a potential strategic road connection between East Tamaki and SH20.

The detailed road network that has been developed for evaluation purposes is described in the RLTS Working Paper 19.

### Maintenance and renewals

While much of the focus of this strategy is on accommodating growth and improving the performance of the transport system, the strategy recognises the importance of maintaining existing assets. It is expected that a significant proportion of expenditure on transport in the region will be needed for maintenance and renewals of existing networks.

### Parking measures

The strategy includes parking measures in those centres across the region which are planned for growth and good public transport. These measures include setting limits on parking, parking charges, park-and-ride facilities, providing cycle parking, in accordance with the Regional Parking Strategy 2009. This strategy recognises that in these centres there will generally be travel choices available so that providing more parking than is needed has an economic cost and works against the direction of this strategy. It is recognised that there will be an ongoing need for parking in all centres, particularly short-term parking to accommodate commercial and operational needs.

### Improvements in engine and fuel technology

The initiatives described above will result in a small reduction in travel by car per capita, but an increase in travel by heavy vehicles per capita as the freight task increases but with less potential to be met by other modes. As a result, vehicle travel per capita is likely to be similar to current levels. In order to achieve the greenhouse gas emission targets of the NZTS significant improvements will be needed in engine efficiency and new energy sources will need to be developed. In a similar way, technology improvements are expected to result in reductions in a range of pollutants. These improvements will largely be led by international developments, probably stimulated by international climate change agreements and rising oil prices as current oil reserves are depleted (the “peak oil” effect). The position taken in this strategy is to advocate to government on the need for improved engine efficiency and new forms of transport energy.

### Road pricing

While congestion pricing has the potential to make a significant contribution to achieving the NZTS targets and demand management objectives, it is not feasible without realistic and equitable travel options, particularly public transport services. Charging for road use could be considered when realistic, equitable transport options are available.

### Road safety

Improving road safety is an important part of this strategy. A variety of measures including enforcement, improvements to the road environment, education measures and community led initiatives will be needed.

### Rural transport

The transport needs of rural, and isolated communities (eg Hauraki Gulf Islands and rural marae) are often different from the needs of urban communities and nearly 90 per cent of the land mass of the Auckland region is rural in nature. This strategy recognises the importance to rural and isolated communities of good transport links, including improved transport choices (eg public transport, walking and cycling facilities), both to support the economy and to provide people with access to various facilities.

It is important to work with rural and isolated communities to address their needs, particularly in relation to improving safety of the roads (including safety improvements for pedestrians, cyclists and horse riders), providing access to public transport, employment and town centres using more flexible and innovative initiatives, tailoring behaviour change initiatives and improving freight and tourism opportunities.

### Implementing the strategy

This strategy identifies the funding required and the transport infrastructure and operating practices that will support the region’s economic and land use future, as discussed in this section and Chapter 4.5.

A variety of regional and central government transport organisations, and other stakeholders will need to work together to implement the strategy. Policies that will deliver the strategy and the organisations that will be responsible for implementation of each policy are identified in Chapter 5.



Smales Farm bus station on Auckland's North Shore

## 4.5 Expected outcomes of the strategy

This section describes the outcome of the strategy in terms of the RLTS objectives. The NZTS contains targets that are directly related to most of the objectives and where applicable this assessment is based on those targets.

### Network performance

For an expected population increase of 53 per cent between 2006 and 2040, the strategy proposes an increase in roading capacity of nine per cent, travel demand management measures that will reduce vehicle trip growth by 12 per cent, and an increase in public transport services of 130 per cent.

The outcome of the strategy is that in the period through to 2040 congestion levels are expected to remain at roughly current levels, public transport usage is expected to increase by 270 per cent to 675,000 trips each weekday and walking and cycling trips are expected to increase by 128 per cent to almost one million trips per weekday.

### Assist economic development

#### Main economic development target:

- Congestion for freight vehicles on the regional strategic road freight network will remain at or below 2006-2009 levels (average delay per kilometre of 0.53 minutes).

#### Expected outcome:

Travel in private motor vehicle transport will remain the largest component of travel, and increases in road capacity will be considerably less than the increase in population. Improvements to public transport and walking and cycling networks, and the implementation of behaviour change programmes, will reduce the growth in vehicle demand and play an important part in limiting congestion. The end result will be demand for vehicle travel growing faster than the increase in road capacity, and consequently a relatively small increase in average journey times across the whole network. A focus on the regional freight network however will mean that conditions on that network improve slightly (or at least get no worse).

### Assisting safety and personal security

#### Main safety target:

- Reduce road deaths to no more than 40 per year in 2040 (compared with 61 deaths in 2007) and reduce serious injury from road crashes to no more than 288 per year in 2040 (compared with 483 in 2007).

#### Expected outcome:

This outcome will be achieved if current trends continue. It is expected that this will be achieved through a combination of enforcement measures, changes to regulations, improvements to the road environment, education measures and community led initiatives.

## Improve access and mobility

### Main access and mobility targets:

- Increase use of public transport from 3.4 per cent of all trip legs in 2007 to twelve per cent of all trip legs in 2040.
- Increase in walking and cycling mode share in urban areas (measured in terms of trip legs) from 17 per cent in 2009 to 35 per cent in 2040.

### Expected outcome:

Modelling suggests that the proposed improvements will result in an increase in mode share for PT person trips from 3.9 per cent in 2006 to 10.3 per cent in 2040 (190 million trips). Drivers for this change are a greater proportion of people living and working closer to the RTN and QTN, major investment in new infrastructure (particularly rail) improvements in service levels, introduction of integrated ticketing and fares, widespread behaviour change programmes and increasing fuel prices.

While the expected mode share for public transport falls short of the target, it is a significant increase in mode share (160 per cent) and a very significant increase in use of public transport (boardings increase by 270 per cent).

It is expected that the targets for walking and cycling will be met. This is due to the greater proportion of short trips arising from the land use changes, widespread behaviour change programmes, and the provision of additional infrastructure such as completion of the regional cycle network.

## Protect and promote public health

### Main public health target:

- Reduction in annual average concentrations of transport related pollutants ( $PM_{2.5}$ ,  $PM_{10}$ , NO and  $NO_2$ ) at selected roadside locations.

### Expected outcome:

It is expected that this outcome will be achieved, primarily due to improvements in engine technology and new emission testing measures reducing a range of pollutants emitted from vehicles.

## Ensuring environmental sustainability

### Main environmental sustainability target:

- Halve per capita greenhouse gas emissions from domestic transport by 2040 (based on the 2006 level of 2.6kg/day/capita).

### Expected outcome:

It is expected that the greenhouse gas emission target will be achieved with some reduction in per capita fuel use, but mainly through international developments in the form of engine efficiency improvements and the development of non fossil energy sources. These reductions in fuel use will also result in more efficient use of energy.

## Achieve economic efficiency

### Main economic efficiency target:

- No projects deliver less than the projected benefit/cost ratio.

### Expected outcome:

It is expected that this outcome will be achieved.

## 4.6 Funding the strategy

This strategy will only be effective if it can be implemented within the funding resources available, and if funding rules and the strategy are aligned.

### Funding available

The principal sources of land transport funding are:

- central government through the NZTA
- local funds (principally territorial authorities and the ARC)
- central government funding for rail (through Treasury).

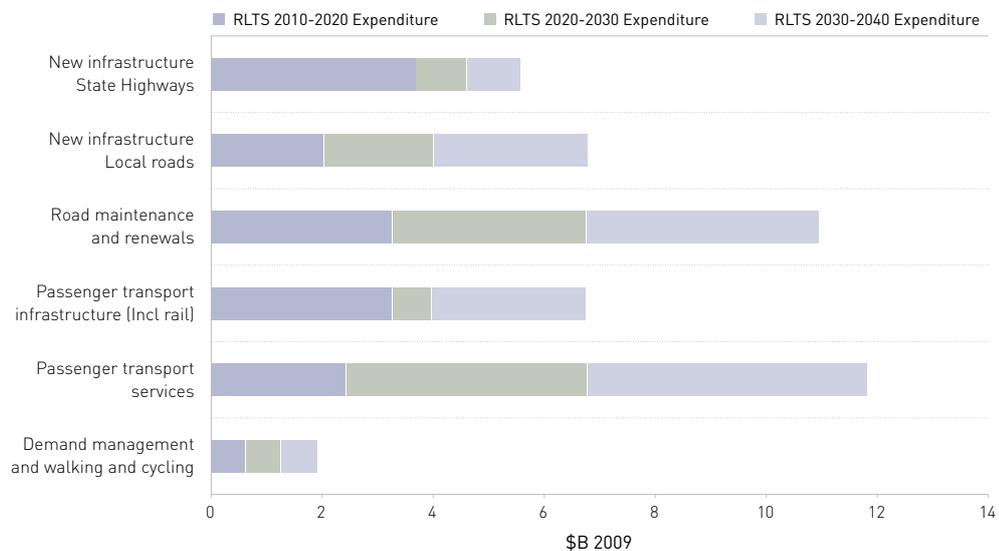
The LTMA requires the RTC to “take account of the land transport funding likely to be available within the region for implementing the strategy during the period covered by the strategy”. As there is no funding information available beyond the next 10 years and many factors influence funding, it is difficult to estimate with any confidence what that amount will be over the next 30 years from each of these sources. Nevertheless, based on a range of assumptions regarding the level of NZTA funding likely to be available nationally, the share of this funding that might be allocated to the Auckland region, and a matching contribution (except for State Highways) from local sources (including developer contributions), it is estimated that the funding available for the first ten years is around \$13b and in the range of \$33 billion to \$47 billion over the 30 year strategy.

### Funding required for preferred strategic option

A best guess estimate of the cost of implementing the preferred strategic option is around \$16 billion over the first 10 years and \$46 billion over the full 30 years, although there is a wide range for this cost. The cost of implementing the strategy is indicative only as priorities, projects, scope, timing and costs will change over time.

The estimated level of expenditure by activity class for each of the 10 year periods of the 30 year strategy is shown below.

Figure 6: Estimated expenditure



### Affordability – The funding gap and its implications

This assessment suggests the level of funding likely to be available over the next 30 years is likely to be insufficient to fully implement the strategy. For the first 10 years, there is a funding shortfall in the order of \$3 billion, largely reflecting a shortfall in funding of rail infrastructure (specifically the CBD rail loop), public transport and local roading improvements.

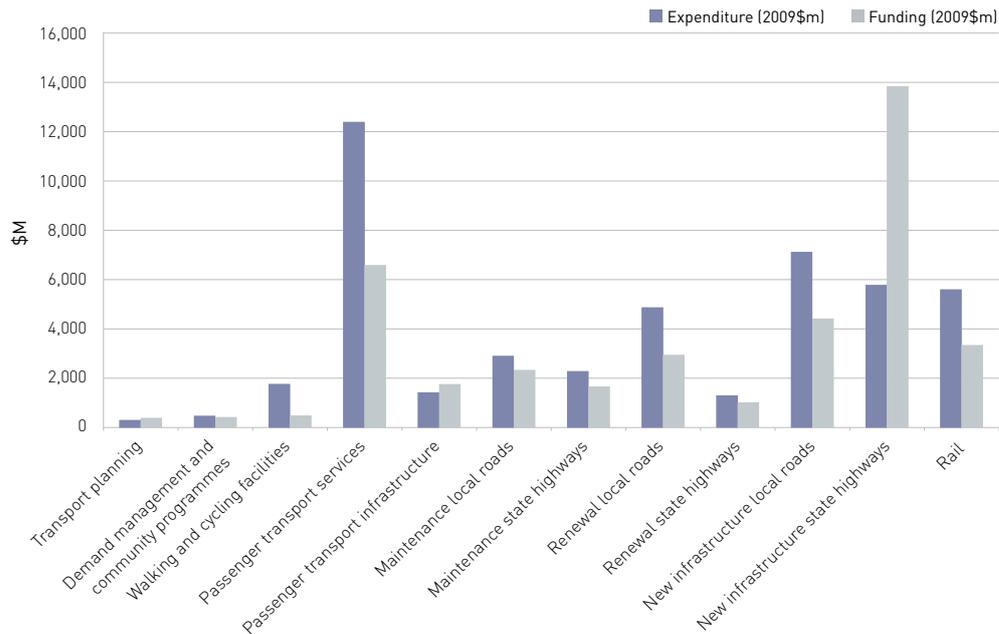
The overall funding gap for the 30 year strategy ranges from a surplus of \$1billion (optimistic funding estimate) to a shortfall of between \$7 billion (best funding estimate) and \$13 billion (conservative funding estimate) – a surplus of 2 per cent and a shortfall of between 17 per cent and 42 per cent of the estimated total level of available funding.

The likely funding gap depends on future funding decisions, future PT revenue and operational expenditure, and detailed costs of major capital expenditure projects. The funding gap may be manageable given the scope to optimise the scale and timing of the key elements of the strategy over its 30 year planning period.

The funding gap based on the ‘conservative’ funding estimate is, however, more significant. The proposed strategy could not be fully implemented under this funding scenario and would necessitate a significant review of the high cost elements of the strategy.

New funding sources, such as developer contributions and tolling, will be necessary to make up the shortfall. New financial mechanisms such, as loan funding and public private partnerships, will also be investigated to support timely delivery of the strategy. Funding arrangements will also need to change to match the strategy – both at local and national levels. An assessment of funding allocation suggests there will be a significant funding and expenditure misalignment at an activity class level if it is allocated over the 30 year period in the same way as it is in the 2009-12 National Land Transport Programme. If this was to occur, there would be a significant funding shortfall for walking and cycling facilities, public transport, renewal of local roads and new local road infrastructure. In contrast, there would be a funding surplus for state highway infrastructure. This is highlighted in the figure below (based on the best funding estimate).

Figure 7: Funding alignment by activity area for the 30 year strategy



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The RLTS 2010 moves from a heavy emphasis on state highway construction to a much stronger emphasis on investing in public transport improvements (both infrastructure and services) and on improvements to local roads, particularly improved operation of regional arterials. State highway expenditure is 100 per cent funded by NZTA, but public transport infrastructure and services and local roads are funded only approximately 50 per cent by NZTA.

Under current financial assistance rates (FARs), the shift in this strategy means shifting the funding burden from nationally collected transport funds to locally collected funds, which are largely rates collected by local government. There are limits on how much local funding can be increased to match this change in emphasis and there is a strong equity argument that a large part of the funds raised from transport users in the Auckland region should be used to improve transport in the Auckland region. It will therefore be necessary to develop new mechanisms that ensure funding rules support the strategy.

Policies to address these funding implications and ensure the strategy can be implemented are outlined in Chapter 5.8. The assumptions underlying the estimates for funds available and required, and the main areas of uncertainty, are described in RLTS Working Paper 9.

## 4.7 Role of transport modes

The LTMA requires the RLTS to contain “an assessment of the appropriate role for each land transport mode in the region”. This section satisfies this requirement by describing the appropriate role for each land transport mode within Auckland. These modes include walking, cycling, public transport, private vehicles and freight. An estimate of the percentage of a mode contribution towards the preferred strategic option is given based on modelled results.

In addition to the role of modes, education and enforcement contribute to the land transport outcomes sought and are described in this section.



An Auckland walking school bus gets children to school safely by foot

## 4.7.1 Role of walking

Walking is an appropriate mode for short local trips (under 2km), for connections between modes, and at the start and end of longer journeys. Walking is an essential and widely used mode of transport that is often the quickest and cheapest way to make short trips. Walking also has an important recreational role and contributes to improvements in public health and social environmental effects.

The most common short journeys are to school, to and from public transport, within the CBD to and around town centres, and to local shops for convenience goods.

Over time, as land use becomes more concentrated in denser, mixed use centres and corridors, trip lengths will decrease and walking will become progressively more important (this will require increased town centre permeability), and can be expected to contribute strongly to the vibrancy and economic success of the centres.

An important part of this strategy is to increase the proportion of travel in Auckland made by walking. The main mechanisms for achieving this will be through improved walking facilities, better urban design, speed management and behaviour change programmes.

Active mode trips, including walking in Auckland in 2006 accounted for 9.5 per cent of the region's trips and is anticipated to increase to 15.3 per cent by 2040 through the implementation of this RLTS.

## 4.7.2 Role of cycling

The appropriate role for cycling is the safe and efficient movement of people over short to medium distances as an alternative to cars and as a form of recreation. Cycling contributes positively towards a sustainable transport system as it is energy efficient, has minimal environmental impact, is affordable and has associated health and fitness benefits. Cycling contributes to reduced congestion as cycles require less road space and parking than cars. Cycling as a part of a longer journey combined with passenger transport needs to be adequately provided for within our region.

An important part of this strategy is to increase the proportion of travel in Auckland that is made by cycling. The main mechanisms for achieving this will be through improved cycling infrastructure, including the completion of the regional cycle network and behaviour change programmes. Active mode trips, including walking and cycling trips in Auckland in 2009 accounted for 9.5 per cent of the region's trips and is anticipated to increase to 15.3 per cent by 2040 through the implementation of the RLTS.



A family using the North Western cycleway

## 4.7.3 Role of public transport

The roles of public transport are to support urban development by shaping the region, improve the efficiency and effectiveness of the overall transportation system by moving Aucklanders to their chosen destinations, provide mobility and access to enable citizens to build communities (especially for those who do not have access to a car), and to provide environmentally sustainable transport choices as an alternative to car use.

Each of the forms of public transport (trains, buses, ferries and taxis) contribute to these roles. Trains and ferries are able to move large numbers of people between population centres with few delays, buses can also move large numbers of people, but are more flexible in their routes, and taxis also have an important supportive role.

Public transport person trips in Auckland in 2006 accounted for 3.9 per cent of the region's trips and is anticipated to increase to 10.3 per cent by 2040.

### Shaping the region

The RTN will make a major contribution towards shaping the region. The RTN is a fast, high frequency service in its own right of way where it is unaffected by traffic congestion. The RTN will connect the major growth centres to Auckland's CBD and contribute towards improving economic development outcomes near the RTN stations.

Public transport investment will support the RGS, and provide added value and confidence for development and a sense of permanence. As well as moving large numbers of people, the network will encourage more intensive urban development along the corridors and in the growth centres it serves. This provides people with the opportunity to be less dependent upon car travel.

### Moving Aucklanders

Passenger transport along the QTN will move Aucklanders by providing capacity and service that offers a convenient travel option to key destinations. The QTN is a network of fast, high frequency, and high-quality public transport operating between centres and over major corridors including extensive bus priority measures and some ferry services. It will consist of integrated radial and cross-town services designed to efficiently connect the region's key centres. Together with the RTN described above, the QTN will connect at key hub stations to ensure seamless transitions between the two networks and will be supported by accurate and timely information.

### Building communities

The local public transport network will build communities by providing the accessibility necessary for people to participate fully in their communities. The LCN will involve local bus, ferry, and in some cases, rail services connecting to local centres and providing access to workplaces and community facilities including healthcare, education, social and cultural opportunities. The LCN will also provide access to the rest of the region by connecting communities to the RTN and/or QTN. The LCN will cover almost all of the urban area and also rural and island communities in appropriate and responsive ways. Targeted services will provide mobility for groups for whom the regular public transport network is not adequate. This includes the total mobility service for people with disabilities, fare concession schemes and school bus services.

### Environmental sustainability

Public transport services and infrastructure will contribute to environmental sustainability by enhancing the energy efficiency of the transport sector and by reducing emissions.

Public transport has an inherent environmental advantage over car travel in that it can move more people more efficiently from point to point. However, it is important that public transport is efficiently designed to ensure good use and that public transport vehicles have low polluting engines and vehicle components.

### Taxis

Taxis play an important role in providing mobility in situations where other forms of public transport are not attractive and where use of a private vehicle is not available or appropriate. Taxis support other forms of public transport, and walking and cycling, by providing a back-up option for situations where those modes are unexpectedly unsuitable, and taxis with multiple passengers are an effective and efficient mode of transport.

## 4.7.4 Role of private vehicles (light motor vehicles and motorcycles)

The appropriate role for private vehicles is the safe and efficient movement of people between many origins and many destinations at diverse times. Private vehicle use is appropriate over distances that cannot be easily walked or cycled, and/or where the trip cannot be conveniently provided for by public transport. Private vehicle trips in Auckland in 2006 accounted for 87.3 per cent of the region's trips and is anticipated to decrease to 76.4 per cent by 2040 through the implementation of the RLTS, assisting with congestion relief. The main thrust of this strategy is to increase the travel choices available to Aucklanders and reduce the reliance of travel by private vehicles.



A scooter travels down Pitt Street, Auckland, an example of private vehicles achieving the outcomes and targets of the RLTS

Travel by private vehicle in our region is contributing to adverse effects on environmental quality, public health and economic efficiency. Current trends of increasing petrol and diesel consumption are having an adverse impact on CO<sub>2</sub> levels and regional air quality. Peak period congestion is dominated by journeys to and from school and work, particularly on the strategic network in the vicinity of the Auckland CBD.

Individuals rely on private vehicles for trips due to the flexibility and convenience a car provides in terms (perceived advantages compared with other modes) of trip origin and destination, time of travel, and trip distance, making these the most attractive mode choice. For many businesses the roading system is crucial to their success. Retaining flexibility while ensuring that businesses locate where they are best supported by the transport system, will be an important part of the region's continued economic growth.

In the last five years there has been a large increase in the number of motorcycle and moped registrations. From an environmental perspective, motorcycles and mopeds (or collectively, powered two wheelers) have less impact in terms of road space and emissions than cars. Therefore there are environmental benefits in encouraging more trips by motorcycles and mopeds. Motorcycles and mopeds however have a poorer safety record than cars and other modes. To ensure these benefits do not result in poorer safety outcomes it will be important to ensure safety improvements for motorcycles and mopeds are progressed.



The Tango – a slim electric vehicle and another example of private vehicles playing an important role in achieving the outcomes and targets of the RLTS

Similarly, the use of electric vehicles, including single seated vehicles, potentially has environmental benefits over traditional cars with fewer safety issues than motorcycles. As electric vehicles become more available and affordable, they could play an important role in achieving the outcomes and targets of the RLTS.

## 4.7.5 Role of freight

The appropriate role for freight traffic is the safe and efficient movement of goods within, to and through the region. Freight includes anything transported as part of the commercial arrangement from a small couriered document to the movement of logs, containers and heavy machinery.

Auckland is New Zealand's major centre for transport, communications, wholesale trade, and has the country's principal seaport and airport for international shipping, passengers and airfreight. Auckland's ports and airport move a high volume of New Zealand's imports (75 per cent) and exports (40 per cent) and acts as a service and distribution centre for all of New Zealand.

Currently 55 per cent (33.7 million tonnes) of all freight movements take place within the region, 39 per cent (24 million tonnes) to and from the region, and the remaining 6 per cent (3.9 million tonnes) are through movements. The majority of these freight movements are by road, accounting for almost all freight movements within the region, 62 per cent of interregional movements and 42 per cent of through traffic movements. Freight traffic (excluding courier services) generally represents between 4 and 6 per cent of traffic on the Auckland road network.

By weight, rail and sea freight account for 23 per cent and 15 per cent (respectively) of interregional freight movements and 1 per cent and 57 per cent of through movements.



The truck priority lane on Grafton on-ramp eases traffic flow onto the Southern motorway

The RLTS confirms the key policy outcomes and priority actions of the Regional Freight Strategy. It recognises the need for efficiency gains for road based freight distribution within the region while providing for safe freight operations that are environmentally sustainable and minimise adverse impacts on other community activities. The Regional Freight Strategy supported the development of the Regional Strategic Freight Network (2009) which sets out a rationale for freight as detailed in Map 1.

The majority of freight movements are by road but the strategy confirms that there are important roles for both rail freight and coastal shipping, particularly for interregional movements. Pipelines also have an important interregional role. This strategy advocates for the advantages of rail freight and coastal shipping to be fully utilised, and it promotes opportunities for alternative modes such as rail between sea ports and inland ports.

## 4.8 Role of education and enforcement

Education plays a key role in supporting RLTS outcomes related to modal shift targets. The ease with which people are able to transfer within and between these modes is very important. Travel planning initiatives are aimed at educating the public on alternative modes of travel and assisting users with changing from one mode to the next. Travel planning is also about finding bottlenecks or hot spots where minor improvements can deliver considerable improvements for neighbourhood accessibility and safety. Travel planners can also assist with personalised travel planning to reduce or modify household trips. For some families this may mean the difference between having one or two cars per household, resulting in significant household savings and thereby contributing to affordability outcomes.

Enforcement plays a principal role in contributing towards the outcomes identified in Chapter 2 such as improved safety and personal security, and improving access and mobility through effective speed management. Speed management is also central to reducing injuries on local and rural roads, and visible enforcement is often the key. This includes greater acceptance by motorists to be aware of other road users, especially in town centres and other areas where pedestrians and cyclists travel. Further efforts are required to improve safety and encourage people to use these modes in a safe manner, particularly motorcycles. The police require new or enhanced tools to address serious traffic offenders such as red light runners. Motorists require improved roads and programmes that reinforce safe driving habits such as observing the give-way rule, driving to the conditions and encouraging drivers to pass cyclists safely. Enforcement also plays an important role in traffic management, particularly in ensuring that priority lanes for buses, high occupancy vehicles, freight vehicles, as well as cycle lanes, are used for their intended purposes.

The majority of road crashes are due to driver error. However there is little evidence that education on its own contributes to safer road user behaviour except in some very specific and targeted ways (eg repeat offender drink driver treatment programmes). Education is of the greatest benefit when linked to supporting specific legislation, enforcement or engineering interventions. It has been shown that drivers do value safety and respond positively to campaigns to encourage safety belt use and sober driving if they also encounter enforcement activities in their everyday travels. The perception of being caught is often a greater motivator for safer driving than the perceived likelihood of being involved in a crash. The benefits of regular enforcement therefore increase markedly when linked with education and advertising campaigns. However, many drivers are also willing to pay a premium for vehicle safety features and child restraints, and there is merit in promoting these to drivers.

Enforcement is highly mobile and can be targeted to emerging road safety risks at short notice. However enforcement often reaches a threshold after a period of time when new legislative measures or interventions must be introduced to continue providing a deterrent effect (eg new penalties, demerit points, technology or tougher sanctions).

This dynamic link between enforcement and education can be improved in the region to create safer road users, particularly in relation to the growing speed and alcohol-related crash risk where a stronger deterrent effect is needed.

## Chapter 5

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# Policies – Nga Kaupapa

## Chapter 5: Policies – Nga Kaupapa

This chapter sets out the policies that have been developed to give effect to the preferred strategic option described in Chapter 4. The policies are intended to guide and identify public organisations (both intra and inter-regional) with responsibility for delivering these activities and to ensure that their decisions give effect to the overall strategic direction. The policies acknowledge links to non-transport policies and initiatives that also contribute to the outcomes of this strategy.

The policies in this chapter are presented in two parts. Policies 1 to 6 are generally focused on what needs to be done to the transport system to implement the strategic option. The second part (policies 7 to 13) includes policies that describe how those things should happen. They are particularly important for public authorities to ensure that their decision making processes and procedures are consistent with the overall strategic direction of the RLTS, and meet the requirements of the LTMA.

In line with the emphasis on demand management that has been described in Chapter 4, the policies in the first part of this chapter have been organised along a continuum, starting with longer term demand-side initiatives, and working through to shorter term supply-side initiatives. This continuum is illustrated in the following diagram. The policy hierarchy is closely linked to, and builds, on the strategy described in Chapter 4.

Taken together, the first three policy categories constitute the demand management strategy, as required under Schedule 7 Clause 5 (1)(e) of the LTMA. The policies in these three demand-side categories contain a series of initiatives aimed at changing travel demand away from the current heavy reliance on private vehicles.

In general, the strategy adopts a hierarchical approach to the implementation of policies 1 to 6. This involves considering demand side policies which have long term regional impacts before considering supply side policies that provide additional capacity to the transport system, especially for roads which have shorter term, more local impacts. The priority implied by this policy hierarchy is not intended to be absolute however – it is not intended that all initiatives at any level of the hierarchy should be exhausted before moving to the next level. The strategy includes actions at each level of the hierarchy. There are important links between the demand and supply policies. To be fully effective, the demand side initiatives will often require supporting supply side improvements. This is especially true for the provision of additional public transport and walk and cycle facilities.

The second part of the chapter (policies 7 to 13) presents policies that are intended to guide the processes followed in implementing this RLTS. These policies are divided into seven categories. The first, giving effect to the RLTS (Policy 7) deals with the actions public agencies in the region must take to enable the strategy to be implemented, including preparation of more detailed plans and strategies and funding (Policy 8).

The remaining five categories (policies 9 to 13) deal with policies that give effect to the five NZTS principles; affordability, integration, safety, responsiveness and sustainability. These categories recognise the LTMA requirement that the RLTS contributes to the aim of achieving an affordable, integrated, safe, responsive, and sustainable land transport system, and describes the steps that will be taken to ensure that these LTMA principles are adhered to.

The figure below shows the relationship between the hierarchy of demand and supply policies (the “what” of the strategy), and the process policies which apply to the strategy as a whole and to the way in which each of the demand/supply policies needs to be implemented (the “how” of the strategy).

Figure 8: Policy hierarchy



The remainder of this chapter presents the policies in the order outlined above. For each category, a brief explanation of the policy content is included, followed by an overall policy statement for that category (numbered with a single digit). This is followed by more detailed policies (denoted with two digits) and supporting methods (bullets).

The agencies identified in this version are those that currently have responsibility and will need to be updated once the current review of governance arrangements in the region has resolved the allocation of transport functions. The policies also identify other organisations that aren't responsible for delivery but whom co-operation will be required to give effect to the strategy.

There is growing recognition that the costs of transport fuels and unreliability of fuel supply are increasing, as is transport fuel price volatility. The current Auckland transport system relies on the availability of a cheap and reliable supply of energy and there is a need to move towards using transport energy more efficiently. While energy efficiency is not an explicit objective of this document, the strategy and the following policies are to develop a transport system which is less reliant on the use of motor vehicles. The outcome will be a system which uses energy more efficiently and is more resilient to energy supply and price shocks. This approach taken is expected to deliver similar economic and environmental benefits to an approach based more strongly on energy efficiency.

## 5.1 Land use planning

Land use and transport outcomes are mutually dependent for their success, so it is important that policies are aligned and planners work together at all levels in an active and integrated manner. The growth concept in the ARPS envisages a quality, compact urban form containing high density mixed use centres and corridors supported by the provision of a multi-modal transport system. Cycling, walking and public transport are an important part of enabling this development pattern while reducing reliance on using private vehicles for transportation. It is envisaged that this will provide communities with improved access to a range of services and activities and opportunities to work locally. The ARPS identifies the centres and corridors for intensification, and the policies in this section of the strategy are designed to ensure that the transport system is developed to support those centres and corridors.

The policies also emphasise that future development is designed so that the transport network supports land uses, while at the same time ensuring that the network is not compromised by inappropriate land uses. For instance there are relationships between mixed use town centres and the density needed in order to support a sustainable public transport system and between street designs which provide attractive public places and which improve safety as a means to encourage walking and cycling.

The form of development in the rural areas is also important in achieving land use and transportation outcomes, for instance in considering the form and location of rural residential development, the impact on transport infrastructure should be considered.

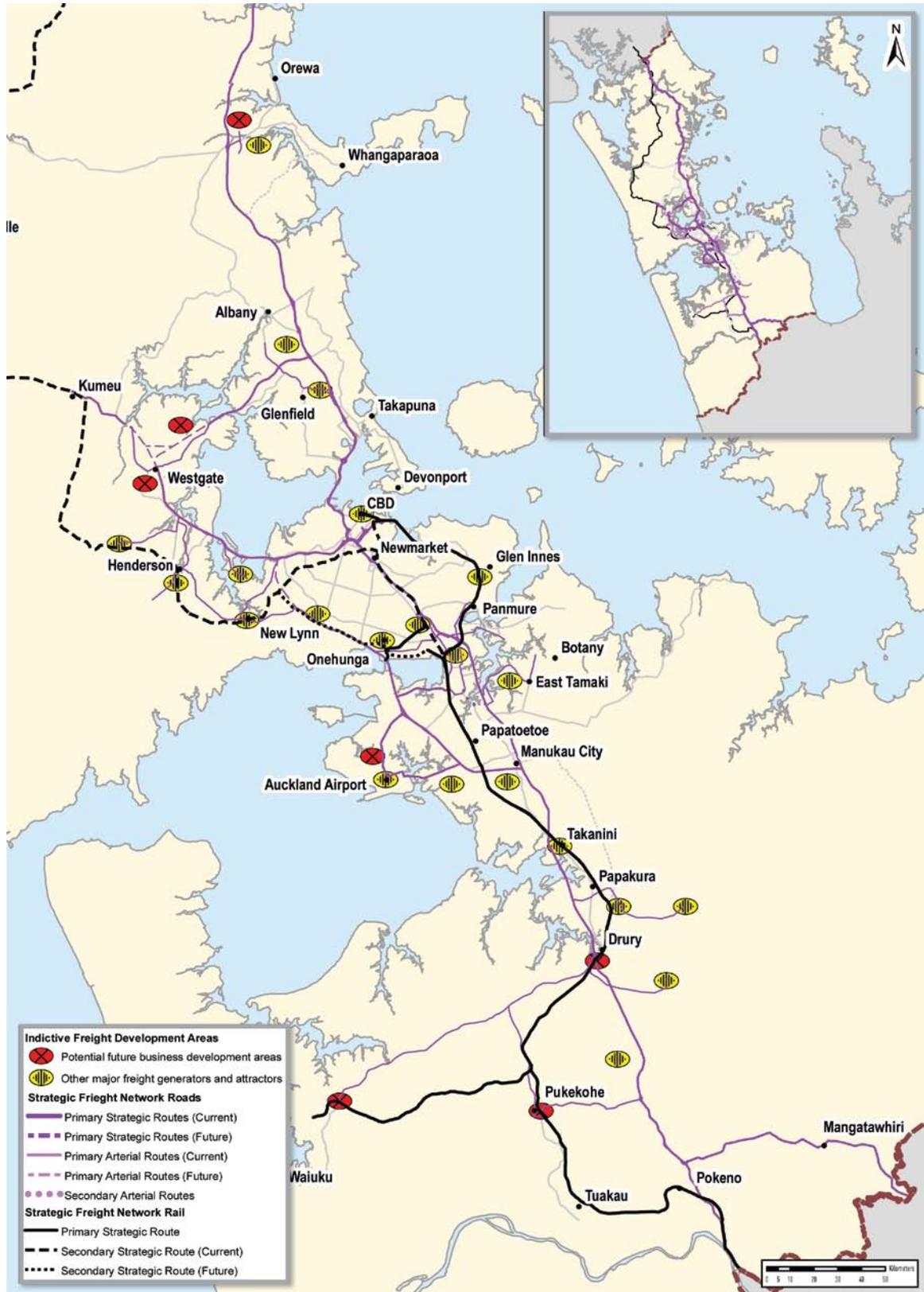
To achieve quality outcomes the principles in the urban design protocol and other related publications should be followed. Concepts such as connectivity, access and context are central to achieving good transport and land use design solutions.

For development throughout the region, both rural and urban, minimising any reverse sensitivity effects should be considered as part of any project. To address these issues, design solutions might include location suitability, location of sensitive uses within a building, or building and performance standards.

### Policy 1: Land use planning

Ensure that land use development and transport are integrated and mutually supportive.

- 1.1 Develop the region's transport system to give effect to the growth concept in the ARPS.
  - 1.1.1 Programme transport investment and service improvements, particularly the RTN, to fit with the growth sequencing identified in the ARPS (ARTA, city and district councils, KiwiRail, NZTA).
  - 1.1.2 Give priority to new and enhanced transport infrastructure and services in identified mixed use centres or corridors (city and district councils, NZTA, KiwiRail, ARC).
  - 1.1.3 Ensure town centres are permeable and designed to ensure good walking and cycling access and amenity (city and district councils).
  - 1.1.4 Prioritise transport modes using a hierarchy that relates to land use planning and fosters connectivity and accessibility, specifically for town centres where priority is pedestrians followed by cyclists, public transport users (bus, rail, ferry, coach, taxi), motorcycles and mopeds, and lastly private motor vehicles (NZTA, ARTA, city and district councils).
  - 1.1.5 The movement of freight needs to be accommodated in town centres, particularly with regard to the role of freight in servicing businesses operating in the centres (NZTA, city and district councils).
- 1.2 Encourage land use activities to develop in locations that reduce the need for motorised trips.
  - 1.2.1 Encourage high person trip-generating activities to locate in town centres that have good public transport accessibility (city and district councils, ARTA, ARC).
  - 1.2.2 Support district plan changes to promote intensification in locations where significant public transport investment is proposed (city and district councils, ARTA, ARC, NZTA).
  - 1.2.3 Encourage, through district plans and long term plans, transit orientated developments and pedestrian oriented design, that include a mixture of land uses which decrease the need for vehicle travel (city and district councils, ARTA, ARC, NZTA).
  - 1.2.4 Encourage intensification in locations which have good public transport access via the RTN and QTN (city and district councils, ARTA, ARC, NZTA).
- 1.3 Locate economic activity to maximise the efficient movement of goods and services.
  - 1.3.1 Encourage provision for freight-intensive activities to locate in areas with good access to the regional strategic freight network (See Map 1 on next page) (city and district councils, ARTA, ARC, NZTA).
  - 1.3.2 Investigate the development of freight hubs, logistics centres and inland port facilities in locations with good access to the regional strategic freight network (city and district councils, ARC).



Map 1 Strategic Freight Network

- 1.4** Ensure that the design of streets and transport infrastructure contributes to quality liveable environments, and takes account of the different roles and character of particular locations.
- 1.4.1** Incorporate good design principles (refer also to policy 1.5.4) and context sensitive design from an early stage in planning projects, including consideration of connections, legibility, safety, accessibility and mobility, character, heritage and amenity, environmental standards, the role of public space and the interface with development sites and where appropriate lowered vehicle speed (city and district councils, ARTA, ARC).
- 1.4.2** Consider the pedestrian-permeability of transport infrastructure and associated developments, and mitigate the potential severance of communities and their activity patterns that can result from road or rail infrastructure (city and district councils, ARTA, ARC).
- 1.4.3** Plan to enhance community/neighbourhood cohesion and connectivity when delivering significant transport interchanges and associated developments (city and district councils, ARTA, ARC, NZTA, KiwiRail).
- 1.4.4** Implement an integrated approach to the design of transport corridors, particularly where regional arterial roads pass through town centres or other areas with community identity and character (city and district councils, KiwiRail).
- 1.4.5** Consider the safety, comfort and convenience of road users and people who live, work and visit the area in the planning and design of streets (city and district councils).
- 1.4.6** Implement special measures on residential streets to enhance social connectedness and promote safer walking and cycling environments (Map 2 on next page) (city and district councils).
- 1.4.7** Preferentially deploy clean, quiet transport solutions in identified town centres and high density corridors (ARTA, KiwiRail, NZTA).
- 1.4.8** Ensure that Mana Whenua heritage perspectives and Te Aranga Strategy are included in the design of streets and transport infrastructure through naming and designs chosen, including taking into account and giving due consideration to historical features of local, regional and national significance to hapu and iwi of particular locations (city and district councils, Mana Whenua, ARTA, KiwiRail, NZTA).
- 1.5** Encourage land use activities and urban design that reduces the exposure to adverse effects from transport activities.
- 1.5.1** Require high traffic-generating activities to adopt “good sustainability practice” into land use developments (city and district councils).
- 1.5.2** Ensure that proposals for new major trip generating developments are subject to an integrated transport assessment (city and district councils).
- 1.5.3** Ensure a high level of pedestrian connectivity is provided between public transport, stops, stations and interchanges, shops, businesses, community facilities and residential areas in all new developments and redevelopments (city and district councils, ARTA).
- 1.5.4** In preparing district plans and in considering development and redevelopment proposals, consider the documents People, Places and Spaces: A design guide for urban New Zealand (Ministry for the Environment 2002); the New Zealand Urban Design Protocol (2004); the Urban Area Intensification and Structure Planning Regional Practice Guides, (both 2000); Crime Prevention Through Environmental Design; Universal Design Standards and other guidelines to ensure access for people with disabilities; and relevant local authority urban design guides and provisions that ensure land use and transport systems are mutually supportive and serve the whole community (city and district councils).



Map 2 An Indicative Regional Cycle Network

**1.5.5** Make provision for the amenity and security needs of pedestrians, cyclists and public transport users in the design and assessment of town centre developments, new subdivision and major redevelopment proposals (city and district councils, ARTA, NZTA).

**1.5.6** Consider the potential for an urban development authority or other mechanisms to facilitate land assembly when planning for transport infrastructure, to make transit orientated developments more viable and/or stimulate economic development (city and district councils, ARTA, ARC, central government).

**1.5.7** Encourage district plans to consider reverse sensitivity effects relating to transportation activities (city and district councils, ARTA, ARC, NZTA, KiwiRail).

**1.6** Recognise and provide for the multi-functional role of transport corridors, in addition to their transport function.

**1.6.1** Recognise transport corridors as an important component of public space, which perform a variety of functions beyond movement and contribute to wider social and economic outcomes (city and district councils, NZTA, KiwiRail).

**1.6.2** Recognise the importance of transport corridors as biodiversity corridors, providing open space, and use of the corridor for amenity and indigenous plants and animals (city and district councils, ARTA, NZTA, KiwiRail).

**1.6.3** Work with utility providers to integrate planning for and co-ordinate the use of transport corridors for utilities in an efficient and effective manner (city and district councils, ARTA, NZTA, KiwiRail).

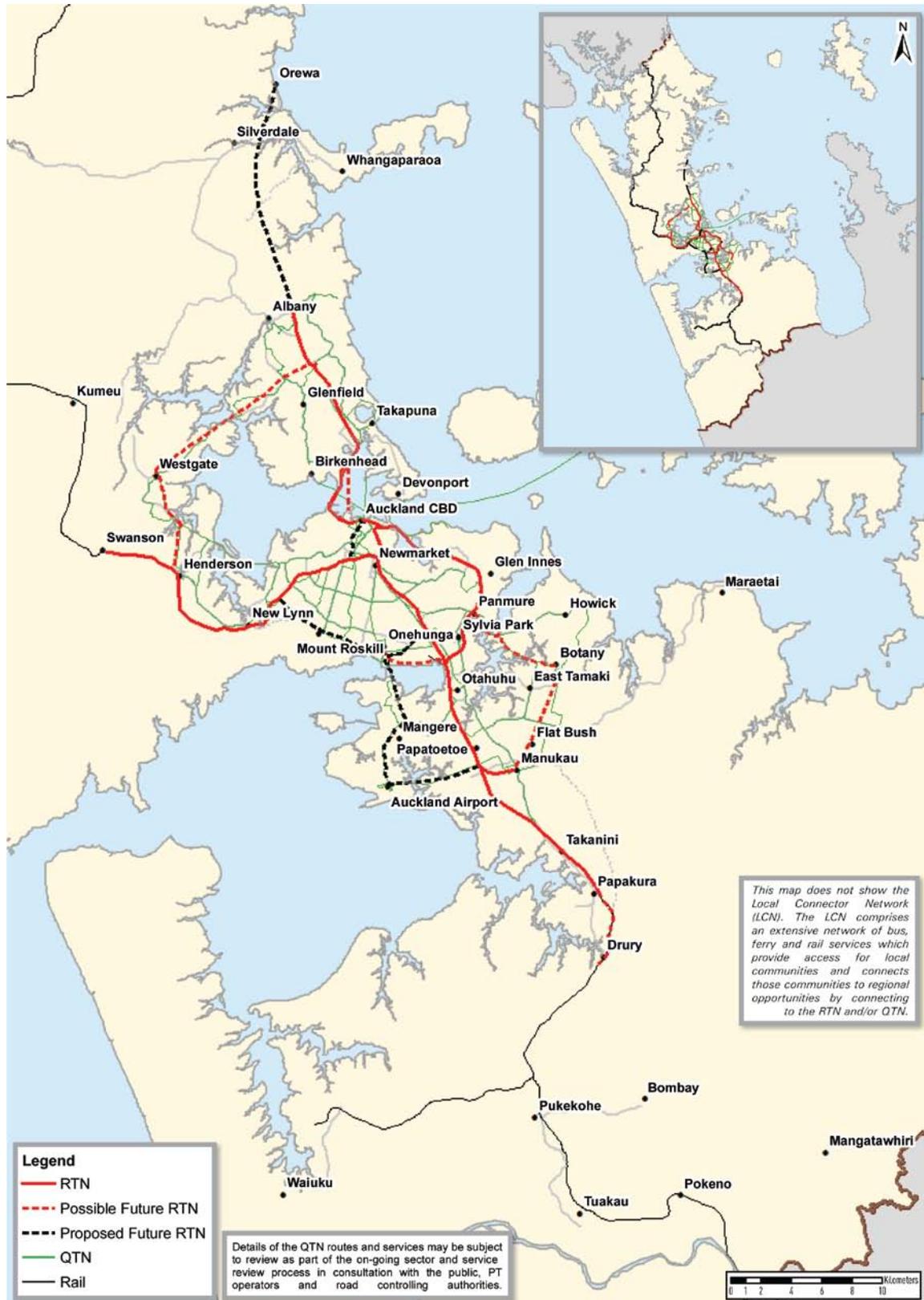
**1.7** Discourage high trip-generating activities from developing in locations where transport options are limited, or where there are adverse effects on the safety and efficiency of the transport network.

**1.7.1** Discourage activities that generate high numbers of person-trips from developing in locations without good access to the RTN or QTN (see Map 3 on next page) (city and district councils, ARTA, ARC).

**1.7.2** Discourage high freight-generating activities from locating in areas without good access to the regional strategic freight network (Map 1) (city and district councils, ARTA, ARC, NZTA).

**1.7.3** Where possible, avoid locating sensitive land uses such as hospitals, schools, childcare facilities, aged care facilities, marae and playgrounds close to roads on the regional freight network (city and district councils, central government, district health boards).

**1.7.4** Develop access management plans to manage property access on the arterial road network (city and district councils).



Map 3 RTN and QTN Network



Newmarket rail station

## 5.2 Economic measures

The policies in this section aim to ensure that the prices faced by individual transport users are as fair as possible, so transport prices reflect the full costs and benefits of their transport decisions. At present, a number of the costs that users impose on the system (including externalities such as environmental, health and social costs, and the costs of delay for other users) are not reflected in the prices that they pay.

Considerable resource has been devoted in various cities around the world, including Auckland, to researching the introduction of road pricing schemes. These schemes are generally aimed at reducing congestion by charging for the use of roads according to how congested those roads are, with charges depending on where and at what time people travel. Road pricing schemes have been introduced in a limited number of locations, notably Singapore, London and Stockholm. In a number of other instances, as in Edinburgh, schemes have been developed but not proceeded with. The main lessons learned from the various schemes are that:

- There needs to be an acceptance by the public that the problem to be addressed is severe enough to warrant the introduction of road pricing, and a clear articulation of the expected results of the proposed road pricing scheme.
- Road pricing will not be acceptable to the public unless other options that are likely to be effective in addressing congestion have been put in place and congestion is still an issue. These include public transport improvements, travel demand management measures, parking policies, more sustainable land use, and additional roads where appropriate.
- Realistic alternatives must be in place for people faced with additional charges as a result of the road pricing scheme.
- It must be shown that the financial impacts of the scheme will not materially disadvantage low income groups relative to other groups in the community.

There are benefits in a shift towards a full road pricing regime in the longer term, and the introduction of road pricing in Auckland could be considered once the more conventional measures described above have been implemented and fully tested, and the Auckland transport system has been developed to a point where there are realistic alternatives. An important element of this would be a much improved public transport system providing good accessibility at affordable fares. Measures would also need to be introduced to ensure equity issues caused by road pricing are resolved before road pricing is introduced.

In the meantime, the economic and pricing policies in this strategy are aimed at encouraging a shift in travel behaviour towards public transport and active modes as an alternative to single occupant vehicles use. This includes the use of financial incentives to encourage the use of more sustainable modes. Policies on the supply and pricing of car parks are also included in this section, in recognition of the important effect that this can have on travel demand. It includes the key elements of the Auckland Regional Parking Strategy 2009 which provides additional guidance on implementing changes in parking rules and reducing the complexity of district plan controls. The strategy sets out a new direction for the supply and management of parking in the region, to bring it in line with the region's land use, transport and sustainability strategies and outcomes. The new direction moves away from past policies which have contributed to an excessive reliance on travel by car through encouraging the provision of an oversupply of free parking, the true costs of which are not perceived by the user. The key components are:

- The introduction of maximum parking standards for new developments in high density mixed use town centres and corridors identified for intensive development in the ARPS.
- The associated preparation of comprehensive parking management plans for each centre.
- Policy guidelines identifying measures for better integrating parking management with regional land use and transport strategies and plans, and for making effective use of the available parking supply and any additional funds generated.

The policies also recognise the need to take equity issues into account in setting transport prices. This reflects the fact that the accessibility and mobility of some people in the community will be adversely affected by pricing policies which are solely focused on efficiency. For this reason, policies have been included to ensure that the needs of the transport disadvantaged are taken into account in setting public transport fares, and that travel alternatives are available where road pricing or tolling schemes are implemented.

Note that the policies in this section are focused on economic signals to individual users, in contrast to transport affordability and funding policies relating to the community as a whole. These are addressed in policies on funding (5.8) and affordability (5.9).

### Policy 2: Economic measures

Ensure that transport pricing contributes to the effective management of travel demand.

- 2.1** Provide financial incentives to encourage the use of sustainable transport modes.
- 2.1.1** Provide financial assistance for the provision of public transport services where this provides alternatives to private vehicle travel (ARTA, ARC, NZTA).
- 2.1.2** Consider financial assistance to promote alternatives to road freight in congested conditions (city and district councils, ARC, NZTA).

**2.1.3** Consider the provision of incentives to encourage the adoption of low emission, fuel efficient and high occupancy vehicles (central government, ARC, NZTA).

**2.1.4** Advocate to central government for economic incentives to reward sustainable vehicle purchasing behaviour, and discourage unsustainable purchasing behaviour (Regional Transport Committee).

**2.1.5** Advocate to central government to ensure taxation rules do not discriminate against sustainable transport modes (Regional Transport Committee (RTC)).

**2.2** Set public transport fares at a level that encourages mode shift, recognises the needs of the transport disadvantaged, and provides for a financially viable public transport system.

**2.2.1** Set public transport fares at levels that are competitive relative to private travel costs (ARTA).

**2.2.2** Structure fares and ticketing to attract and retain public transport customers, while covering a reasonable proportion of operating costs (ARTA).

**2.2.3** Ensure that the fare system is easy for public transport customers and operators to understand and use (ARTA).

**2.2.4** Ensure that fares and ticketing policies are consistently applied across the region (ARTA).

**2.2.5** Provide concessionary fares for the transport disadvantaged and other target groups (ARTA).

**2.3** Manage the location, pricing and availability of parking so that it is consistent with road capacity and growth centre objectives.

**2.3.1** Achieve a balance between the provision of car parking and managing peak period traffic demands in areas of high parking demand such as the Auckland CBD and other regional centres (city and district councils).

**2.3.2** Ensure that the pricing and availability of parking complements travel demand management initiatives and improvements to the passenger transport network (city and district councils).

**2.3.3** Introduce maximum parking standards for non-residential developments in high density, mixed-use town centres and corridors identified in the ARPS, supported by the preparation of comprehensive parking management plans for each centre<sup>32</sup> (city and district councils).

**2.3.4** Revise parking standards for high density residential developments in high density, mixed-use town centres to support urban design and sustainability objectives, and avoid unnecessarily increasing the costs and reducing the affordability of higher density residential development (city and district councils, ARC).

**2.3.5** Ensure that the supply and pricing of parking in town centres gives priority to short-stay parking over commuter parking, including the provision of mobility parking spaces in accordance with current standards (city and district councils).

**2.3.6** Seek to minimise the amount of land allocated to non-residential parking in high density town centres to support the amenity and walkability of the centre (city and district councils).

<sup>32</sup> CPMP guidelines are included in the ARPS.

## 5.3 Behaviour change

Whereas the previous two policies have included land use and economic interventions to manage travel demand, the policies in this section are focused on non-pricing interventions that will influence travel behaviour and encourage the use of more sustainable transport modes.

These policies aim to change travel behaviour by providing information and encouraging the use of more sustainable transport modes, and working with schools, businesses and communities to encourage safe and sustainable transport choices. They also aim to reduce the need to travel wherever possible, through options such as travel planning. High occupancy vehicle (car or van pool) schemes, teleworking and the wider use of information technology can also support trip reduction.

The RLTS Working Paper 14 provides more detailed information on the type of travel demand management activities that can be expected to contribute towards the outcomes and targets set out in Chapter 2.

It is important that the policies in this section are considered alongside other demand management and supply-side policies which are intended to be complementary and improve transport choices. This includes, for example, the provision of additional infrastructure and services for public transport and active modes (see Policy 4 below), priority for public transport and active modes in the allocation of road space (Policy 5), and pricing policies to encourage the use of sustainable modes (Policy 2).

### Policy 3: Behaviour change

Manage the land use and transport systems to limit the growth in demand for private vehicle travel.

- 3.1** Provide information and education to enable a better understanding of transport choices, promote more sustainable and healthier transport options, and develop a stronger culture of active transport.
  - 3.1.1** Develop and implement education programmes to increase the awareness of transport impacts, benefits and choices (city and district councils, ARTA).
  - 3.1.2** Ensure that there is good access to quality information about transport choices, public transport services, walking and cycling options, and their relative environmental and health impacts (city and district councils, ARTA, Auckland Regional Public Health Services).
  - 3.1.3** Work with transport operators to develop realistic, achievable and accessible public transport timetables that can be reliably delivered and depended on for all services (city and district councils, ARTA).
  - 3.1.4** Work with transport operators to proactively market public transport in order to increase use by existing passengers and attract new users (city and district councils, ARTA).
  - 3.1.5** Run publicity campaigns to target poor environmental and health practices and raise public awareness of good practices (city and district councils, ARTA, ARC).
  - 3.1.6** Support and publicise trials of more efficient and sustainable transport options in both urban, rural and isolated areas (city and district councils, ARTA, ARC).
  - 3.1.7** Promote, recognise and raise the profile of efficient and safe transport options (city and district councils, ARTA, ARC, NZTA).

- 3.2** Use education and enforcement to develop a safety culture amongst all transport users.
- 3.2.1** Ensure that travel behaviour change programmes incorporate safety and personal security initiatives and awareness raising campaigns (city and district councils, ARTA).
  - 3.2.2** Support attitudinal change education to increase respect for other road users (city and district councils, ARTA, Road Safe Auckland).
  - 3.2.3** Ensure that road safety education and engineering initiatives are supported through targeted enforcement (city and district councils, ARTA, Road Safe Auckland, NZ Police).
  - 3.2.4** Advocate to central government for changes to the driver licensing system to improve requirements around awareness and safety of cyclists and pedestrians (Regional Transport Committee (RTC)).
- 3.3** Work with schools, businesses and communities to develop and promote more sustainable transport options.
- 3.3.1** Develop and implement a travel planning programme which ensures that individuals are aware of and encouraged to use alternatives to private vehicles (city and district councils, ARTA).
  - 3.3.2** Work with schools, tertiary institutions, hospitals, public authorities, businesses, marae and communities to develop and implement travel plans which identify existing travel choices and opportunities for reducing the level of vehicle travel needed (city and district councils, Mana Whenua, Iwi, ARTA).
  - 3.3.3** Ensure that travel planning initiatives are supported by complementary improvements to public transport services, walking and cycling facilities, and road safety infrastructure (city and district councils, ARTA).
  - 3.3.4** Work with institutions and businesses to develop facilities and infrastructure that support the use of public transport, ride share schemes and active modes by employees and clients (city and district councils, ARTA, ARC).
  - 3.3.5** Consider providing financial support for urban, rural and isolated communities to implement low-cost alternatives to single occupant vehicle use (city and district councils, ARTA, ARC, NZTA).
  - 3.3.6** Support and encourage community led initiatives to change travel behaviour and improve safety (city and district councils, ARTA).
  - 3.3.7** Work with organisers of major events to prepare and implement travel choices and opportunities for reducing the use of private vehicle travel during those events (city and district councils, ARTA).



The pedestrian bridge from Akoranga bus station over the Northern motorway (State Highway 1) provides access to AUT's Akoranga campus

- 3.4** Promote options that reduce the need to travel.
  - 3.4.1** Support the development of broadband technology where this can reduce the need to travel (city and district councils, ARC).
  - 3.4.2** Encourage households and businesses to take advantage of improvements to communications technology that reduce the need for travel, including (but not limited to) removing barriers to working from home, and supporting teleworking initiatives and telecentres (city and district councils, ARTA, ARC).
- 3.5** Promote options that make more efficient use of private vehicles.
  - 3.5.1** Develop and implement a strategy to encourage greater use of high occupancy vehicles (city and district councils, ARTA, ARC).
  - 3.5.2** Investigate and support innovative options to make more efficient use of vehicles, including (but not limited to) ride sharing services, van pools, car clubs, staggered start times for schools, and community transport schemes in urban, rural and isolated areas respectively (city and district councils, ARTA, ARC).

## 5.4 Improving transport choices

These policies recognise the need for investment in infrastructure and services to improve the transport options available to Aucklanders and connections to neighbouring regions. In the past, the range of transport options available has often been limited through economic signals and investment policies that have been heavily focused on providing for private vehicle mobility. In order for individuals and businesses to make efficient and sustainable transport decisions in future, they need to be provided with a wider range of viable options that meet their transport needs.

In some cases, individual transport options are severely limited through circumstances beyond their control. This includes, for example, the transport disadvantaged<sup>33</sup> – people who are least able to get to basic community services and activities. Policies in this section include actions to ensure that the transport disadvantaged have a reasonable level of access to opportunities through the provision of a public transport network offering an acceptable base level of service throughout the metropolitan area.

To promote choice and improve the future resilience of the region's transport system it is necessary for the public transport system to be developed well beyond this basic network. For this reason a major component of this strategy is the further development of the region's public transport network, with a "layered" approach to network design. This includes, at the highest level, RTN which operates at high frequency on its own right of way; the QTN, a mainly bus-based network of high frequency services with priorities where appropriate; and a LCN which provides accessibility for local communities and/or connects them to the RTN or QTN.



A kneeling bus provides access to people with disabilities

<sup>33</sup> This RLTS has adopted the definition in the Public Transport Management Act 2008: transport disadvantaged means people whom the regional council has reasonable grounds to believe are the least able to get to basic community activities and services (for example, work, education, health care, welfare, and food shopping)

To support this network, the RLTS provides for significant investment in public transport infrastructure (particularly the RTN), and services. The RLTS also calls for improved integration of services, fares and tickets, and better quality of services, to ensure that public transport is an attractive and convenient choice and better integration between modes. For major projects, consideration should be given to using a staged approach. For example, as a method of implementing major extensions to the rail system, it may be appropriate to first improve bus services, then provide bus priorities, then provide bus lanes as a means of building patronage and serving demand until construction of rail is viable.

The strategy includes improvements to facilities for walking and cycling, particularly in and around growth centres and areas of new development. This recognises the potential for short trips in particular to be undertaken by active modes rather than private vehicles. The public health and environmental benefits of transferring trips to these modes are significant. Providing facilities for walking and cycling will help to reinforce the demand management policies outlined above.

Investment in public transport, walking and cycling along with improved connections with other regions will all assist with tourism and other economic developments for the region and New Zealand.

While a strong focus of the RLTS has been on improving choices for passenger transport, it also recognises the need to provide options for the movement of goods within and through the region, to ease congestion, minimise the costs of road maintenance, and improve road safety and environmental outcomes. Policies are also included to support the use of rail freight and coastal shipping, especially where this can reduce pressure on the region's road network.

#### Policy 4: Improving transport choices

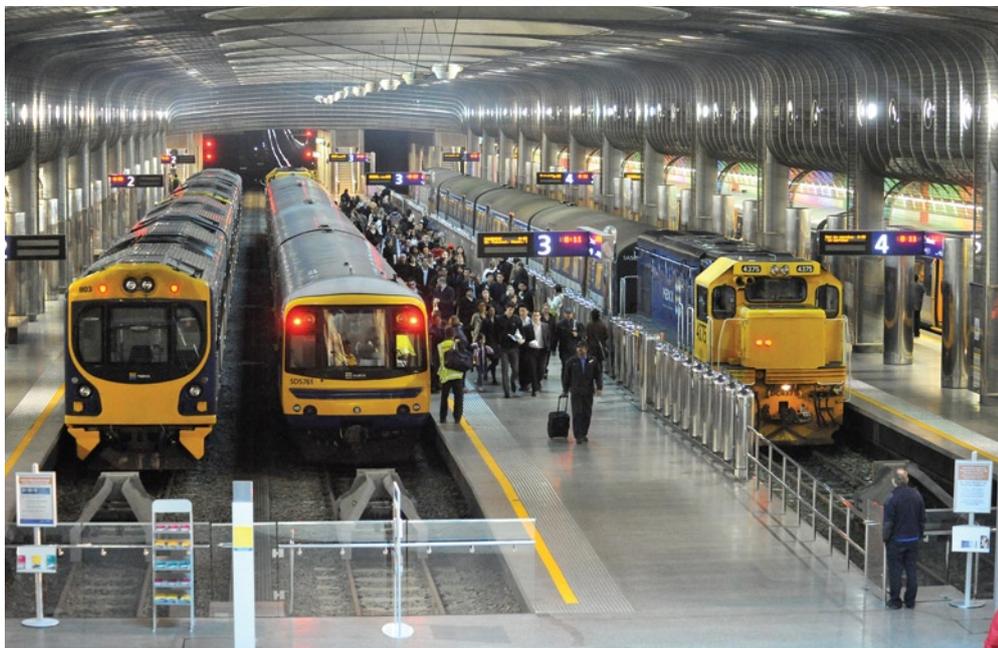
Provide infrastructure and services that enhance the transport choices available to people, communities and businesses.

- 4.1** Improve, upgrade and expand the region's public transport infrastructure and services to provide a simple, easy to understand network that meet people's travel needs.
- 4.1.1** Work with public transport operators to ensure the provision of a high quality, fast, frequent service on the RTN (as shown in Map 3), with its own dedicated right of way connecting the major growth centres to the central business district (CBD) (Rail and the Northern Busway) (ARTA, KiwiRail).
  - 4.1.2** Work with public transport operators to ensure the provision of fast, frequent, high frequency services and infrastructure along key corridors that optimises the throughput of public transport as a priority use on the QTN (see Map 3) (city and district councils, ARTA).
  - 4.1.3** Work with public transport operators to ensure the provision of services on the LCN within the urban area to enable access to community activities and services including workplaces, healthcare, education, social and cultural facilities (city and district councils, ARTA).
  - 4.1.4** Ensure design of services takes into account the need to provide good services to locations with high levels of deprivation or social isolation (ARTA, ARC, NZTA).
  - 4.1.5** Ensure the provision of services on the LCN within the urban area to connect communities to the RTN/QTN (city and district councils, ARTA).
  - 4.1.6** Give effect to the public transport service guidelines in Appendix F (ARTA).

**4.1.7** Work with public transport operators to ensure that public transport services are planned and provided for, to new and (re)developing areas, at an early stage of development (city and district councils, ARTA).

**4.1.8** Investigate and implement measures to ensure that adequate public transport capacity is provided to meet projected future employment growth in the CBD. These include solutions to the issue of bus movement, bus stop and bus lay-over capacity in a constrained CBD road network, and major future infrastructure investments (Auckland City Council, ARTA).

**4.1.9** Encourage cost-effective public transport connections to other regions (ARTA, ARC, Environment Waikato, Northland Regional Council).



Britomart Transport Centre, Auckland

**4.2** Increase the use of public transport through the provision of a high quality, safe and integrated network of services, fares and ticketing.

**4.2.1** Implement an integrated fares and ticketing system that allows interchange between services, modes and operators without financial penalty to the user (ARTA, NZTA).

**4.2.2** Make provision for modal interchange throughout the public transport system, including providing well designed transport interchanges that ensure efficient transfer between active modes and all public transport modes; ie bus, rail and ferry (city and district councils, ARTA).

**4.2.3** Provide park-and-ride facilities at appropriate locations based on the criteria in Appendix G (city and district councils).

**4.2.4** Upgrade the public transport fleet to provide modern, accessible, low emission vehicles across the entire network (public transport providers, ARTA).

**4.2.5** Ensure that the design, construction and operation of public transport infrastructure and services takes into account the safety and security of passengers and drivers, including reduced levels of vehicle emissions (city and district councils, ARTA, KiwiRail).

**4.3** Ensure that public transport infrastructure activities of high regional significance are implemented (see Map 3 on page 84 and Map 4 on next page).

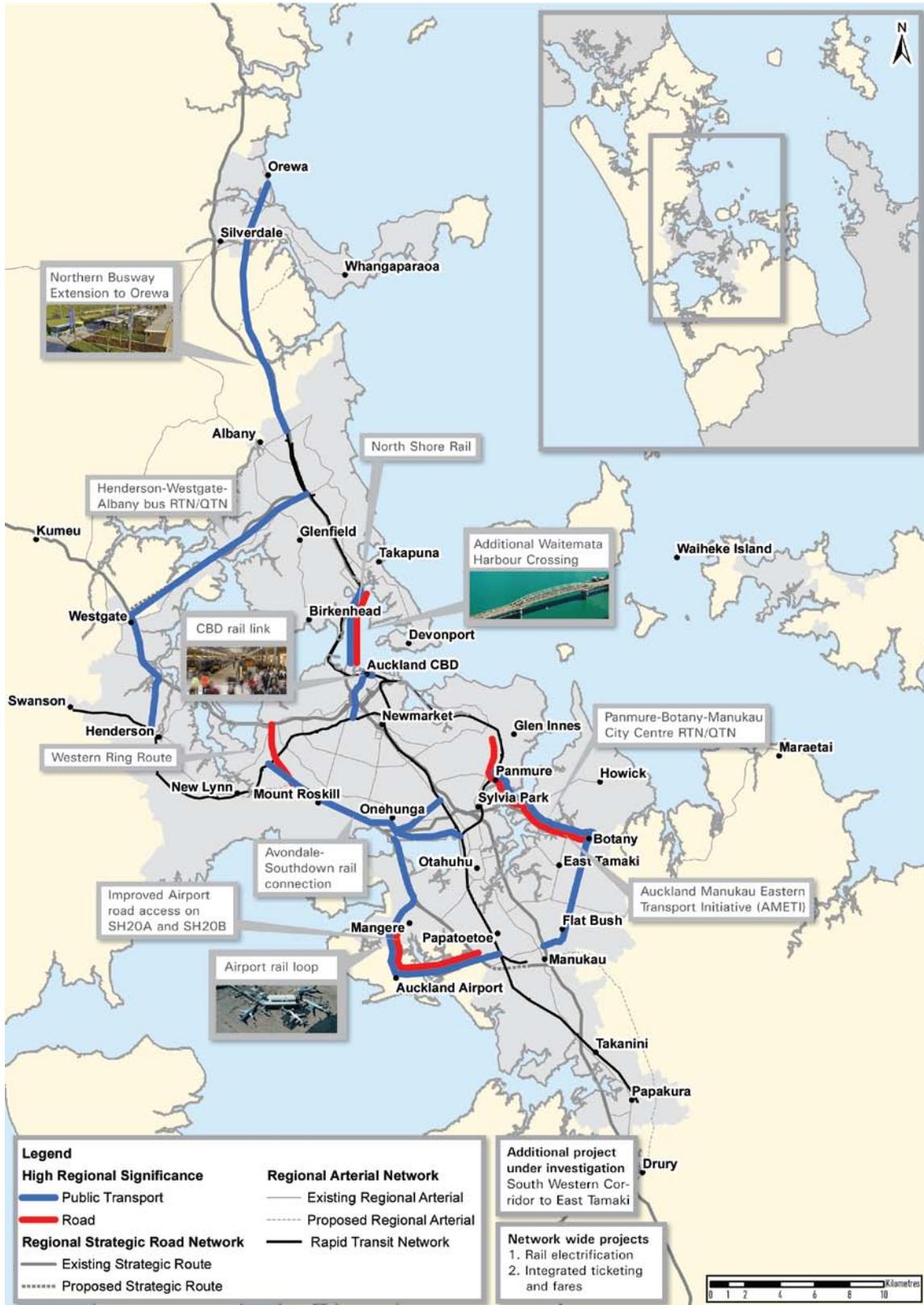
**4.3.1** Implement the following RTN and QTN improvements of high regional significance:

- CBD rail link
- rail electrification
- integrated ticketing and fares (city and district councils, ARTA).

The **CBD rail link** will play a critical role in providing capacity for the rail system to continue to grow beyond the 10 minute peak services currently planned, will produce faster journeys from the west of Auckland to the CBD, and will provide greater coverage of the CBD. The capacity of the rail system is currently limited by the tunnel leading to the Britomart terminal. Construction of the CBD rail tunnel will allow Britomart to operate as a through station rather than as a terminal. The consequent increase in system capacity will enable trains to be operated at higher frequencies and will provide the ability to operate new services to the CBD, including rail services connecting with the airport and using the proposed Avondale-Southdown Line. The CBD rail link will also provide improved rail coverage to the CBD. Without the access provided by the CBD rail link, the growth of the CBD will be constrained as roads become increasingly congested and the number of buses in the CBD becomes harder to manage. The wider economic benefits need to be fully recognised in developing and planning for the construction of the CBD rail link. This needs to be progressed with urgency and the link needs to be operational by 2021.

**Rail electrification with 10 minute services and connection of the rail system to Manukau City Centre and Onehunga** are projects which have been agreed for some time and are in the process of being delivered. The Onehunga Line is expected to open mid 2010 and will have a 30 minute peak frequency. The Manukau Link is expected to open in mid 2011 and is designed for 10 minute peak frequencies, however a lower level service will be offered until the delivery of the new electric trains (Electric motive unit). The first electric trains on the regional rail network are targeted to commence service in 2013. These improvements are critical to continuing the growth of rail patronage in Auckland and allowing passenger rail to fulfil its role (along with the Northern Busway) as the RTN which forms the backbone of the public transport system. These activities need to be implemented as soon as possible.

**Integrated ticketing and fares** are critical in making public transport easier to use and more convenient for users. As the RTN develops, integrated ticketing and fares will become increasingly important to enable passengers to transfer with minimal inconvenience between feeder services and the RTN. ARTA has contracted a supplier to deliver the Auckland Integrated Fares System (AIFS). The system will be progressively implemented from 2011/2012. The system will use smartcard technology and will include automated gates, readers, reload devices, and the supply of all computer hardware, software, networks and communications.



Map 4 Projects of high regional significance



An example of proposed integrated ticketing compared with the current ticket range

**4.3.2** Investigate and where necessary take steps to plan, identify funding for improvements, and protect the RTN and QTN, including the following activities of high regional significance:

- Northern Busway extension to Orewa
- Airport rail loop
- Avondale-Southdown rail connection
- Panmure-Botany-Manukau City Centre RTN/QTN
- Henderson-Westgate-Albany bus RTN/QTN
- North Shore Rail (city and district councils, ARTA).

**The Northern Busway** currently operates as a full RTN on its own right of way only as far as the Constellation Drive station, although it operates with shoulder bus lanes to Albany station. Extension of the Northern Busway in its own right of way to Albany station, and continuing from there north to Orewa, will reduce bus travel times and increase reliability from locations north of Constellation Drive by providing more direct routing and by removing the bus operation from congestion on the motorway. This will enable the full benefits of the busway to be realised and make bus travel more attractive to people from Browns Bay, Albany, Orewa, Silverdale and the Whangaparaoa Peninsula. Further investigation is required to confirm the nature and alignment of the northern extension of the busway, its northern termination point and the nature of park-and-ride facilities required. Extending the busway is planned in two phases – the first phase connects the existing busway at Constellation station with Albany station and continues to the Northern Motorway at Redvale, and is expected to be constructed in the period 2021-2031. The second phase extends the busway from Redvale to Orewa and is expected to be constructed in the period 2031-2040<sup>34</sup>.

<sup>34</sup> The timing is indicative only. Actual timing will vary depending on the outcome of the investigation and changing circumstance

**The airport rail loop** consists of connections to the airport from the north via Onehunga and from the east via Puhinui station. As well as serving air passengers, the line will provide access to the fast growing employment area around the airport and will increase services to the growing centre of Onehunga. Only limited investigations have been carried out to date on the detailed route of the rail connections, how the introduction of rail would be staged, and what bus services should be established in the interim. Priority needs to be given to planning and route protection. It is expected that the airport rail loop will be constructed in the period 2031-2040<sup>35</sup>.

**The Avondale-Southdown rail connection** enables the introduction of passenger rail services connecting West Auckland with South Auckland, including provision of services to the Airport. It would provide a more direct route for rail freight from West Auckland and from north of Auckland to the North Island Main Trunk and both the Port of Auckland and locations to the south. It is expected that the Avondale-Southdown rail connection will be constructed in the period 2031-2040<sup>36</sup>.

Investigations into public transport connections between **Panmure-Botany-Manukau city centre** show that bus operations in the corridor should be upgraded to operate as a QTN as soon as possible, and that planning should proceed to enable upgrading to an RTN, probably during the period 2021-2031<sup>37</sup>. The route should be future proofed for conversion to light rail at a later date.

Investigations into the **Henderson-Westgate-Albany public transport connections** indicate these connections would operate as bus QTN over the period of this strategy. It would be wise however to future proof the route for conversion to bus RTN at a future time.

**North Shore rail** – It is expected that the Northern Busway will operate effectively during the period of this RLTS. It will provide an attractive public transport connection between the North Shore, CBD and the rest of the RTN and QTN system, and will provide a strong public transport core for movement around the North Shore. Towards the end of the period of this strategy however the busway is likely to approach its operational capacity and this may constrain further growth of public transport patronage. It is therefore necessary to continue investigation of rail and to protect the ability for the future introduction of a North Shore rail. The route to be protected across the Waitemata Harbour is the route identified in a study undertaken in 2008, which involved tunnelling from the CBD to a station under Gaunt Street in the Wynyard Quarter, then continuing a tunnel under the harbour to emerge in the vicinity of the Esmonde Road interchange. This particular option is known as Option 2C (which also includes the road component described in Policy 6.2.2). On the North Shore there may be advantages in following a different route from the Northern Busway, in order to access centres not on the busway and to maximise the benefits of rail in supporting the development of more concentrated mixed use centres in accordance with the RGS.

**4.3.3** Investigate and implement where appropriate a staged approach to major projects (NZTA, KiwiRail, ARTA, city and district councils).

**4.4** Provide services to meet the specific needs of the transport disadvantaged.

**4.4.1** Ensure that the public transport network provides a good level of service to areas of high social deprivation that ensures equitable access to services (ARTA).

**4.4.2** Make the public transport network safer and more accessible for everyone including; children, women, senior citizens and people with disabilities (ARTA).

**4.4.3** Provide targeted services to assist meeting the access needs of people in the region who are the least able to actively participate in society to get to community activities and services (for example, work, education, health care, welfare, and food shopping) (ARTA).

35 The timing is indicative only. Actual timing will vary depending on the outcome of the investigation and changing circumstance.

36 The timing is indicative only. Actual timing will vary depending on the outcome of the investigation and changing circumstance.

37 The timing is indicative only. Actual timing will vary depending on the outcome of the investigation and changing circumstance.

**4.4.4** Provide public transport fare concessions to selected transport disadvantaged groups (including senior citizens, children, students and people with disabilities) to make it more affordable for them to actively participate in society to access community activities and services (ARTA).

**4.4.5** Foster a “whole of journey” approach to public transport accessibility by providing infrastructure and information that enables all people, and especially the transport disadvantaged, to access public transport services (city and district councils, ARTA).

**4.4.6** Ensure people whose disabilities prevent them from using private or public transport have access to specialist transport services, such as total mobility (ARTA).

**4.4.7** Remove barriers in order to ensure the transport system is accessible by all people including those with disabilities, including upgrading the transport system to meet Universal Design Standards (ARTA, city and district councils).

**4.4.8** Ensure that public transport contracts include operator and driver training to support the use of the public transport system for people with disabilities (ARTA, city and district councils).

**4.4.9** Ensure that the planning and management of parking facilities in developments recognise the needs of the special requirements for people whose disabilities prevent them using private vehicles or public transport, such as the provision of short-term pick-up/drop-off locations for wheelchair accessible providers (city and district councils).

**4.5** Provide services to meet the specific needs of rural communities.

**4.5.1** Work with rural communities to develop innovative transport services and infrastructure that are tailored to meet the specific needs of particular rural communities in a cost effective manner, eg shuttle buses (city and district councils, ARTA).

**4.6** Provide facilities that encourage greater use of walking and cycling.

**4.6.1** Incorporate national guidelines and standards for walking and cycling into transport planning, design and management activities, such as the NZTA Pedestrian Planning and Design Guide (city and district councils, NZTA).

**4.6.2** Develop and implement local walking and cycling strategies to maximise the throughput of pedestrian and cyclists as priority users for local trips, including travel between public transport, shops, education, recreational, businesses, other facilities and residential areas (city and district councils, NZTA, ARTA).

**4.6.3** Complete a regional cycle network (as indicated in Map 2) by 2026 to a consistent standard that also includes connections through town centres (city and district councils, ARTA, NZTA).

**4.6.4** Prepare separate forward work programmes for investment in improving walking and cycling networks (city and district councils, NZTA).

**4.6.5** Ensure adequate provision is made for walking and cycling facilities, including facilities at public and commercial destinations, in all transport projects especially those involving public transport facilities and growth centres (city and district councils, ARTA, NZTA).

**4.6.6** Ensure at-risk road users and communities get priority strategies to promote walking and cycling (city and district councils, NZTA).

**4.6.7** Review transport infrastructure design standards and policies to ensure that improvements to pedestrian and cyclist safety are fostered (city and district councils, NZTA).

**4.6.8** Ensure footpaths are provided at a standard which encourages their use:

- in areas of high pedestrian demand (or potential demand)
- to enable local walking trips to public and commercial destinations, and to support walking initiatives and access to public transport in all communities
- to enable walking as a recreational opportunity in all communities (city and district, ARTA, NZTA).

**4.7** Support rail freight, coastal shipping and pipelines as alternatives to road transport.

**4.7.1** Ensure that the region's rail freight network continues to provide efficient connections to the ports of Auckland and Onehunga, inland port facilities, and other regions (KiwiRail, ARC, Environment Waikato, Northland Regional Council).

**4.7.2** Encourage the effective and efficient intra and inter-regional movement of freight by rail and by sea (KiwiRail, ARC, ARH, Environment Waikato, Ports of Auckland, Northland Regional Council).

**4.7.3** Support and encourage the development and increased use of inland port terminals as inter modal interchanges where these improve the efficiency of the roading network (ARC, Ports of Auckland, NZTA, city and district councils).

**4.7.4** Identify key projects to improve the competitiveness of rail and coastal shipping (including projects that may be located outside the region which will reduce pressure on Auckland's road network) (KiwiRail, ARC, city and district councils, NZTA, Ports of Auckland).

**4.7.5** Identify the steps necessary to optimise the utilisation of rail capacity, including the possible need for a third track on the North Island main trunk between Wiri and Westfield, and resolve any conflicts that may develop between freight and passenger rail demands (KiwiRail, ARTA).

**4.7.6** Enhance and encourage the use of pipelines as an alternative to road based freight (ARC, Northland Regional Council, Environment Waikato).

## 5.5 Network management

The existing transport network represents a significant investment, and the efficient and effective operation and maintenance of the network is essential to achieving the region's economic, social and environmental outcomes. These policies are aimed at making best use of the existing transport assets and resources, through careful management that recognises the multiple functions and pressures that the transport system must respond to.

The policies reflect the fact that the capacity of the region's transport system is under pressure, and that it is not always possible or desirable for that capacity to be increased. There is an increasing need to seek innovative approaches to the management of existing capacity, to ensure that it is able to support the movement of people and goods. The use of new and emerging technologies is expected to have a significant part to play in the future.

This section also includes policies that allocate available road space to ensure that priority modes in each part of the transport network are adequately catered for. This recognises the different functional role that different parts of the network perform, and reinforces the thrust of the demand-side policies in sections 5.1 to 5.3 above towards greater use of sustainable transport modes. It also recognises the wider role that roads play in communities, and the need to strike a balance between the movement function of the road with the other functions that it performs.



Passengers disembarking a train at Britomart

### Policy 5: Network management

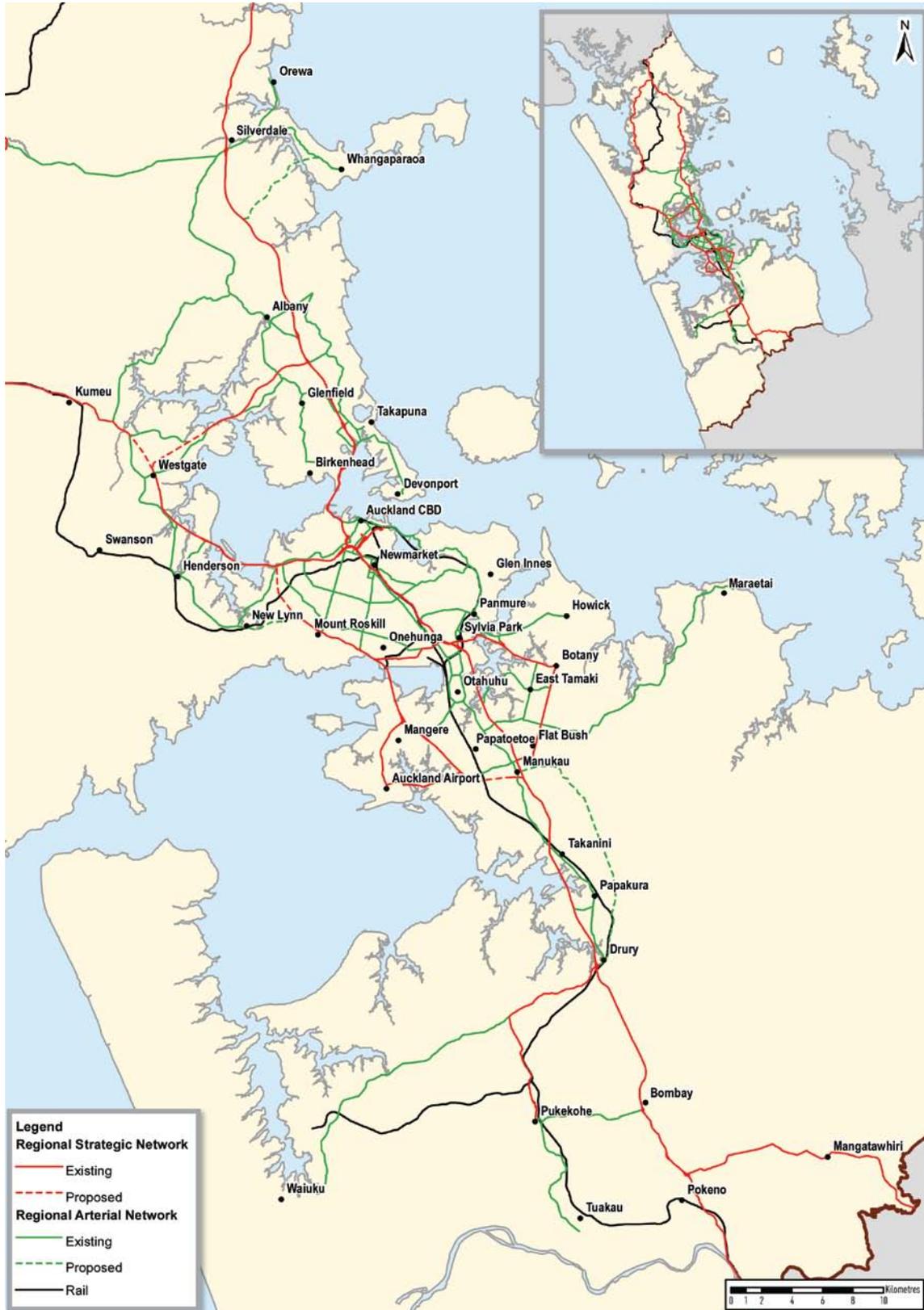
Ensure that existing transport resources are managed in a safe, efficient and sustainable manner.

#### 5.1 Ensure that the region's transport assets are well maintained.

**5.1.1** Ensure that asset management plans are in place for the transport system, and that land transport assets in the region are maintained to an acceptable standard, as determined in those plans (city and district councils, NZTA, KiwiRail, ARTA).

**5.1.2** Develop an integrated approach to asset management and maintenance standards between different agencies (city and district councils, NZTA, KiwiRail, ARTA).

- 5.1.3 Provide for the co-ordinated management of non-transport uses in road and rail corridors, including, urban design, amenities, utilities and community activities, to minimise disruption while taking the road's wider community into consideration (city and district councils, NZTA, KiwiRail, ARTA).
- 5.1.4 Ensure that walking and cycling facilities are maintained to a level that will encourage their increased use (city and district councils, NZTA, KiwiRail, ARTA).
- 5.2 Develop the transport network and vehicle fleet in a way that reduces reliance on fossil fuels and reduces production of greenhouse gas emissions.
- 5.2.1 Advocate for changes to vehicle fleet composition and fuel composition to reduce the consumption of non-renewable transport fuels, improve air quality, and reduce greenhouse gas emissions (ARC, city and district councils, NZTA).
- 5.2.2 Identify any new infrastructure that may be required to facilitate changes in fleet and fuel composition (ARC, city and district councils, NZTA).
- 5.2.3 Support further investigation into how the concept of embodied energy can be incorporated into planning and design of transport infrastructure and advocate for improvements (ARC, city and district councils, NZTA).
- 5.3 Improve the environmental performance of operation of the transport network.
- 5.3.1 Advocate for regular effective emissions and noise testing as part of warrant of fitness and certificate of fitness (ARC, city and district councils, NZTA).
- 5.3.2 Incorporate best practice emissions standards for public transport contracts (ARTA).
- 5.3.3 Encourage more energy efficient vehicle procurement and fleet management practices in the region (ARC, city and district councils, ARTA, government agencies, NZTA).
- 5.3.4 Investigate and implement funding measures to mitigate the adverse effects caused by existing transport networks, where they are environmentally and economically justified, including retrofitting existing sites, innovative pavement design and source control solutions (city and district councils, KiwiRail, NZTA).
- 5.4 Manage the transport network to facilitate the safe and efficient movement of people and goods.
- 5.4.1 Manage the region's road network to give effect to the strategic and regional arterial road hierarchy in Map 5 (see next page) (NZTA, city and district councils).
- 5.4.2 Develop traffic management systems that reflect and reinforce the roading hierarchy identified in Map 5, and implement management policies for each level of the hierarchy consistent with the principles in Appendix H (NZTA, city and district councils).
- 5.4.3 Develop and apply operational and safety standards and/or guidelines for the management of the strategic and regional arterial networks including geometric standards, provision for heavy vehicles, goods loading of commercial vehicles, public transport, walking, cycling, property access, drop off and pick up facilities, parking, and integration with centres. Standards and guidelines should be consistent with the principles in Appendix H (NZTA, city and district councils).
- 5.4.4 Prepare and implement corridor management plans for developing the strategic, regional, and district arterial networks and corridors (taking into account the principles and priorities in Appendix H, and the need to contribute to quality liveable environments as outlined in Policy 1.4) (NZTA, city and district councils).
- 5.4.5 Encourage heavy vehicles onto the regional strategic freight network (Map 1) as far as practicable by ensuring the network is developed and operated in a way that enables the efficient movement of freight vehicles (NZTA, city and district councils).



Map 5 Regional Arterial Network

5.4.6 The secondary freight network (Map 1) for heavy vehicles should be developed and operated, as far as practicable, in a way to provide for heavy vehicles but with the emphasis on protection of the community (city and district councils).

5.4.7 Establish routes for the movement of over-dimension and overweight loads including routes suitable for vehicles permitted under transport rule Vehicle Dimensions and Mass Amendment 2010 (NZTA, city and district councils).

5.4.8 Progressively remove at-grade rail crossings as rail frequencies increase, in a manner by which the least safe at-grade crossings are removed or replaced with grade separated crossings as a priority (city and district councils and KiwiRail).

5.4.9 Improve the signaling of the rail network to provide for greater capacity and reliability for both passenger and freight transport (KiwiRail).

5.4.10 Manage the provision and development of the region's ferry based public transport infrastructure as part of the QTN (ARTA).

**5.5** Manage road space to prioritise the movement of people, goods and services using sustainable transport modes.

5.5.1 Design transport connections within high density centres and corridors to give priority to supporting pedestrians, cyclists and public transport and to enable improved urban amenity and land use integration (city and district councils, ARTA).

5.5.2 Undertake improvements to the QTN to reduce travel times and improve travel time reliability for buses (city and district councils, ARTA).

5.5.3 Design traffic management systems by giving priority to public transport and high occupancy vehicles over general traffic, where appropriate (city and district councils, ARTA, NZTA).

5.5.4 Investigate the feasibility and cost effectiveness of traffic management systems to give priority to commercial traffic (city and district councils, NZTA).

5.5.5 Manage the provision of on-street parking to enable the efficient operation of strategic and arterial routes (city and district councils, NZTA).

5.5.6 Space should be provided for appropriate access to centres for goods delivery (city and district councils).

- 5.6** Use traffic management and intelligent transport systems to optimise the operational efficiency of the network.
- 5.6.1** Investigate and apply improvements in traffic flow management and road network characteristics to maximise the throughput of priority users across the network (city and district councils, NZTA, ARTA).
- 5.6.2** As appropriate, investigate and implement technology for improving traffic management such as ramp metering, incident detection and traveller information, where these are feasible and where they can improve system capacity without compromising the efficiency of the local road network or RLTS outcomes (city and district councils, NZTA, ARTA).
- 5.6.3** Identify bottlenecks and areas of significant speed disruption in the network and consider improvements to improve traffic flow (city and district councils, NZTA).
- 5.6.4** Investigate and promote the use of an intelligent transport system, real-time transport information systems and emerging information technologies (city and district councils, NZTA, ARTA, KiwiRail).
- 5.6.5** Ensure that traffic management and priority systems are adequately enforced to ensure safety, minimise delays and enable efficient operation (city and district councils, NZ Police, NZTA).

## 5.6 Additional road capacity

While the emphasis of the policies in the preceding sections is on managing the demand for travel, providing for alternatives to private vehicle travel and making better use of the existing transport system, the RLTS acknowledges that there will be a need to provide additional roading capacity in some situations, where those alternative management options are not sufficient to cope with the growth in demand for travel.

The policies in this RLTS are arranged into a hierarchy which requires demand management, alternative modes and network management initiatives to be exhausted before additional road capacity should be considered. This reflects the preferred strategic direction of the strategy, which acknowledges the need to shift travel demand away from private vehicles and encourage modes such as public transport, walking and cycling that are more consistent with a compact urban form. In some cases, additional road capacity will also be needed to support the implementation of improved public transport services, as identified in Policy 4.

In general, the provision of additional road capacity will be focused on improving access to economic activity and supporting intensification and connectivity in re-developing areas. This means, for example, that new roading capacity for private vehicles will generally not be a priority for the CBD, where good options exist, whereas it will be considered in areas of high freight activity, where good road transport connections are essential for economic development.

The policies in this section provide for the completion of the region's strategic road network, and identify a number of roading projects of high regional significance which will contribute to the RLTS objectives, with a particular focus on economic development, network resilience and safety.

The policies also identify the situations where additional road infrastructure should be considered in future, including the need to connect to neighbouring regions, and the need to contribute to growth centre development and economic development.

The policies also outline the steps that should be followed to ensure that new road infrastructure meets environmental, public health and safety standards.

### Policy 6: Additional road capacity

Selectively increase the capacity of the road network where alternative management options are not sufficient to address growth in travel demand.

- 6.1** Ensure that the provision of new road infrastructure supports economic development and growth centre development objectives.
- 6.1.1** Ensure that priorities for the development of roading infrastructure reflect the need to maintain and enhance access to business areas, including strategic facilities such as the port and airport (city and district councils, NZTA).
- 6.1.2** Improve road infrastructure where necessary to support the development of identified growth centres and corridors (city and district councils, NZTA).
- 6.2** Undertake a programme to develop the roading network to give effect to the preferred strategic option, including completion of the strategic road network as defined in Map 4.
- 6.2.1** Implement the following road network improvements of high regional significance:
- Western Ring Route
  - Auckland Manukau Eastern Transport Initiative (AMETI)
  - Improved Airport road access on State Highway 20A and State Highway 20B (city and district councils, NZTA).

**The Western Ring Route** is made up of State Highway 20, part of State Highway 16, and State Highway 18. It provides a strong connection between the North Shore, West Auckland and South Auckland and also provides an alternative north–south route to SH1 through the region from a little south of Albany to Manukau city centre. The Hobsonville deviation, Manukau Harbour crossing duplication and SH20 to SH1 at Manukau City Centre projects are currently under construction. The remaining section of the Western Ring Route yet to be completed is the connection between SH20 and SH16. The May 2009 GPS on Land Transport Funding 2009/10–2018/19 names the Western Ring Route as a road of national significance, and gives priority to this project. Completion of the Western Ring Route is scheduled for completion within the first 10 years of this strategy.

**AMETI** is a package of transport improvements in the Glen Innes, Panmure, Pakuranga, and Botany and includes land use zoning changes, provision of bus lanes and bus priority measures, road network improvements, improved walking and cycling facilities, travel demand management measures and an urban design approach. There is a strong emphasis on improving public transport and removing traffic from town centres in order to promote land use changes in line with the RGS. The first stage of AMETI involves a package of improvements around Panmure, future proofing for improvements (including the introduction of RTN services) between Pakuranga and Botany, and implementation of bus priorities between Panmure and Botany, and is expected to be implemented within the first 10 years of this strategy. Major improvements around Pakuranga and connecting Pakuranga with Botany are expected in the period 2021– 2031. AMETI is also important for improving freight movements and consideration will need to be given to providing for overweight and over-dimension vehicles.

**Improved airport road access on SH20A and SH20B** – Investigations have shown that without improvements to the transport system, the strong growth expected in both air travel and employment around the airport will result in severe congestion in the vicinity of the airport in the later part of the period of this strategy. While construction of rail to the airport will help, congestion would still be significant and would be likely to constrain the expected growth. This strategy also includes provision of rail to the airport (Policy 4.3.2) in the same general corridor. Improvements to airport road access will need to be compatible with the construction of the airport rail loop. It is expected that improved airport road access on SH20A and SH20B will be needed between 2021 and 2031.

**6.2.2** Investigate and take the necessary steps to plan, protect and identify funding for the following activity of high regional significance:

- additional Waitemata Harbour Crossing that would also enable walking and cycling across the harbour on any new crossing or on the existing bridge (NZTA, North Shore City Council and Auckland).

**Additional Waitemata Harbour Crossing** – The Auckland Harbour Bridge has long been recognised as a critical link in the transport system of the region for which there is no realistic alternative in the event of disruption to the bridge (although the Western Ring Route will provide an option for some trips), and a link which is a bottleneck in both the road and public transport networks. A study undertaken in 2008 identified the most appropriate route for an additional crossing of the Waitemata Harbour. The study concluded that the preferred option for an additional road and rail crossing consists of a driven tunnel from Esmonde Road to SH1/SH16 at Central Motorway Junction for general traffic. This particular option is known as Option 2C (which also includes the rail component described in Policy 4.3.2 above). The purpose of the 2008 study was to identify a preferred route rather than to justify an additional crossing. Further investigations are under way to clearly identify the benefits of an additional crossing. The future replacement of the clip on structures on the existing Harbour Bridge, and the potential co-ordination with the provision of an additional crossing is also under consideration. Those investigations have not yet been completed. The ability to construct an additional road and rail crossing on the Waitemata Harbour Crossing needs to be protected in the short term while investigations continue into the justification and likely timing of an additional crossing. The timeframe for replacement of the clip on structures depends on a number of factors with the NZTA proposing that work will need to commence within the next 10 to 20 years (ie 2020 to 2030).

**6.2.3** Investigate and if appropriate take the necessary steps to plan, protect and identify funding:

- South West Corridor to East Tamaki (NZTA, city and district councils).

The **South West Corridor to East Tamaki** road link connecting SH20 to SH1 and East Tamaki has been identified to improve safety, access and reliability of journey time. This link is particularly important because it connects employment and freight generating areas of East Tamaki, Penrose and Onehunga with the strategic road network, port and airport. Initial investigations have been carried out that have identified routes both north and south of the Manukau Harbour. The investigations have not reached the point where a route has been agreed which delivers the desired transport benefits, is affordable and cost effective, and has acceptable environmental and community impacts. Investigations into an appropriate route should be concluded at an early date.

**6.2.4** Undertake a programme to develop the local road network, to give effect to the preferred strategic option in this strategy (city and district councils).

**6.2.5** Co-ordinate the planning and programming of state highway and local road improvements to ensure that the development of the region's road network reflects the preferred strategic option (NZTA, city and district councils).

**6.3** Ensure additional road links are provided to enable access to and within new urban growth areas and subdivisions.

**6.3.1** Make provision for additional road links in district plans and long term plans (city and district councils, NZTA).

**6.4** Ensure strategic roading connections to other regions are developed and improved where necessary to contribute to economic development, network resilience and safety outcomes.

**6.4.1** Support cost effective improvements to safety and reliability to major inter-regional connections between Auckland and Northland, Waikato and the Bay of Plenty, including<sup>38</sup>:

- SH1 North between Auckland and Whangarei
- SH2 Pokeno to Tauranga (NZTA, ARC, Environment Waikato, Environment Bay of Plenty, Northland Regional Council).

**6.4.2** Support investigation of the SH1 Puhoi-Wellsford Road of National Significance.

**6.4.3** Support completion of SH1 Waikato Expressway (NZTA, ARC, Environment Waikato, Environment Bay of Plenty).



Northern Gateway (a toll route) viaduct crossing the Waiwera River

<sup>38</sup> This policy needs to be cross referenced to policies 4.7.1, 4.7.2 and 9.1.3 as there is a need to consider all modes, including rail and coastal shipping, and also the cross modal evaluation of major projects.

## 5.7 Giving effect to the RLTS

This section sets out policies and methods that are intended to guide the actions of public agencies in the region in implementing of the preferred strategic option. It also includes policies relating to the monitoring of progress, and the preparation of more detailed plans and strategies that will assist in the implementation of this strategy. These policies recognise the need to ensure that there is a close alignment between the RLTS and organisations responsible for implementing it, so that the right actions are taken at the right time.

### Policy 7: Giving effect to the RLTS

Ensure that the actions of public agencies in the Auckland region contribute to the implementation of the RLTS.

- 7.1** Develop the specific projects and activities which are required to give effect to the policies of this RLTS in a timely manner.
- 7.1.1** Encourage approved organisations to bring forward the projects and activities that contribute to the RLTS for inclusion in the Regional Land Transport Programme (RLTP) (ARTA).
- 7.1.2** Ensure that forward work programmes include the projects and activities required to give effect to the RLTS (ARTA, city and district councils, ARC, NZTA, KiwiRail).
- 7.1.3** Investigate where appropriate future routes and ensure that adequate protection of these routes is achieved (NZTA, KiwiRail, ARTA, city and district councils).
- 7.2** Ensure that the RLTP gives effect to this RLTS.
- 7.2.1** Prepare the RLTP to give effect to the preferred strategic option in this RLTS, taking into account the funding policies identified in Chapter 5.8 (on next page) (ARTA).
- 7.2.2** Ensure that the funding and prioritisation procedures used in the RLTP are consistent with, and give effect to this RLTS (ARTA).
- 7.2.3** Undertake regular post-project audits for major projects listed in the RLTP to specifically address their accessibility and cost-effectiveness (ARTA).
- 7.3** Regularly monitor progress in implementing the RLTS.
- 7.3.1** Provide regular reports to the RTC about progress in implementing the RLTS, including the status of proposed activities, and how these activities contribute to the objectives of this strategy (ARC, NZTA, city and district councils, ARTA).
- 7.4** Identify and prepare supporting strategies and implementation plans to give effect to this RLTS.
- 7.4.1** Prepare a regional public transport plan to give effect to the public transport service components of this RLTS (ARTA).
- 7.4.2** Undertake multi-modal sub-regional and/or corridor studies and develop corridor management plans in the corridors identified in Appendix H (city and district councils).

7.4.3 Review and or develop the following documents, and update them where necessary to be consistent with and to give effect to this RLTS (ARTA):

- Regional Public Transport Network Plan<sup>39</sup>
- Regional Road Safety Plan
- Regional Arterial Road Plan
- Rail Safety Plan
- Regional Freight Network
- Sustainable Transport Plan
- Regional Parking Strategy
- Regional Speed Management Strategy.

7.4.4 Encourage updates to district plans to support the outcomes of the RLTS by facilitating better integration of transport and land use (ARC, city and district councils, ARTA, NZTA).

## 5.8 Funding

This section sets out policies and methods that are intended to ensure that sufficient funding is available for timely implementation of the strategy and that the available transport funding is applied in a manner that best contributes to the achievement of the strategy.

Alternative funding mechanisms to be investigated include developer contributions, infrastructure bonds, strategic network tolling, parking levies, regional fuel tax, public private partnerships and strategic use of publicly owned assets to underwrite financing of major projects.

The financial assistance rate (FAR), which sets the proportion of each project funded from the Land Transport Fund, is a critical mechanism for allocating funds. Funding categories with a high FAR require little or no contribution from local government rates and are generally more readily funded than funding categories with a low FAR. Currently footpath upgrades and maintenance has an FAR of 0 per cent, most other projects have an FAR of around 50 per cent, and state highways have an FAR of 100 per cent. Implementation of the strategy is likely to require an increase in the FARs for walking and cycling, public transport operations, public transport infrastructure and improvements to arterial roads.

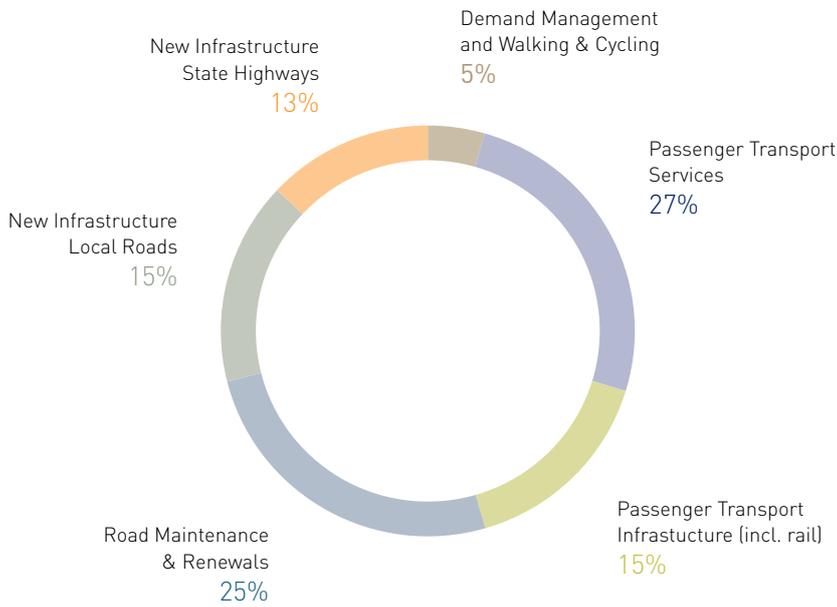
<sup>39</sup> Ferry related matters are a part of the Regional Public Transport Network Plan.

**Policy 8: Funding**

Work with central government and other relevant agencies to ensure there is sufficient funding available to enable the timely implementation of this RLTS.

**8.1** Allocate land transport funding to reflect the preferred strategic option.

**Figure 9 RLTS 30-year expenditure**



8.1.1 Over the three 10 year periods of the strategy this allocation should reflect the allocation set out in table 16.

**Table 16: Activity class funding**

Activity Class	RLTS 1-10yr*	RLTS 10-20yr	RLTS 20-30yr	RLTS 30yr
Demand management and walking and cycling	4%	6%	5%	5%
Passenger transport services	17%	33%	31%	27%
Passenger transport infrastructure (incl. rail)	21%	7%	17%	15%
Road maintenance and renewals	21%	30%	25%	25%
New infrastructure local roads	13%	17%	17%	15%
New infrastructure state highways*	24%	7%	6%	13%

\*Does not include allowance for Puhoi to Wellsford road of national significance.

- 8.2 Advocate to government that funding arrangements, particularly related to FAR (and associated local/regional shares), are changed to enable the implementation of the preferred strategic option.
- 8.3 Investigate the use of alternative funding mechanisms, including developer contributions (levied to fund transport improvements required to support developments and redevelopments), infrastructure bonds, strategic network tolling, parking levies, regional fuel tax, public private partnerships and strategic use of publicly owned assets to underwrite financing of major projects.
- 8.4 Investigate high cost projects/activities to ensure that their long-term benefits and costs justify investment in terms of offering high value for money and delivering on the desired strategic outcomes.
- 8.5 When considering whether to toll new roads, the following matters should be taken into account<sup>40</sup>:
- the need for a suitable untolled alternative route
  - tolling should have only a minor adverse effect on the benefits of constructing the road (particularly safety benefits and relief of traffic pressures on communities)
  - the adoption of tolling should not prevent other transport or safety improvements in the network
  - there should be traffic relief for bypassed communities
  - the potential benefits of allowing public transport services to be toll free.

Consideration must also be given to the social, cultural and economic impacts on by-passed communities (NZTA, city and district councils).

## 5.9 Affordability

The NZTS states that the transport system needs to be affordable for individuals, households, businesses, regions, local and central governments. A key component of affordability is the need for all investment in transport to be cost-effective and represent value for money.

This section includes policies related to cost effective allocation of funds and matters to be taken into account in the funding approval process. The overall aim of these policies is to ensure that the available transport funding is applied in a manner that represents value for money.

An important element of value for money is to scope each investigation widely enough to encompass all cost effective alternatives. For example, when considering interregional connectivity all modes need to be considered – road, rail, coastal shipping and pipelines.

The policies also aim to ensure that transport remains affordable to users and businesses. Policy 2 also includes policies related to affordability for transport users, especially in relation to public transport fares and road pricing.

<sup>40</sup> This policy is to be applied within legislative provisions for tolling and does not purport to replace those provisions

### Policy 9: Affordability

Ensure that transport funding decisions contribute to the cost-effective achievement of the RLTS objectives, and represent value for money. Project evaluation techniques need to be improved so that for major transport projects, comparisons can be made across modes, taking into account modern techniques for assessing wider economic benefits, and community, environmental, and cultural impacts over the long term.

- 9.1** Ensure that all transport investments and services are cost effective.
- 9.1.1** Ensure that benefits of all new transport investment and services exceed their costs (NZTA, city and district councils, ARC, ARTA, KiwiRail).
- 9.1.2** In developing the RLTP, apply prioritisation procedures that ensure the cost effective allocation of the region's transport funds (ARTA).
- 9.1.3** Advocate for NZTA project evaluation procedures that take full account of all costs and benefits of projects over the long term by improving measurement, utilising modern techniques for assessing wider economic benefits and by taking into account community, environmental and cultural impacts (RTC).
- 9.2** Take account of the affordability of transport proposals to users and businesses.
- 9.2.1** When developing local transport plans, projects or services, ensure that the affordability of proposed actions to users and businesses is taken into account (NZTA, city and district councils, ARTA, ARC).

## 5.10 Integration

The NZTS identifies the need for integration between different forms of transport, so that travel from one end of a journey to the other is straightforward and seamless for people and freight, with effective links within and between modes. Transport and land-use planning must also be integrated so demand for travel is managed and public investment is used efficiently. Transport decisions must complement and not compromise decisions or interests in other sectors, and there is also a need to ensure that transport interests are incorporated into, and contribute to, broader planning initiatives.

The policies in this section set out the obligations on organisations responsible for implementing the RLTS to ensure they act in an integrated manner, including the need to take account of the RLTS objectives in making decisions, the need to co-ordinate actions with other organisations, and the need to take account of the wider implications of decisions.

Policies 1 and 4 include more specific policies on transport and land use integration and modal integration.

### Policy 10: Integration

Ensure that organisations responsible for implementing the RLTS act in an integrated manner.

- 10.1** Co-ordinate and integrate the actions of all organisations responsible for land transport implementation in Auckland and ensure they act in a manner which is supportive of the RLTS, and the effective integration of land use and transport.
- 10.1.1** Provide support to regional groups, including the RTC and the Regional Transport Executives Group (RTEG), to co-ordinate and integrate land transport actions in the region (ARC).

**10.1.2** Develop and maintain a forum for discussion of inter-regional transport issues with neighbouring regions (ARC, Northland Regional Council, Environment Waikato, Environment Bay of Plenty).

**10.1.3** Work with central government to achieve ongoing effective communication and advocacy regarding the region's transport needs and priorities (ARC, city and district councils).

**10.2** Ensure that organisations with responsibility for transport and land use decisions act in an integrated and coordinated manner and fully consider the wider impacts of their decisions.

**10.2.1** Ensure processes are in place to enable consideration of the transport implications of land use decisions, and the land use implications of transport decisions (city and district councils, ARC).

## 5.11 Safety

The NZTS highlights the need for the transport system to be based on design, operating and maintenance standards that protect people and property.

### Policy 11: Safety

Ensure that safety and security issues are addressed throughout the transport system.

The policies in this section refer to the steps that will be taken to co-ordinate transport safety activities within the region, and to ensure that the design and implementation of transport projects and activities reflect best safety practice. Policy 5 also deals with specific aspects of safety and security.

**11.1** Ensure a co-ordinated approach to transport safety.

**11.1.1** Co-ordinate road safety initiatives through ongoing monitoring and review of the Regional Road Safety Plan (ARTA).

**11.1.2** Provide leadership and co-ordination for groups working cooperatively in transport safety (ARTA).

**11.1.3** Support investigation into road safety issues for at-risk communities, and ensure that the Regional Road Safety Plan includes strategies and actions to address at-risk groups such as Māori, young/novice drivers and older adults (NZTA, ARTA).

**11.2** Ensure that resources are directed towards improved road safety outcomes.

**11.2.1** In developing the RLTP, prioritise engineering, enforcement and education initiatives that address identified road and rail safety issues that contribute to deaths and serious injuries in the region (ARTA).

**11.2.2** Ensure that safety and security for all road users are fully considered when developing transport projects, and that the design and implementation of projects reflects best safety practice that utilise guidelines, such as the integrated transport assessment and or the health impact assessment, where appropriate (NZTA, city and district councils, ARC, ARTA).

## 5.12 Responsiveness

The NZTS requires the transport system to be responsive to users by recognising that people wish to travel and move freight at different times and by different modes. This includes the need to recognise the diverse characteristics of communities, and the flexibility to react to economic, social, environmental and technological changes. The ability to respond to the needs of the transport disadvantaged, who have difficulty in accessing basic activities and facilities, is particularly important.

The policies in this section address these issues. They identify the matters to be taken into account in project planning to ensure that the resulting actions are responsive to the needs of users and the community, and that the impacts are understood and addressed in the planning phase. Particular emphasis is placed on the identification of affected communities, including the transport disadvantaged and the need to take early steps to take their views into account.

### Policy 12: Responsiveness

Ensure that the planning and development of the region's transport system responds to user and community needs.

#### 12.1 Involve communities in decisions about transport that affects them.

**12.1.1** Identify persons and communities likely to be affected by transport decisions, and provide early and full opportunities for them to contribute to the planning and decision-making process (NZTA, city and district councils, ARTA, ARC).

**12.1.2** Take steps to provide for improved Māori participation in transport planning decision-making (NZTA, city and district councils, ARTA, ARC).

#### 12.2. Ensure that transport decisions respond to diverse user needs.

**12.2.1** Take account of the diverse needs of all users, including the transport disadvantaged, people with disabilities, users of commercial transport, public transport, pedestrians, cyclists, and emergency services (NZTA, city and district councils, ARTA, ARC).

**12.2.2** Consider equity implications of transport decisions and the distribution of costs and benefits, paying particular attention to the impacts on and improving access for the transport disadvantaged and people with disabilities (NZTA, city and district councils, ARTA, ARC).

**12.2.3** Identify communities impacted by transport projects and take steps to mitigate impacts or improve outcomes for these communities (NZTA, city and district councils, ARTA, ARC).

## 5.13 Sustainability

The NZTS identifies the need for the transport system to contribute to achieving New Zealand's economic, social, environmental and cultural goals for the benefit of current and future generations. It highlights the multi-faceted nature of sustainability, which includes the need to ensure that the system is affordable, safe and equitable over the longer term, as well as the need for the transport system to meet environmental sustainability objectives, including carbon neutrality, energy efficiency, and ecosystem protection.

A sustainable transport system must also be prepared for, and able to recover well from unforeseen events (such as floods and earthquakes), and be sufficiently flexible to respond to different future situations. Avoiding adverse impacts can contribute to more resilient infrastructure.

Policies relating to affordability, safety and equity are included in previous sections. The policies in this section outline the processes to be followed in the planning, design and development phases of transport projects, to ensure that they meet sustainability objectives. These include the assessment of environmental effects and health impacts. Policies relating to the ability of the transport system to respond to unforeseen events are also included.

The transport of dangerous or hazardous goods poses a potential risk to people and the environment. The Hazardous Substances and New Organisms (HSNO) Act 1996 regulates hazardous substances through their lifecycle including transportation and storage at transport hubs or transfer between different transport modes. More specifically the Land Transport Rule: Dangerous Goods 2005 (Rule 45001/1) also applies. Given the population density and volume of freight movements in the Auckland region it is critical that regulations and guidelines pertaining to the transport of dangerous goods are strictly followed.

The use of low impact design principles is important to better manage the harmful effects of stormwater on the transport system and other sources of pollution. There are a number of documents and guidelines that need to be utilised to improve mitigation of stormwater pollution. Currently these include: Stormwater Management Devices Manual (Auckland Regional Council 2010); Stormwater Rainfall Runoff Modelling (Auckland Regional Council 2010); Erosion and Sediment Control Guidelines for Land Disturbing Activities in the Auckland Region (Auckland Regional Council 2010); Integration of LID and Good Urban Design (Lewis 2010); Integrated stormwater management guidelines for the New Zealand roading network (MWH 2006); Application of Low Impact Design to Brownfield Sites (Seyb and Lewis 2008); and Countryside Living Toolbox (Shaver and Ira 2010).

### Policy 13: Sustainability

Ensure that the planning and development of the region's transport system contributes to the sustainability of the region.

#### 13.1 Ensure that new transport projects meet environmental and public health standards.

**13.1.1** Ensure that integrated transport assessments are undertaken for all significant trip generating activities and an assessment of effects for transport projects. The assessment of effects should include consideration of environmental and public health impacts in accordance with those matters identified in Appendix I Health Impact Assessment (city and district councils, NZTA, ARTA, ARC).

**13.1.2** Ensure the proposed options for new transport projects or redevelopment of transport infrastructure specifically consider the construction, operation and maintenance effects of the project on: air quality, resource use and efficiency (including energy), climate change, water quality, stormwater runoff, sediment discharges, soil degradation, coastal environment, matters of significance to iwi, natural heritage, cultural heritage sites, waahi tapu sites, landscape values, ecological and habitat values, social costs, economic costs, noise and amenity (city and district councils, NZTA, ARTA).

**13.1.3** Ensure traditional Māori transport routes and portages are identified, acknowledged and celebrated, and avoid further negative transport impacts on these significant heritage sites (city and district councils, NZTA, KiwiRail, Mana Whenua).

**13.1.4** Ensure that the development and upgrading of roads, footpaths and driveways and at-grade car parks incorporate low impact design principles from planning through to construction, operation and maintenance (city and district councils, NZTA).

**13.1.5** Ensure that new transport projects and the management of the existing network meet environmental and public health standards (ARC, city and district councils, ARTA, KiwiRail, NZTA).

**13.1.6** Reduce stormwater contaminants through transport infrastructure, low impact design principles and vehicle design (ARC, city and district councils, ARTA, KiwiRail, NZTA).

**13.1.7** Ensure that new transport projects take into account the likely greenhouse gas (GHG) emissions to be generated while in operation. Where practical, embodied energy and associated GHG emissions should be investigated when comparing different transport solutions (ARC, city and district councils, ARTA, KiwiRail, NZTA).

**13.1.8** Ensure that low impact design principles are followed and consider the relevant documents and guidelines as described above and as updated from time to time, to meet environmental standards around waterways (ARC, city and district councils, ARTA, KiwiRail, NZTA).



Stormwater swales near Highbrook Business Park, South Auckland illustrate low impact stormwater treatment

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- 13.2** Increase the flexibility and resilience of the transport system, and improve its ability to respond climate change and unforeseen events.
- 13.2.1** Support the Auckland lifelines project and develop emergency management initiatives aimed at ensuring the ongoing operation of the transport network in emergencies (ARC, Environment Waikato, Northland Regional Council, NZTA, city and district councils).
- 13.3** Develop, maintain and manage the transport network in a way that avoids, remedies or mitigates adverse effects on the environment (ARC, city and district councils, ARTA, KiwiRail, NZTA).
- 13.4** Work with central government to develop Kyoto Protocol targets for reducing GHG from transport in Auckland and support initiatives to achieve the targets within the life of this RLTS (ARC).
- 13.5** Work with central government to develop National Energy Efficiency and Conservation Strategy targets for energy efficiency improvements from transport in Auckland and support initiatives to achieve the targets by 2020 and 2040 (ARC).
- 13.6** Take steps to minimise the amount of land consumed for transport purposes through the efficient use of all transport infrastructure including corridors, car parking and park-and-ride facilities, while having regard for the need for safe and environmentally friendly transport infrastructure (city and district councils, ARTA, KiwiRail, NZTA).
- 13.7** Ensure that regulations and guidelines pertaining to the storage and transportation of dangerous goods are actively enforced to minimise negative impacts on the population and environment (ARC, ARTA, NZTA, ERMA).

## Chapter 6

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# Chapter 6: Risks, monitoring and review

– Nga Tūpono, He Wāriutanga

## Chapter 6: Risks, monitoring and review

– Nga Tūpono, He Wāriutanga

This chapter describes the risks, monitoring and review of the 2010 Auckland Regional Land Transport Strategy (the RLTS). It identifies how risks will be mitigated, along with how the targets set out in Chapter 2 will be monitored and evaluated, and how monitoring will inform future reviews of the RLTS.

### 6.1 Risks

In developing the RLTS, risks to achieving the vision and objectives set out in Chapter 2 were investigated and detailed in the RLTS Working Paper 3. Two categories of risks were identified; those that can be mitigated and those that cannot. Risks that can be mitigated have been incorporated into the policies in Chapter 5. Risks that cannot be mitigated are included in the RLTS monitoring programme to ensure that they are identified early and appropriate responses can be identified and implemented.

**Six main types of risk have been identified and mitigation actions are described below:**

**1. Transport risks** – This category of risks relates primarily to the effectiveness of the policies in this strategy to achieve the desired outcomes and targets. This strategy, despite the heavy focus on managing travel demand and providing sustainable transport choices, is expected to fall short of the New Zealand Transport Strategy (NZTS) greenhouse gas (GHG) emissions target. This raises considerable concern for those involved in the development of the strategy. Therefore there needs to be a good level of public consultation and a resulting high degree of alignment between various stakeholders to determine the overall regional and national commitment towards achieving the desired outcomes and targets set out in this strategy.

- **Mitigation policies** – These risks are mitigated via demand management policies (land use, economic and behaviour change); Policy 9 Affordability and Policy 12 Responsiveness.
- **Mitigating changes in travel demand** – It is important to consider how the proposed projects and policies identified in the RLTS might be adapted to changing travel demand patterns. Actual travel demands may differ from what was expected when projects and policies were developed. Ongoing monitoring and research is expected to contribute toward identifying changes in travel behaviour and identifying adaptive strategies in response. This reflects an ongoing need to monitor and modify travel demand assumptions used in the analysis of proposed transport projects. The opening of the new train stations at Newmarket and New Lynn may provide an opportunity to test the accuracy of transport models at predicting the effects of rail investment and changes in travel demand.

**2. Technical risks** – This category of risks relates to the protection of transport routes, the effectiveness of performance monitoring, accuracy of cost estimates and the need for further research on transport system complexities.

- **Mitigation policies** – These risks are mitigated via Policy 4 Improve transport choices. Introduction of performance targets in Chapter 2, Policy 4 Funding, and the need for additional investigations that are identified across multiple policies.

**3. Political risks** – This category of risks relates to the uncertainty that may result from local government reform, alignment between government agencies, and public support for regional transport and land use strategies. For instance, central and regional government transport priorities are currently in a state of flux. This change has been driven by fluctuations in economic growth; establishment of the NZTA; changes to the GPS on transport funding; proposed reform to local government in Auckland; and the establishment of a Council Controlled Organisation, Auckland Transport. In some instances changes in government policy may trigger a review of the strategy.

- **Mitigation policies** – Mitigating these risks lies somewhat beyond the scope of the RLTS and instead relates more broadly to how the new Auckland Council engages and collaborates with Auckland Transport, different government agencies, and the wider public. Policy 10 Integration sets out policies for co-ordination and integration.

**4. Funding risks** – These risks relate to both the quantum of funding available and the rules around how that funding can be used. There is great uncertainty over the availability of funding, particularly beyond the 10 years covered by the GPS on land transport funding. If funding is less than anticipated, then the planned investments will not be made and the strategy will need to be reviewed. Similarly, funding rules make it easier to fund some types of investment than others, and misalignment of funding rules with transport strategy will mean the strategy cannot be delivered.

- **Mitigation policies** – Policy 8 Funding and Policy 9 Affordability.

**5. Land use risks** – This category of risks relates to the lack of suitable enabling mechanisms, the need to ensure that public institutions support effective land use outcomes and the need to focus on connecting land use outcomes with social values.

- **Mitigation policies** – Policy 1 Land use.

**6. External risks** – This category of risks relates to the potential impact of factors over which central, regional and local government have limited control, and for which there are fewer opportunities to affect the likelihood of the risk occurring. Risks identified include changes in socio-economic factors, such as economic growth, energy prices for oil and electricity and energy availability.

- **Mitigating future energy availability and price volatility** – The future availability of energy (including electricity and oil) is a major risk to the transport system (particularly until such time as there are widespread improvements in the energy efficiency of the vehicle fleet). At the regional level, policies relating to land use, economic measures, public transport and behaviour change are aimed at reducing the region's reliance on motor vehicles and therefore transport energy. This strategy assumes that energy prices will rise 240 per cent over time, to around \$3.71 per litre in 2040 (in 2006 dollars). More difficult to predict are potential fluctuating constraints in energy supply, and volatility in energy prices. Sensitivity testing for the development of the preferred strategic transport option (detailed in Chapter 4) considered a high transport energy price of \$6 per litre. At that price, by 2040, it is expected that car trips would decline by 9 per cent and PT trips would increase by 33 per cent compared with the assumed price of \$3.71 per litre<sup>41</sup>. This strategy aims to develop a transport network that is focused on managing demand and providing access to public transport, thereby providing a transport network that is resilient to shortages or price volatility in transport energy.

A related risk is the impact of rising fuel prices on the economy. Recent international research indicates that national economies tend to suffer when households exceed 4 per cent of their household expenditure on transport fuel. Currently Aucklanders spend 4.12 per cent of household expenditure on transport fuels, whereas the rest of New Zealand averages 3.98 per cent<sup>42</sup>. Increases in fuel prices, as shown in the recent oil price spike, depress travel demand by private vehicle. However, in the event of high oil prices or limited availability, there is a risk that adding more roads for current high traffic volumes may lead to roads becoming stranded or under utilised long term public investments. This strategy aims to reduce the impact of rising or volatile fuel prices on the economy by providing transport choices suitable to the needs of Aucklanders.

- **Mitigating catastrophic events** – Policy 13.2 is aimed at increasing the flexibility and resilience of the transport system, and improving its ability to respond to unforeseen events, such as weather events, seismic events, and infrastructure failures.

41 Trip reduction savings arising from fuel price increases are modelled and therefore uncertain.

42 Based on 2004 Household Economic Survey published in 2007.

## 6.2 Monitoring

Schedule 7 also requires that the Regional Transport Committee (RTC) to prepare a progress report on the implementation of the RLTS in place during the previous three financial years.

The purpose for monitoring is two-fold:

1. Review the impact of the policies defined in the strategy, to enable improvements in the effectiveness of the strategy and its implementation over time. As many of the policies take a number of years to have an impact, the review needs to take into account the timing of implementation programmes and the lag between implementation and observable changes in the indicators.
2. Identify any changes in risks and trends that might have an impact on policy direction, to review whether policies require amendment / additions.

Embedded in the RLTS are the principal evaluation tools of measurable outcomes, indicators and targets (Chapter 2). Targets are used to provide a benchmark to measure whether policy and project interventions are acting effectively.

Fundamentally, the monitoring programme looks to answer two questions – how well is the RLTS being implemented, and are the RLTS objectives and outcomes being achieved?

- **How well is the RLTS being implemented?** This will be assessed via an annual progress on the RLTS implementation report, focusing on agencies progress towards implementing the RLTS. Agencies will report on the progress of the delivery of the projects, activities and actions set out in their supporting implementation plans, and provide a description of how they deliver against the RLTS. The data for this report will be made available by each of the agencies responsible for managing components of the region's transport network (those agencies and the programmes they run, are detailed in Chapter 6). Where relevant and available, monitoring indicators and contextual measures could be included in this report. This will be reported to the RTC on an annual basis.
- **Are the RLTS objectives and outcomes being achieved?** This will be monitored via a three-yearly Progress on the RLTS outcomes report, which will present the results of progress towards achieving the objectives, outcomes and related targets sought by the strategy, as described in Chapter 2. The first progress report must be prepared by 30 June 2011 in accordance with the transitional provisions of the amended LTMA. Thereafter this report will be completed by 30 September every three years, reported to the RTC and prepared as a publication for public release. In this third year, the content of the annual progress on the RLTS implementation report could be included as a subsection of the progress on the RLTS Outcomes Report.

These two reports will provide a picture of how well the strategy is being implemented and how well the policies defined in the RLTS are achieving the objectives and outcomes sought. Insights from the monitoring programme will be used to help identify pressures and issues, thereby informing reviews of the strategy and its components, and helping to inform the next review of the RLTS. While the ARC will take a lead role in the monitoring, the co-operation of all the agencies responsible for the transport system is essential.

Variations or a review of the RLTS can be triggered for a number of reasons, as outlined in the significance policy for this RLTS (see Appendix J). The results of the monitoring process may identify the need for a variation or review, and the steps to be followed are described in that appendix.

## 6.3 Monitoring indicators

As is shown within Chapter 2, each objective has a number of expected outcomes. For each outcome, one or more indicators is used to assess progress by reporting against 30 year targets. Some indicators are still being developed. Specific areas requiring further investigation are the development of targets to measure:

- the transport systems contribution to economic competitiveness
- separate targets for walking and cycling
- the level of community exposure to transport-related pollutants.

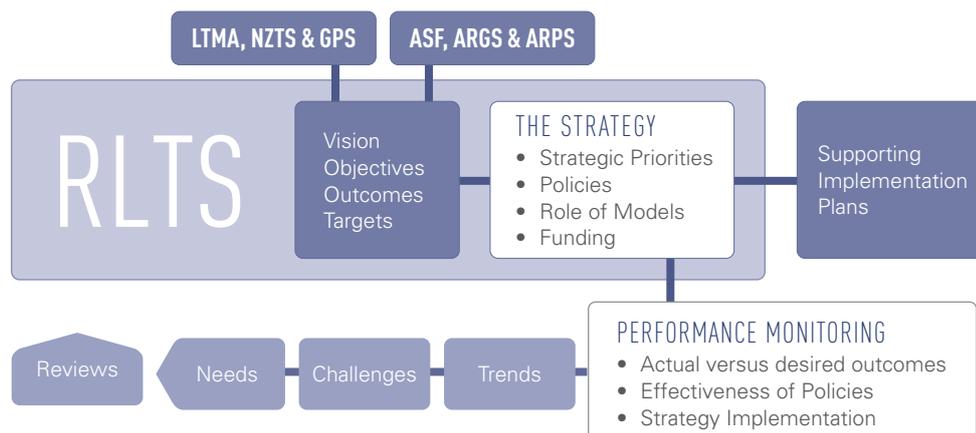
In addition to indicators that have targets, there is also a set of contextual measures gathered and reported as part of the monitoring programme. Contextual measures have no targets associated with them, primarily because it is not the intent of the RLTS to change these. However, they provide a view of the environment that the transport system supports. They help to identify the demands on and investment in the transport system and can be used to identify trends that might be relevant to the strategy. Specific contextual indicators related to specific objectives are identified in Chapter 2. Broad contextual measures relating to the general level of travel demand include: population and economic measures, vehicle fleet numbers and composition, total investment in the region's transport system, road traffic and PT volumes, fuel sales, fuel prices, consumer prices, and size of the transport sector<sup>43</sup>.

## 6.4 Review

Schedule 7 clause 1[1] of the LTMA states that the RLTS must be renewed at least once every six financial years, and cover a period of at least 30 years.

The following figure illustrates how the evaluation and monitoring process assists in identifying the risks, and changing user needs in relation to the region's transport network and how these feed into the review of the strategy and follow through to the various implementation plans.

Figure 10 RLTS review process



Under the LTMA, the RLTS 2010 will need to be replaced by 2016. However provision is made that variations, or a review of the whole strategy can be undertaken prior to this time. For a review, matters to be considered and the process to follow are detailed with the LTMA 2003 Schedule 7.

For a variation, the RTC will need to determine how significant the variation is, with reference to the significance policy contained within Appendix J of this strategy. If a variation is significant, then the special consultative procedure contained within the Local Government Act (LGA) 2002 must be followed. For variations that are not significant, the committee has discretion on the process. A variation forms part of the RLTS that it varies.

<sup>43</sup> These contextual measures are described in detail in Working Paper 06 Monitoring Regional Targets.

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# Glossary and Abbreviations

– Rārangi Whakarārama me nga whakapotongo

## Glossary and abbreviations

– Rārangi Whakamārama me nga whakapotongo

**Accessibility** – The degree to which people, goods and services have opportunities to conveniently travel within an area or region. In order to facilitate access to the full range of activities available within the region, it is important to provide travel opportunities equitably. Accessibility can be measured by indicators such as travel times, travel costs, availability of travel opportunities and the convenience (perceived and actual) of using different transport modes.

**Active transport** – Non-motorised travel modes such as walking, cycling, running and manual-powered wheelchair. Public transport is also generally regarded as an active transport mode as it often relies on these active modes when people embark or disembark from their journey.

**Auckland One Plan** – A strategic framework and plan of action for the Auckland region evolved out of a need to improve the management of the regions strategies. This has been developed through a collaborative political forum dedicated to the long-term sustainable development of the region.

**Auckland Regional Holdings (ARH)** – Responsible for managing assets and investments on behalf of the Auckland Regional Council (ARC), primarily those transferred from Infrastructure Auckland (now disestablished).

**Auckland Regional Growth Strategy (RGS)** – The RGS has been prepared by the Auckland Regional Growth Forum (RGF) and has been driven by the need to plan for how the Auckland region might accommodate a population of 2 million people, expected by 2050.

**Auckland Regional Parking Strategy** – This strategy sets out a new direction for the supply and management of parking in the region, to bring it into line with the region's land use, transport and sustainability strategies and outcomes. In supporting the general objectives of sustainable growth and development of the region it includes greater provision and use of public transport, more walking and cycling, and facilitating and encouraging high density mixed use development in selected centres and transport corridors.

**Auckland Regional Policy Statement (ARPS)** – This document provides the framework for the sustainable and integrated management of the region's natural and physical resources. It sets out the major direction of transport policy along with broad resource management issues, objectives and policies for the region. The Land Transport Strategy may not be inconsistent with any policy statement.

**Auckland Regional Transport Authority (ARTA)** – Responsible for planning, funding and developing the Auckland regional land transport system. ARTA must give effect to the Auckland Regional Land Transport Strategy (the RLTS) as a whole and prepare the Auckland Land Transport Programme (ALTP). ARTA was established under the Local Government (Auckland) Amendment Act 2004.

**Auckland Sustainability Framework (ASF)** – Ratified by the RGF in 2007 the ASF aims to help our region secure a better quality of life and create a sustainable future socially, culturally, economically and environmentally. It takes a 100+ year view and provides direction so that our local authorities and central government agencies can work together with a common purpose.

**Civil Aviation Authority (CAA)** – Establishes standards and monitors adherence to these standards in the aviation sector.

**Climate change** – Increasing industrialisation and human activity (such as industry, agriculture and transportation) are increasing the amount of greenhouse gases in the atmosphere and causing the earth not only to heat up, but to do so at an unprecedented rate. This effect is known as global warming. Since this warming will also affect weather patterns and climatic conditions, it is referred to as climate change.

**Conventional heavy rail** – Conventional heavy rail comprises passenger rail vehicles built to standards that allow it to share tracks with rail freight operators. Unlike light rail, conventional heavy rail cannot operate off the exclusive rail corridor. Conventional heavy rail can be powered by diesel or electric propulsion and comprise multiple self-powered units or locomotive hauled carriages.

**Emodied energy** – The quantity of energy required by all of the activities associated with a production process, including the relative proportions consumed in all activities upstream to the acquisition of natural resources and the share of energy used in making equipment and in other supporting functions i.e. direct energy plus indirect energy (Treloar, Graham J. 1994 Energy Analysis of the Construction of Office Buildings. Deakin University. School of Architecture and Building).

**Generalised costs** – Travel cost made up of the financial cost and the time cost. Often calculated using transport models.

**Greenhouse gas (GHG)** – GHGs are made up of a variety of gases – including carbon dioxide, methane, nitrous oxide, water vapour, ozone, and fluorinated gases – which trap infrared heat in the upper atmosphere and contribute to global warming. In this report, all of these gases are referred to collectively as greenhouse gases. Another term that is sometime used is carbon equivalents – CO<sub>2</sub> – which recognises that greenhouse gases have different global warming potentials (eg one tonne of methane warms the atmosphere over 100 years to the same extent as 25 tonnes of carbon dioxide). The primary greenhouse gas emitted by land transport is carbon dioxide.

**Government Policy Statements (GPS)** on land transport funding – In accordance with the Land Transport Management Act (LTMA) the Minister is required to issue a GPS every three financial years. The GPS enables the Minister to guide the New Zealand Transport Agency (NZTA) and the land transport sector on the outcomes and objectives, and the short – to medium-term impacts, that the Crown wishes to achieve through the national land transport programme; and from the allocation of the national land transport fund. The GPS also enables the Minister to link the amount of revenue raised from road users with the planned levels of expenditure from the national land transport fund.

**Health Impact Assessment (HIA)** – A combination of procedures, methods and tools by which a policy may be assessed and judged for its potential effects on the health of the population, and the distribution of those effects within the population.

**High Occupancy Vehicles (HOV)** – Vehicles carrying more than one person.

**Integrated Transport Assessments (ITA)** – An ITA is a comprehensive review of all the potential transport impacts from a Structure Plan, proposed Plan Change, a Metropolitan Urban Limits (MUL) shift or a major trip generating activity. It aims to balance the need for public transport, freight, general motor traffic, vehicle parking and non-motorised traffic. It is expected the ITA would be undertaken at the beginning of the planning process and the findings of the assessment would be taken into consideration to identify and inform any actions required to avoid, remedy or mitigate adverse effects of the development proposal on the transport system.

**Integrated transport planning (ITP)** – A planning process for the future of transport in an area. It aims to balance the need for public transport, freight, general motor traffic, non-motorised transport (such as walking and cycling), and reduce the demand for private motor vehicle travel in one process. The term “integrated” also means that the transport system is considered alongside broader land use development needs.

**Intensification** – An increase in density (of dwellings, activity units, population and so on) over the current density of a given area. In the RLTS and RGS, intensification refers to residential densities <math><500\text{m}^2/\text{dwelling}</math>, in selected areas (centres or corridors), as well as incremental infill and redevelopment.

**Land transport** – Transport on land by any means and the infrastructure facilitating such transport. It includes rail, surface-effect vehicles, and harbour ferries.

**Land Transport Management Act 2005 (LTMA)** – The legislation that governs the preparation of the RLTS.

**Local connector network (LCN)** – Provides access to local centres and connections with rapid transit network (RTN) and quality transit network (QTN) via low to medium frequency local bus, ferry and train services.

**Local government (Tamaki Makaurau Reorganisation) Act 2009 (LGTMRA)** – provides the legislative mechanisms for transition to the new Auckland governance arrangements – the establishment of the Auckland Council on and from 1 November 2010; the establishment of Auckland Transport to manage and facilitate the transition to the new local governance arrangements; and requirements for the existing local authorities and certain other entities to participate in the reorganisation.

**Local road** – Local roads include all those roads administered by the territorial authorities, or those roads that are not state highways.

**Maritime Safety Authority (MSA)** – Establishes standards and monitors adherence to those standards in the maritime sector.

**Metropolitan Urban Limits (MUL's)** – The urban boundaries surrounding the Auckland region. An MUL is a planning technique used to define urban limits and limit sprawl on rural areas. It is a line drawn on regional planning documents to define the extent of urban zoning that is permitted. In Auckland the MUL is a key implementation tool of the ARGS.

**Ministry of Transport** – This is the government's principal transport policy advisor that both leads and generates policy, and helps to set the vision and strategic direction for the future of transport in New Zealand.

**Mixed use development** – A mixture of activities such as residential, business, retail, or hospitality that occupy space within the same building or within the same block or area. Examples are an apartment building with shops, cafes and offices on the lower floors, or a town centre with these activities.

**National Land Transport Programme (NLTP)** – the mechanism through which the NZTA allocates funds to approved organisations for land transport infrastructure and services. The NLTP allocates funding to approved organisations across a number of national and regional activity classes. Priority is initially given to projects of national importance.

**New Zealand Energy Strategy (NZES)** – this document sets out the government's vision for a sustainable, low emissions energy system and the actions that will be taken to make this vision a reality.

**New Zealand Energy Efficiency and Conservation Strategy (NZECS)** – was written in 2007, and was a key part of the government's response to meeting its energy, climate change, sustainability and economic transformation goals. It has been written as a companion document to, and will give effect to a number of the objectives set out in, the New Zealand Energy Strategy (NZES). The NZECS is currently under review.

**New Zealand Transport Agency (NZTA)** – Under the Land Transport Management Amendment Act 2008, the New Zealand Transport Agency came into being on 1 August 2008. The single Crown entity combines the functions of Land Transport New Zealand and Transit New Zealand.

**New Zealand Transport Strategy 2008 (NZTS)** – Sets the strategic direction for the transport sector in New Zealand to 2040, covering all parts of the sector – land, sea and air. It is concerned with both the movement of freight and people, and considers not just transport within New Zealand, but the nation’s vital international links as well. The government’s vision for transport in 2040 is that “people and freight in New Zealand have access to an affordable, integrated, safe, responsive and sustainable transport system”.

**ONTRACK** – New Zealand Railways Corporation, which owns and manages New Zealand’s rail network on behalf of the government.

**Priority user** – an efficient transportation management system that gives priority to modes that require less space per passenger-kilometre, or which serve particularly high-value trips (such as emergency and freight vehicles). Depending on the type of corridor, a priority user could be freight on the strategic freight network, public transportation on the RTN or pedestrians in a local town centre. Transportation prioritisation is intended to change the way public resources are used, including how public roads are allocated between different transport users, how parking facilities are designed and managed and traffic speed regulation (adapted from the Victoria Transport Planning Institute).

The types of user which have priority will differ in various parts of the network – pedestrians and cyclists will be priority users for local trips and around town centres, bus passengers will be priority users on the QTN and heavy vehicles will generally be priority users on the regional strategic freight network. Some links in the network will have more than one type of priority user, or will pass through communities that are sensitive to traffic impacts. In those cases, any conflicts will need to be resolved through corridor management plans.

**Public transport (PT)** – comprises passenger transportation services such as buses, trains, ferries, taxis, and total mobility services, which are available for use by the general public, as opposed to modes for private use such as cars.

**Quality transit network (QTN)** – Provides a network of high-frequency, high-quality public transport. The majority of these are bus services operating bus priority measures between key centres and over major corridors. The QTN complements the RTN by connecting at key hub locations.

**Rapid transit network (RTN)** – A RTN provides fast, high-frequency service in its own right of way, unaffected by traffic congestion. It aims to provide longer-term support for the more intensive growth proposed by the ARGS and to improve the region’s transport system. The RTN is shown in Map 3.

**Regional arterial network (RAN)** – Identified within the Regional Arterial Road Plan prepared by the Auckland Regional Transport Authority (ARTA). Regional arterials link the districts and urban areas within the region and connect these to strategic roads and regionally-significant facilities.

**Regional cycle network (RCN)** – Identified within the Auckland Sustainable Transport Plan prepared by ARTA. It includes existing or proposed routes that carry, or could carry, significant numbers of cyclists. They may be off-road or on-road, and should be designed for cyclists.

**Regional Growth Forum** – A co-operative partnership of the ARC and region’s local councils, which is responsible for the ARGS. It is a standing committee of the ARC, with delegated powers, and funded through the regional rate.

**Regional Transport Committee (RTC)** – The RTC is a standing committee of the Auckland Regional Council that is required to produce the RLTS. RTC comprises representatives of the ARC and all the region's local councils and key transport stakeholder groups including the NZTA. Other members are representatives of various interest areas. They are named on page 2.

**Regional Public Transport Plan (RPTP)** – The RPTP is a statutory document prepared by the ARTA. The plan defines the region wide public transport network policies and describes three layers of service (ie comprehensive base network, major bus routes and rapid transit network) in terms of the quality and quantity of public transport services over the next decade. The plan provides an overview of the way in which the Auckland passenger transport system will be developed as an integrated regional network and specifies the public transport for the region.

**Road hierarchy** – A transport classification system, in which roads are classed according to the function they perform for through traffic. The highest classified roads are arterial routes with a focus on the movement of traffic and the lowest classified roads are local roads with a focus on environmental protection and community amenity, rather than the movement of traffic.

**Road pricing** – as used in the RLTS, refers to charging road users directly for their use of a particular piece of road. Charges for use of the road may vary according to what road is used and when. Road pricing can have two main functions; to change motorists' behaviour and thus improve traffic conditions, and to raise funds. Road pricing can be implemented in a variety of forms ranging from network-wide electronic pricing using satellite communications, to tolls collected at a limited number of points by conventional means.

**Strategic roads** – Identified within the Regional Arterial Road Plan prepared by ARTA. Strategic arterials link the region to other regions or connect strategic facilities such as the port and airport. These are generally the region's State Highways.

**Transport Accident and Investigation Commission (TAIC)** – TAIC is similar to a standing Commission of enquiry and investigates all aviation, rail or marine accidents and incidents within New Zealand the circumstances of which are likely to have significant implications for transport safety.

**Transport disadvantaged** (as defined in the Public Transport Management Act 2008) – People whom the regional council has reasonable grounds to believe are the least able to get to basic community activities and services. For example, work, education, health care, welfare and food shopping.

**Transport network** – The national strategic and regional arterial roads and the passenger transport networks are shown on Maps 4. The network comprises the parts of the current and future transport network that are essential for moving people, goods and services around the region, and in and out of the region.

**Transit orientated development (TOD)** – Transit orientated development is compact, mixed use development near new or existing public transportation infrastructure that serves housing, transportation and neighbourhood goals. Its pedestrian and cycle oriented design encourages residents and workers to drive their cars less, ride mass transit more and includes appropriate treatment of car parking.

**Travel demand management (TDM)** – The term used to describe initiatives aimed at modifying travel behaviour in order to maximise the efficient use of transport systems. Examples of TDM measures include tele-working, ride sharing, more flexible work and educational hours, road pricing, parking constraints, cycling, walking and land use policies that support intensive mixed-use development. Such measures can avoid more costly expansion of the transport system by relieving the need to construct roads or provide more public transport.

**Trip** – A measure of the main mode of travel used for a trip, for example, a trip to work mainly by bus is a ‘bus trip’.

**Trip legs** – A measure that takes into account the different modes of travel used for each leg of trip made, for example, a trip to work that is mainly by bus normally involves three trip legs – walking to a bus stop, catching a bus and walking from the bus stop to place of work.

**Table 17 Abbreviations**

AC	Auckland Council
ACC	Auckland City Council
AIFS	Auckland Integrated Fares System
AMETI	Auckland Manukau Eastern Transport Initiative
ASF	Auckland Sustainability Framework
ARC	Auckland Regional Council
ARH	Auckland Regional Holdings
ARGS	Auckland Regional Growth Strategy
ARPS	Auckland Regional Policy Statement
ARPHS	Auckland Regional Public Health Service
ART	Auckland Regional Transport Model
ARTA	Auckland Regional Transport Authority
ASP	Auckland Strategic Planning Model
ATA	Auckland Transition Agency
BOP	Bay of Plenty
CAA	Civil Aviation Authority
CBD	Central Business District
CMP	Corridor management plan
CNG	Compressed natural gas
EECA	Energy and Efficiency Conservation Authority
FDC	Franklin District Council
GHG	Greenhouse gas emission
GPS	Government policy statement (on transport funding)
HIA	Health impact assessment
HOV	High occupancy vehicle
ITA	Integrated transport assessments
LCN	Local connector network
LGA	Local Government Act
LGAAA	Local Government (Auckland Amendment) Act

LGTMR	Local Government (Tamaki Makaurau Reorganisation) Act 2009
LPG	Liquefied petroleum gas
LTMA	Land Transport Management Act
LTNZ	Land Transport New Zealand
MCC	Manukau City Council
MUL's	Metropolitan Urban Limits
MSA	Maritime Safety Authority
NLTP	National Land Transport Programme
NSCC	North Shore City Council
NZTA	New Zealand Transport Authority
NZTS	New Zealand Transport Strategy
PDC	Papakura District Council
PT	Public transport
RDC	Rodney District Council
RTEG	Regional Transport Executive Group
RLTS	Regional Land Transport Strategy
RPTP	Regional Passenger Transport Plan
RSFN	Regional Strategic Freight Network
RTC	Regional Transport Committee
RTN	Rapid transit network
QTN	Quality transit network
SH	State highway
SOV	Single occupancy vehicles
TAs	Territorial authorities
TAC	Technical Advisory Committee
TAIC	Transport Accident Investigation Commission
TDM	Travel demand management
TNZ	Transit New Zealand
TOD	Transit Orientated Development
VKT	Vehicle Kilometres Travelled
WCC	Waitakere City Council

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# Appendices

– Nga Tāpiritanga

## Strategies and policies considered

The list below identifies the policies, documents, and strategies considered in the preparation of the 2010 Auckland Regional Land Transport Strategy (RLTS). Further detail on how they were used in the formation of the RLTS is documented in the RLTS Working Paper 7 as amended in 2008.

**Table 18: Essential documents and reference documents**

Essential documents <sup>44</sup>	
Land Transport Management Act aim and objectives	Proposed Regional Plan: Air, Land and Water.
New Zealand Transport Strategy 2008 (identified as National Land Transport Strategy).	Auckland Regional Growth Strategy.
Government Policy Statement (on transport).	Regional Coastal Plan.
Auckland Regional Policy Statement.	New Zealand Energy Efficiency and Conservation Strategy.
All Territorial Authorities' District Plans.	Auckland Sustainability Framework.
Reference documents <sup>45</sup>	
New Zealand Health Strategy.	Improving health and wellbeing: A public health perspective for local authorities in the Auckland region.
Metro Project Action Plan.	New Zealand Disability Strategy.
New Zealand Tourism Strategy.	Getting there – on foot, by cycle.
PT Management Act.	Road Safety to 2010.
Auckland Regional Open Space Strategy.	Sea Change: Transforming Coastal Shipping in New Zealand.
Auckland Regional Economic Development Strategy.	Auckland Regional Physical Activity and Sport Strategy.
Public Health Bill.	LGAAA.
Māori Urban Design (Draft).	NZ Urban Design Protocol.
Māori Health Strategy (He Korowai Oranga).	National Rail Strategy to 2016.
ARTA's Regional Plans (Auckland Passenger Transport Network Plan 2006-16, Regional Arterial Road Plan 2008, Auckland Transport Plan 2007, Rail Network Development Plan, Park and Ride Strategy, Ferry Development Plan, Regional Road Safety Plan).	Sustainable Development for New Zealand Programme of Action.
Whanua Ora Health Impact	Assessment Auckland One Plan.
Regional Freight Strategy and Regional Parking Strategy.	National Code of Practice for utilities access to road and rail corridors.
Te Puni Kokiri's Māori Potential Framework and 2007-2010 SOI.	

<sup>44</sup> Key statutory documents.

<sup>45</sup> Largely non-statutory and/or provide background information on transportation related material.

## Assessment of LTMA Clauses 3, 4 and 5

**Table 19: Land Transport Management Act (LTMA) 2003: Schedule 7  
– Clauses 3, 4 and 5 Assessment**

Clause 3: Core requirements for the Auckland Regional Land Transport Strategy		
3(a)(i)	The Regional Transport Committee (RTC) must be satisfied that the 2010 Auckland Regional Land Transport Strategy (the RLTS) contributes to the aim of achieving an affordable, integrated, safe, responsive, and sustainable land transport system	Chapter 2 Vision Chapter 5 Policies contains policies to support the aims.
3(a)(ii)	The RTC must be satisfied that the RLTS contributes to each of the following: (a) assisting economic development: (b) assisting safety and personal security: (c) improving access and mobility: (d) protecting and promoting public health: (e) ensuring environmental sustainability.	Chapter 2 Vision describes the outcomes desired for the region for each objective and sets targets for each objective.
3(a)(iii) (A)	The RTC must be satisfied that the RLTS is consistent with any national land transport strategy (NLTS).	There is currently no NLTS. However the NZTS 2008 features heavily in the RLTS.
3(a)(iii) (B)	The RTC must be satisfied that the RLTS is consistent with any relevant national policy statement or any relevant regional policy statement or regional plan that is for the time being in force under the Resource Management Act 1991.	WP12 Assessment of LTMA Clause 3 and 4(the RLTS) contains an assessment of the August RLTS with relevant policy recommendations contained within this document. The recommendations from this assessment have been incorporated into the RLTS. WP7 includes consideration of a wider range of policy documents as compared to the 2005 Auckland Regional land Transport Strategy.
3(a)(iv)	The RTC must be satisfied that the RLTS avoids, to the extent reasonable in the circumstances, adverse effects on the environment	Chapter 3 Challenges and Chapter 4 Strategic Options – sections 3.5, 3.6, 4.1 and 4.5
3(b)(i)	The RLTS must take into account the relevant GPS.	Chapter 1 Introduction Funding available contained within the RLTS is directly influenced by the GPS (Chapter 4.6).
3(b)(ii)	The RLTS must take into account any national energy efficiency and conservation strategy.	WP12 Assessment of LTMA Clause 3 and 4 (RLTS 2010) and WP7 LTMA Policy context RLTS 2005 Assessment of Policy Context. See Chapter 4 Introduction.
3(b)(iii)	The RLTS must take into account any relevant district plans.	District Plans of the Auckland region were reviewed via WP12 Assessment of LTMA Clause 3 and 4 (RLTS ) and WP7 LTMA Policy context the RLTS. These were incorporated into Chapter 5.

## Assessment of LTMA Clauses 3, 4 and 5

### Clause 4: Other matters that must be taken into account

4(a)	When preparing the RLTS, the RTC must take into account any guidelines issued by the Minister for Regional Land Transport Strategies.	No guidelines have been issued by the Minister for RLTSs.
4(b)	The RTC must take into account the land transport funding likely to be available within the region during the period covered by the strategy.	Chapter 4.6 Funding the strategy takes into account the likely transport funding available.
4(c)	The RTC must take into account the views of affected communities.	Early consultation on the RLTS was undertaken within 2007 and late 2008. This feedback has been taken into account in developing the RLTS 2010. After the RLTS was developed, it went out for consultation in late 2009 via the Special Consultative Procedure.
4(d)	The RTC must take into account the views of land transport network providers.	Land transport network providers were directly contacted in both 2007 and 2008 to provide feedback and input into the development of the RLTS. Feedback received has been considered in the development of the RLTS 2010. After the RLTS was developed, it went out for consultation in late 2009 via the Special Consultative Procedure.
4(e)	The RTC must take into account the need to give early and full consideration to land transport options and alternatives in a way that contributes to the avoidance of adverse environmental effects, and the views of affected communities.	Early consultation on the RLTS was undertaken within 2007 and late 2008. This feedback has been taken into account in developing the final RLTS. After the RLTS was developed, it went out for consultation in late 2009 via the Special Consultative Procedure.
4(f)	The RTC must take into account the need to provide early and full opportunities for persons and organisations listed in clause 6(1) to contribute to the development of the RLTS.	Those persons and organisations listed in clause 6(1) were directly contacted in the early consultation undertaken in 2007 and 2008 to provide feedback and input into the development of the RLTS. Feedback received has been considered in the development. After the RLTS was developed, it went out for consultation in late 2009 via the Special Consultative Procedure.

## Assessment of LTMA Clauses 3, 4 and 5

Clause 5: Mandatory statements		
5 (1)(d)	The RLTS must contain a statement of any relevant regional economic or land-use considerations, and the likely funding of any land transport infrastructure associated with those considerations.	Chapter 4.2 contains statements on economic and land use considerations. Chapter 4.6 estimates the likely funding availability and an estimate of the funding needed to support the preferred option.
5 (1)(h)	The RLTS must contain a statement that identifies any strategic option for which co-operation is required with other regions.	A common element in all strategic options are improved linkages to Northland, Waikato and Bay of Plenty (Chapter 4.4). Chapter 5 identifies the organisations and other regions responsible for implementing the strategy (see Chapter 5 Introduction and policies; 4.1.9, 4.7.1, 4.7.2, 4.7.6, 6.4.1, 6.4.3 and 13.2.1).
5 (1)(i)	The RLTS must contain a statement that identifies persons or organisations who should be involved in the further development of strategic options.	Chapter 5 Policies sets out the policies that have been developed to give effect to the preferred strategic option and who should be involved in the further development of the strategic option.
5 (1)(k)	The RLTS must contain a statement provided by an independent auditor of how the process followed by the RTC complied with the requirements of the LTMA.	See Appendix C.

## Statement from Process Auditor

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### Report to the readers of the Auckland Regional Land Transport Strategy 2010-2040

The Regional Transport Committee of the Auckland Regional Council is required by clause 2 of schedule 7 to the Land Transport Management Act 2003 (the Act) to prepare, on behalf of the Auckland Regional Council, a regional land transport strategy (RLTS).

Further, clause 5(1) (k) of schedule 7 of the Act requires that the RLTS contains a statement from an independent auditor of how the process followed by the Committee complied with the requirements of the Act.

In June 2008 the Auckland Regional Council engaged Participate Limited (Peter Winefield) to provide ongoing, independent review of procedural matters with a view to providing a statement of compliance in accordance with the Act.

Readers should note that it is not the responsibility of Participate Limited to provide legal advice on the Strategy or to express opinion on the quality of the Strategy or its contents.

### Opinion

In our opinion, the process followed by the Auckland Regional Transport Committee in preparing the Auckland Regional Land Transport Strategy 2010 – 2040 dated April 2010 complies with the requirements of the Act.

### Basis of Opinion

In particular, the Regional Transport Committee has complied with the procedural requirements of the Act by:

- Being appropriately constituted and conducting its business in accordance with the Act and relevant council protocol;
- Appointing an independent process auditor and having regular engagement with the auditor regarding the relevant requirements of the Act;
- Meeting regularly and receiving reports from council staff and key advisors on the development of the strategy;
- Considering policy options and issues with an open mind, in a structured and integrated way;
- Satisfying itself that the RLTS addresses, contains and complies with all matters required by the Act; and
- Carrying out consultation in accordance with the consultation principles and the special consultative procedure set out in the Local Government Act 2002.

### Independence

Other than this engagement as process auditor for the purpose of clause 5(1) (k) of schedule 7 to the Act, Participate Limited has no relationship with or interest in the Auckland Regional Council or the Regional Transport Committee.

**Peter Winefield**, Participate Limited

Auckland, New Zealand, April 2010

# Acknowledgements

**Table 20 Parties involved in preparing the RLTS**

<b>Regional Transport Executive Group</b>	
Archer Davis	North Shore City Council
Bill Horne	Rodney District Council
Chris Freke	Manukau City Council
Dawn Inglis	Franklin District Council
Don Houghton	Auckland Regional Council
Jim Fraser	Auckland Regional Council
John Smith (Convenor)	Auckland Regional Council
Kevin Wright	Waitakere City Council
Melanie Alexander	Auckland City Council
Nicola Mochrie	Papakura District Council
Peter Clark	Auckland Regional Transport Authority
Wayne McDonald	New Zealand Transport Agency
<b>Technical Advisory Committee</b>	
Alexandra Macmillan	Auckland University
Andrew Roche	Auckland District Health Board
Anna Wolterbeek	New Zealand Transport Agency
Bill Horne	Rodney District Council
Cassandra Smith	Auckland Regional Council
Christina Robertson	Auckland City Council
Coralie O'Brien	New Zealand Transport Agency
Dirk Osborne	Auckland Regional Transport Authority
Don Houghton (Convenor)	Auckland Regional Council
Graeme Read	North Shore City Council
Hamish Bunn	Ministry of Transport
Jim Fraser	Auckland Regional Council
Kai Chan	New Zealand Transport Agency
Kevin Wright	Waitakere City Council
Lorraine Stone	North Shore City Council
Maree McNeilly	Auckland Regional Transport Authority
Melanie Alexander	Auckland City Council
Murray Cameron	Franklin District Council
Robert McSpadden	Papakura District Council
Roberta Robles	Auckland Regional Council
Steve Wrenn	Manukau City Council

## Supporting working papers

Working Papers listed in numerical order<sup>46</sup>.

### **RLTS2010/WP01 Legislative Requirements for the Preparation of the Auckland RLTS**

- The Land Transport Management Act (2008) introduced new requirements for regional transport strategies, including specific provisions for Auckland.

**RLTS2010/WP02 Consultation Stock-Take** – Traffic congestion and related air pollution are often residents' top concerns about living in Auckland. This paper looks at what people have said in a diverse range of submissions and public opinion surveys.

**RLTS2010/WP03 Risk Assessment** – The assessment has grouped risks into the following categories: (1) Transport, (2) Technical, (3) Political, (4) Land use, and (5) External. Individual risks were then evaluated in terms of their likelihood, impact and exposure.

**RLTS2010/WP04 Applying the ASF to the 2005 ARLTS** – This paper looks at how the 2005 Auckland Regional Land Transport Strategy contributes to the region's long-term sustainability, including the need for resilient infrastructure, to be a fair and connected society, and to think in generations rather than years.

**RLTS2010/WP05 Price Forecasts for Transport Fuels and other Energy Forms** – Price Forecasts for Transport Fuels and other Delivered Energy Forms: What might happen to fuel prices over the next 40 years? This research states that petrol and diesel prices could be \$6 per litre in 2060.

**RLTS2010/WP06 Monitoring Regional Targets** – This report overviews the proposed approach to be undertaken for the monitoring of the various targets contained within the 2010 Auckland Regional Land Transport Strategy (the RLTS).

**RLTS2010/WP07 LTMA Policy Context the RLTS** – Closing the policy gaps: Auckland's regional land transport strategy must, by law, meet a raft of requirements. This paper identifies the RLTS policy gaps which the region's next transport strategy must fill as the early starting point for the RLTS.

**RLTS2010/WP08 Trends and Issues (Transport Challenges)** – This paper provides a wide range of statistics and data related to the main transport issues, trends and challenges the Auckland transport strategy needs to address. It updates information prepared for the RLTS.

**RLTS2010/WP09 Strategy Affordability Assessment** – This paper outlines the likely sources and level of transport funding, the estimated costs of implementing the preferred strategy and the affordability of the strategy.

**RLTS2010/WP10 Auckland Rural Transport Issues** – People living in rural areas rely heavily on cars. Road maintenance is expensive, public transport rare; there's often tension between new development and countryside living. This paper looks at transport in Auckland's rural areas, including the Hauraki Gulf islands.

**RLTS2010/WP11 Freight movements** – Current and future freight movements: The amount of freight shifted in Auckland is forecast to grow by 68 per cent by 2031, mostly because of a growing demand for aggregates and other building materials that need to be brought in from outside the region. This paper looks at current freight movements, forecasts, and national targets on moving freight by road, rail and sea.

**RLTS2010/WP12 Assessment of LTMA Clause 3 and 4** – This paper expands upon WP07 and identifies additional policy gaps in the first of the RLTS policies, and fully documents how the RLTS fully complies with Clause 3 and 4 of the LTMA.

## Supporting working papers

**RLTS2010/WP13 Health Impact Assessment** – Includes the various reports that explore the issues raised through the course of the HIA. These involve stakeholder consultation, literature analysis and impact modelling, and provides recommendations for the development and implementation of the RLTS from a perspective of health and wellbeing.

**RLTS2010/WP14 Travel Demand Management Initiatives** – Travel plans, walking and cycling: Travel demand management measures could remove almost 700,000 cars trips from roads and help reduce vehicle emissions. This report looks at what education and travel planning might achieve, especially if supporting walking and cycling infrastructure are in place.

**RLTS2010/WP15 Non Network Policy Options** – What could be achieved without adding to the road network or public transport system? This paper looks at how different policies could be applied in the short, medium and long term.

**RLTS2010/WP17 Transport Safety** – One person dies every five days on the region's roads and one in 10 people in hospital has been injured on our roads. The social costs of road crashes in the region add up to an estimated \$945 million a year. Rail crashes are rare but risks are growing as Auckland gets more and faster trains, carrying more people.

**RLTS2010/WP18 Land Use and Urban Design Policies** – Land use and urban design policies: Changes in land use prompt changes in transport demand, and infrastructure and travel behaviour can change land use patterns. Integrating transport and land use policies is a critical issue for Auckland. This paper revises the policies of 2005.

**RLTS2010/WP19 Strategic Options Evaluation** – A detailed analysis of developing the strategic options, and the identification of the preferred option. These matters have been considered by the RTC in separate workshops, presentations and agenda items.

**RLTS 2010/WP20 Environmental Sustainability and Public Health Policies** – Environment and public health: This paper looks at major developments in environmental sustainability and public health policies that have occurred since the 2005 Regional Land Transport Strategy.

**RLTS2010/WP21 Strategic Option 3 Public Transport Network** – Investment in public transport infrastructure: On average, Aucklanders each use public transport about 40 times a year. This would need to increase to over 100 to meet the NZTS targets. The consulting company Parsons Brinkerhoff was commissioned to investigate a potential future public transport network that would carry that many passengers, so that the effectiveness of its various elements could be tested through transport models.

**RLTS2010/WP22 Regionalisation of National Transport Targets** – Public transport use in Auckland needs to be about five times higher by 2040, according to national transport targets set in 2008. This paper looks at Auckland's expected contribution to a variety of national targets, including for freight, the number of single occupancy vehicles on our roads, walking and cycling.

## Public transport services guidelines

ARTA has developed the following guidelines to assist in determining the minimum service levels that will apply to the different network layers. The guidelines were originally included in the 2006 Passenger Transport Network Plan (PTNP) following consultation on that document. ARTA is currently undertaking a review of the 2006 PTNP and these guidelines may change as a result.

### Minimum Service Level Guidelines

Table 21 Minimum service level guidelines

PT Network	Timing or mode	Rapid Transit Network (RTN)	Quality Transit Network (QTN)	Local Connector Network (LCN)
Service Strategy	Peak.	Express + Limited Stop + All Stop.	Express + Limited Stop + All Stop.	All Stop.
	Off Peak.	All Stop.	All Stop.	All Stop.
Connections		Non-timed connections.	Services should be scheduled to arrive within 10 minutes of drop-off.	Services should be scheduled so drop off is within 10 minutes of RTN and / or QTN departure.
Frequency	Peak (7:00 am to 9:30 am & 3:30 pm to 6:00pm)	5 – 15 min.	10 min (15 min new services/ ferry).	20-30 min.
	Interpeak (09:30 am to 3:30 pm)	20 – 30 min.	20 min (30 min for new services/ ferry).	30-60 min.
	Evening (after 6:00 pm)	30 min.	30 min (60 min for new services/ ferry).	60 min.
	Saturday	30 min.	30 min (60 min for new services/ ferry).	60 min.
	Sunday	30 min.	30 min (60 min for new services/ ferry).	60 min.

## Public transport services guidelines

PT Network	Timing or mode	Rapid Transit Network (RTN)	Quality Transit Network (QTN)	Local Connector Network (LCN)
Service Period	Monday – Friday	5.30am – 12.30am.	5.30am – 12.30am.	5.30am – 12.30am for services feeding the rapid transit network (RTN) and quality transit network (QTN).  6.30am – 11.00pm for other services.
	Saturday	7.00am – 12.00am.	7.00am – 12.00am.	7.30am – 11.00am.
	Sunday	8.00am – 10.00pm.	8.00am – 10.00pm.	8.30am – 10.00pm.
Maximum Loading Trigger Levels for service review to increase frequencies or expand capacity <sup>46</sup> .	Peak.	15 minutes: 85% of total capacity per route. 30 minutes 70% of total capacity per route.	15 minutes: 85% of total capacity per route. 30 minutes 70% of total capacity per route.	15 minutes: 85% of total capacity per route. 30 minutes 70% of total capacity per route.
	Interpeak (evenings / weekends)	60 minutes: 60% of total capacity per route. Passenger loads on some individual trips may exceed these trigger levels.	60 minutes: 60% of total capacity per route. Passenger loads on some individual trips may exceed these trigger levels.	60 minutes: 60% of total capacity per route. Passenger loads on some individual trips may exceed these trigger levels.

<sup>46</sup> These trigger levels are for the highest passenger loads, averaged for all trips on a route averaged over a three month period, within the busiest 15 minutes and 30 minutes in the AM and PM peak periods and over 60 minutes in the interpeak, evenings and weekends.

## Public transport services guidelines

PT Network	Timing or mode	Rapid Transit Network (RTN)	Quality Transit Network (QTN)	Local Connector Network (LCN)
<p>Minimum patronage trigger levels for service review to decrease frequencies or lower capacity.*</p> <p>* Note that this provision applies only to services operating more frequently than minimum levels. Service levels would reduce to below minimum levels only in exceptional circumstances.</p>	Peak.	Demand analysis (from patronage surveys or the ticketing system).	Patronage is less than 50% of seated capacity (averaged by the number of trips operated during any trips operated during any 20 minute period) at maximum load point.	Patronage is less than 50% of seated capacity (averaged by the number of trips operated during any trips operated during any 20 minute period) at maximum load point.
	Other periods	Demand analysis (from patronage surveys or the ticketing system).	Patronage is less than 30% of seated capacity (averaged by the number of trips operated during any trips operated during any 20 minute period) at maximum load point.	Patronage is less than 30% of seated capacity (averaged by the number of trips operated during any trips operated during any 20 minute period) at maximum load point.

## Public transport services guidelines

PT Network	Timing or mode	Rapid Transit Network (RTN)	Quality Transit Network (QTN)	Local Connector Network (LCN)
Reliability and punctuality.	For train	No services to leave early. 99.5% operated as scheduled. 90% within five minutes of schedule.		
	For bus	No services to leave early. 99.9% operated as scheduled. 95% within five minutes of schedule.		
	For bus and ferry		No services to leave early. 99.9% operated as scheduled. 95% within five minutes of schedule.	No services to leave early. 99.9% operated as scheduled. 95% within five minutes of schedule.
Service Coverage			90% of the population within the metropolitan urban limits must reside or work within 500 metres of a bus stop.	
Accessibility	For bus, train and ferry	Vehicle and station accessible consistent with NZ Disability Strategy.	Vehicle, stop and station accessible consistent with NZ Disability Strategy.	Vehicle accessible consistent with NZ Disability Strategy.
Vehicle / Vessel / Rolling Stock		Modern and comfortable vehicles.	Modern and comfortable vehicles/vessels.	Meet Vehicle Quality Standards.
Vehicle Emission Standards	For bus, train and ferry	By 2012 100% of Northern Express busses will be Euro IV or equivalent	Assuming 5% fleet replacement per year, by 2012: >25% of vehicles will be Euro IV or equivalent >31% of vehicles will be Euro III or equivalent >44% of vehicles will be pre Euro III or equivalent	

## Regional park-and-ride criteria

At the time of writing, the Park and Ride Strategy (Auckland Regional Transport Authority (ARTA) is still in a draft form (27/10/09). Therefore this appendix should be considered an early description of the main criteria for which Park and Rides<sup>47</sup> will be identified in the Auckland region.

### Short term versus long term

- Short term generally means one to three years. The short term assessment criteria looks at how well each site fits with existing demand, services and facilities.
- Long term means five years or more and the time frame may differ from one project to another.
- Long term assessment criteria look at how well each site fits with long term land use plans such as the Auckland Regional Growth Strategy (RGS) and long term assumptions about infrastructure services.

### Short term criteria

- **Land availability** – Land appears to be available that could potentially be acquired and developed as a Park and Ride in the short term.
- **Park and ride market** – There is an extensive area of medium to low-density residential development for which this is a logical place to park for travel to the Auckland central business district (CBD).
- **Appropriate road network** – The road network makes it easy to get from the catchment area to the Park and Ride without encountering severe morning peak congestion. The road network naturally funnels a large market to the Park and Ride.
- **Passenger transport network** – Availability of frequent, fast and direct passenger transport service should either exist or be easy to develop in response to the new Park and Ride facility.

### Long term criteria

- **Low land value and development potential** – A Park and Ride is a relatively inefficient use of land, and therefore presumes a low land value. A Park and Ride is therefore viable in the long term only if there is not a compelling higher-value use for the land. This is not just a matter of development economics, but also of transport system efficiency. While Park and Ride facilities are helpful in attracting patronage to passenger transport, dense development is far more effective to this end. For this reason, a long-term Park and Ride should be on land that is not planned to be a town centre or some other high land value use.
- **Park and ride market** – The RGS indicates that there will be an extensive area of medium - to low-density residential development for which this is a logical place to park for travel to the Auckland CBD.
- **Appropriate road network** – The long-term road network, including any planned improvements, makes it easy to get from the market area to the Park and Ride without encountering severe morning peak congestion. The road network naturally funnels a large market area to the Park and Ride.
- **Passenger transport network** – Must be on the quality transit network (QTN).

<sup>47</sup> Park and Rides with 200 carparks may be expected to generate in the order of 50,000 additional passenger transport trips per year, assuming 95 per cent utilisation during a normal working week.

## Regional park-and-ride criteria

### Assessment categories

- **Discarded** – Sites that score poorly against both short-term and long-term criteria should be discarded from further consideration.
- **Permanent (ie both short-term and long-term)** – Sites that score well on both criteria should be developed soon and with the expectation of permanence. Relatively expensive fixed infrastructure can be considered in these cases.
- **Interim** – Sites that score well in the short term but not the long term are considered interim. A classic example would be a location that is envisioned as a town centre in the RGS, but where there is currently no development or development pressure. Interim facilities can be appropriate for relatively inexpensive Park and Ride infrastructure.



Albany park-and-ride car park and bus station

## Corridor management plans: principles and priorities

An important tool in the planning and implementation of improvements to regional arterial roads is the development of a series of corridor management plans (CMPs). Road controlling authorities are encouraged to prepare CMPs for all regional arterial routes, giving priority to the high priority routes identified below, and to subsequently put forward schemes for inclusion in the Auckland Regional Land Transport Programme (RLTP). Where the territorial authority concerned places high importance on amenity or urban design improvements, they may request that a specific corridor be given a higher priority ranking than would be justified by transport criteria alone.

ARTA has prepared a set of guidelines to assist with the preparation of CMPs, which are included in the Regional Arterial Road Plan (RARP) 2009. The guidelines are aimed at assisting decision making on the allocation of scarce regional arterial road space among different and competing demands to improve safety, efficiency and effectiveness. They include measures that give priority to buses, high occupancy vehicles, freight traffic, and bicycles. Also included are guidelines relating to the control of parking on arterials, to pedestrian facilities and to the identification and treatment of urban design elements.

The RARP also describes various techniques that can be applied to improve the performance of the regional arterial network, plus associated actions that can be taken to improve the effectiveness of each measure.

### The 'Place' Role of Arterials

Arterials can have both a 'link' role in the transport network, and a 'place' role. The place role includes:

- Integration with land uses, including future mix and density. This includes recognition of the market conditions necessary to make those land uses viable.
- Creation of a street environment that supports a beneficial interaction between the street and adjacent buildings.
- Creation of a public realm that encourages walking and cycling which in turn supports public transport, TDM and active and vibrant centres.

The extent to which 'place' is taken into account in corridor management plans will vary by corridor and the objectives of the territorial authority (or authorities) within which the corridor lies.

### Defining corridors

Corridors are transportation pathways that provide for the movement of people and goods between and within activity centres. A corridor encompasses single or multiple transportation routes or facilities such as a motorway, arterial road(s), public transport (bus or rail), cycleway and pedestrian facilities, the adjacent land uses and the connecting network of streets (and rail lines). Corridor management plans should therefore incorporate the full extent of these related corridor activities.

The physical width of a corridor can vary depending on the adjacent land uses, road network layout and topography. As a general guide, a 400-metre-wide corridor enables most nearby land uses to be included, while an 800-metre-wide corridor allows all locations within a five minute walking distance of the corridor to be included. In some instances it may be appropriate to develop a management plan for an area that includes two or three corridors that are strongly inter-related.

The road transport network in the vicinity of the arterial area plays an important role and the corridor should extend sufficiently far to enable the supporting network to be incorporated in the corridor access and management plans. Measures to improve the effectiveness of an arterial can affect intersecting and adjacent streets (and rail lines). Improving the connectivity and walkability of the local network can reduce the number of short-distance local trips using the arterial, enabling it to better meet the needs of longer-distance through traffic.

## Corridor management plans: principles and priorities

### Principles for corridor management plans

A corridor management plan seeks to establish the existing and future operation of an entire corridor, through an integrated assessment of transport routes and land uses within the corridor.

A corridor management plan needs to take the Regional Arterial Road Plan and other documents into account in order to fully understand the intended transport and land use roles. In particular, corridor management plans need a regional perspective on the intended future roles of each route, as described in the Regional Arterial Road Plan, the Regional Policy Statement, and the Regional Growth Strategy (and its successor). Other local documents accounting for economic, social and community, recreation and open space, and environmental aspirations should also be taken into account as appropriate.

To better manage arterial roads for the movement of people, goods and services, it is essential that a range of low-cost options be considered to improve travel times, reliability and capacity (where capacity is measured in terms of people and goods rather than vehicles).

The actions required should be agreed as part of a corridor management plan (or an access management plan), and need to address:

- Integration with the strategic objectives of the region and the city or district concerned,
- The need to contribute to quality urban design outcomes,
- The transport role and function of the corridor in the long term,
- The place role and function of the centres and communities along corridors, and a beneficial public realm and street environment,
- The role and function of adjacent land uses in the long term, Integration of transport and land use functions, in the short and medium term, including current and future land use mix and density,
- Travel Demand Management (TDM) measures, including walking and cycling infrastructure, and relevant aspects of school and workplace travel plans and neighbourhood accessibility plans,
- Safety for all users throughout the length of the corridor, Parking enforcement, including clearways, cycleways and bus/transit lanes,
- Traffic signal operation and optimisation, and
- Carriageway use, markings and signage.

## Corridor management plans: principles and priorities

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### Priorities for corridor management plans

Corridor management plans should be prepared for the entire regional arterial network. However, this will take some time to achieve. Accordingly, it is necessary to prioritise resources to those corridors with the greatest need. The Regional Arterial Road Plan has identified the following routes as the highest priority for the development of corridor management plans:

- Albany Highway: Upper Harbour Highway to Wairau Road
- Wairau Road: Target Road to Tristram Avenue
- Lincoln Road: Te Pai Place to SH16 Interchange
- Te Atatu Road: Edmonton Road to SH16
- Great North Road: Blockhouse Bay Road to SH16
- Wolverton Street
- Broadway: Khyber Pass Road to Manukau Road
- Khyber Pass Road: Symonds Street to Broadway
- Ellerslie Panmure Highway: Panmure Roundabout to Great South Road
- Great South Road: Church Street to Portage Road
- Pakuranga Road: Panmure Bridge to Ti Rakau Drive
- South-eastern Highway: Waipuna Road to Ti Rakau Drive
- Church Street: Neilson Street to Great South Road
- Neilson Street: SH20 Interchange to Onehunga Mall
- Ti Rakau Drive: Harris Road to Pakuranga Road
- Great South Road: Redoubt Road to Te Irirangi Drive.

## Health Impact Assessment (HIA)

A Health Impact Assessment (HIA) is a tool to support analysis of policies for their potential effects on wellbeing and equity. It can be used to support policy-making based on evidence, to improve health outcomes, and foster greater collaboration between sectors and stakeholders (Public Health Advisory Committee 2004).

HIAs are intended to draw on expert/published knowledge about health impacts and interventions, as well as community knowledge to make recommendations that would minimise potentially negative well-being outcomes and maximise potentially positive outcomes of a proposed policy or project.

### The four key stages of HIA are:

- (a) screening – the initial selection process to assess an initiative’s suitability for HIA,
- (b) scoping – highlighting the key issues needing to be considered to define and shape the HIA,
- (c) appraisal and reporting – identifying potential health impacts and making recommendations,
- (d) evaluation – assessing the HIA process and outcomes.

HIA can be applied at the project level (such as particular roading developments), or on the policy level (such as regional or national transport policy). HIAs are gaining recognition in New Zealand, and are well-established internationally. The National Health Committee has championed the use of HIAs since publishing their Guide to HIA in 2004, and in 2007 issued a follow-up report on new opportunities for HIA in New Zealand (Public Health Advisory Committee 2004<sup>48</sup>; 2007<sup>49</sup>). More recently, the New Zealand Transport Agency has commissioned a review of applying health impact assessments to land transport planning in New Zealand<sup>50</sup>. Alongside conventional HIA, Whanau Ora Health Impact Assessment has emerged as an indigenous tool for undertaking HIA where there are significant Maori interests<sup>51</sup>.

### When should a health impact assessment be used in transport planning?

International reviews and evaluations indicate that HIA can assist transport planning by encouraging a longer term focus, bringing attention to unintended impacts, fostering inter-organisational relationships and collaboration, and facilitating a more inclusive process that brings communities and different sectors together in problem identification and response to influence policy and planning decisions. HIAs tend to be a relatively formal and intensive process. They tend to be most effectively applied at an early stage of strategy or planning processes, when a range of options are being considered, rather than near the conclusion of a strategy or project plan. They generally require a document or set of options to be in place, for the HIA to review for health and wellbeing implications.

HIAs can be most influential in helping shape “upstream” processes of transport strategies and planning; for projects where there is a significant regional or community interest (such as a major transport corridor); where broad stakeholder involvement is required; and/or when a project is potentially precedent-setting (such as involving application of new policy settings, technology or scale of development). They are less useful for smaller-scale “downstream” transport projects, such as road re-surfacing or traffic lights installation, where best practice in areas such as urban design and safety is already well-established.

48 Public Health Advisory Committee. 2004. A Guide to Health Impact Assessment: A Policy Tool for New Zealand Wellington: National Health Committee.

49 Public Health Advisory Committee. 2007 An Idea Whose Time Has Come: Opportunities for Health Impact Assessments in New Zealand. Wellington: National Health Committee.

50 New Zealand Transport Agency. 2009. Applying Health Impact Assessment to Land Transport Planning. Wellington: New Zealand Transport Agency.

51 Ministry of Health. 2007. Whanau Ora Health Impact Assessment. Wellington: Ministry of Health.

## Health Impact Assessment (HIA)

**Potential opportunities for using HIA in New Zealand include: Regional transport strategies (as occurred with the Auckland Regional Land Transport Strategy):**

- corridor studies and developments,
- major transport interchanges,
- assessment of environmental effects (AEE) in the resource consent phase,
- mode or implementation studies for public transport,
- integrated transport assessments,
- area plans,
- accessibility planning.

### Are there other ways that health and wellbeing can be considered in transport planning?

As noted above, HIAs are formal processes for community and stakeholder engagement on health and well-being issues. They should be seen as a tool, albeit a potentially powerful tool, and are not in themselves a “default option” for incorporating health and well-being in policy and planning. A limitation of established HIA methods is that they are intended to start with a proposed policy or planning solution, which is then reviewed through an HIA. Where the issue being explored is at an earlier stage of conceptualisation, more participatory approaches to policy and planning may be appropriate, which involve diverse stakeholders in agenda setting and problem identification, and work towards a collaborative solution.

Whether or not a formal HIA is adopted, there are underlying principles for understanding health and wellbeing impacts that should be considered with any transport policy or plan:

- Health and wellbeing should be interpreted broadly, and include cultural, social and environmental wellbeing as well as physical health aspects. In relation to transport these include influences on service and amenity access, air and noise pollution, community severance, safety, physical activity, loss of land and social use of outdoor spaces.
- Multi-disciplinary input should be obtained from a range of perspectives, including public health professionals, transport planners, urban planners/designers, community representatives, as well as people representing different ‘communities of interest’ such as people with disabilities.
- Stakeholder perspectives should be brought together not only to identify problems but to have a role in forging solutions.
- Proactive efforts must be made to identify and engage disadvantaged communities and Māori early in the policy and planning process.
- Equity issues should be considered, in particular the distribution of impacts and the communities most adversely affected.
- Assessment of potential impacts, and identification of solutions should be transparent and based on evidence.

