Auckland Regional Transport Authority

ARTA

# AUCKLAND TRANSPORT PLAN 2009

## OUR WORLD CLASS CITY

The Auckland Transport Plan is the flagship ten year planning document for implementing an integrated and sustainable Auckland transport system.

## About the Auckland Transport Plan

The Auckland Transport Plan has been developed by the Auckland Regional Transport Authority in collaboration with the Auckland Regional Council, KiwiRail and Auckland, Manukau, Waitakere and North Shore Cities, Papakura, Rodney and Franklin District Councils, and the New Zealand Transport Agency.










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## Disclaimer

The values in the Auckland Transport Plan 2009 are highly dependent on the values provided by all agencies for their projects, packages and funding availability.

ARTA has used every endeavour to ensure that the funding and expenditure figures are as accurate as possible at time of printing. As projects progress through the various stages of investigation, design, construction and delivery, cost and funding availability become more certain.

There have been a number of changes over the last 12 months in the transport environment with the merger of Transit New Zealand and Land Transport New Zealand into the New Zealand Transport Agency, Government buy-back of the national rail network and establishment of KiwiRail. The impact of these changes, and the changes to Auckland governance, will have a determinant effect on this, and future Auckland Transport Plans.

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# FOREWORD

*Auckland, a growing international city, is critical to New Zealand's success and dependent upon a safe, efficient and sustainable transport system.*

The Auckland Transport Plan (ATP) is the region's flagship ten-year transport planning document.

The success of Auckland, New Zealand's major commercial centre and home to one third of New Zealand's population, is vital to New Zealand's long-term prospects.

Transport strongly influences economic development. Good transport systems make it easy for people to access jobs and for goods to reach their markets.

Auckland Airport, Ports of Auckland and the region's motorway and arterial road, rail and public transport networks constitute a multi-modal transport system for the effective movement of goods, services and people. The complete system provides a fundamental cornerstone of an internationally competitive Auckland, leading to sustained economic growth and jobs.

While the plans and strategies supporting the ATP generally have a ten-year timeframe, in the interests of future-proofing for the growth and development the region will experience, prudent plans take a longer-term view. Hence, the ATP makes allowances for investigations towards projects such as an additional Waitemata Harbour Crossing, an inner city (CBD) underground passenger rail tunnel and rail to the airport.

Aside from this long-term strategic view, highlights of the ATP include electrification of the rail network, completion of the Western Ring Route, integrated fares and an integrated ticket, AMETI - the Auckland Manukau Eastern Transport Initiative, new and improved ferry infrastructure, and walking and cycling initiatives.

Funding in such a small country is always an issue. Taking into consideration funding for the additional Waitemata Harbour Crossing, rail to the airport and the CBD rail tunnel projects, the total funding requirement could be in excess of $22 billion.

Given this funding challenge, in respect of available regional and central government funding, careful choices need to be made between projects and their timing and effective prioritisation of projects.

The Government's Policy Statement (GPS) for the prioritisation of funding for land transport, which came into effect on 1 July this year, must be taken into consideration. The Government is particularly concerned to see better integration of land use, transport planning and urban design activity contributing to national economic growth and productivity.

The ATP provides a rigorous approach to project prioritisation based on a set of criteria designed to direct available resources towards projects which will address the region's most pressing transport challenges, thus assisting to advance Auckland's and therefore New Zealand's economic imperatives.

**Rabin Rabindran**
CHAIRMAN
ARTA BOARD

The continued success of Auckland, as New Zealand's major commercial and population centre, and only city of international scale, is vital to New Zealand's long-term prospects. To ensure this success, and the future wellbeing of the growing Auckland region, it is essential to plan and implement world-class transport infrastructure and services.

# *EXECUTIVE SUMMARY*

The Auckland Transport Plan (ATP) is the Auckland region's ten-year transport planning document, to be viewed in a long-term context.

It brings together projects to implement the transport policies of the Government and region, creating a safe, affordable, integrated and sustainable transport system for people and freight in a growing and prosperous Auckland.

The ATP unites the strategies, plans, projects and packages developed by ARTA, local authorities, the New Zealand Transport Agency (NZTA) and KiwiRail, identifying the use of different modes of transport to ensure optimal and sustainable use of resources.

This flagship document replaces the 2007 Auckland Transport Plan.

Auckland's success, as New Zealand's major commercial centre and home to one third of all New Zealanders, is vital to New Zealand's long-term prospects.

Transport strongly influences economic development. Transport corridors are the arteries of local and international trade. Planning and development of world-class transport infrastructure and services for Auckland is vital.

The Ports of Auckland, Auckland Airport and the region's motorway and arterial road, rail and public transport networks are essential for the movement of goods, services and people. They are fundamental to an internationally competitive Auckland.

## Delivering transport to support Auckland's growth

Auckland's rapidly growing population and economy mean that while plans and strategies supporting the ATP generally have a ten-year timeframe, the ATP must take a longer-term view to ensure the region can deliver the transport system envisaged.

The ATP allows for investigations related to projects such as an additional Waitemata Harbour Crossing, an inner city underground passenger rail tunnel, rail to the airport, and long-term strategic studies supporting Auckland's growth and prosperity.

## Funding

This ATP will require funding of almost $15 billion over the next ten years. This amount does not include the full construction of the SH20 Waterview connection, CBD rail tunnel, rail to the airport, or an additional Waitemata Harbour Crossing, which collectively could bring funding requirements to more than $22 billion.

Currently, there is a mismatch between territorial authority allocations for local roading and NZTA's funding allocation in the National Land Transport Programme (NLTP), with councils projecting significantly less spending than NZTA funding accommodates. While there has been significant Crown funding for the Auckland region in recent years, there are still important gaps in the region's transport system. For example, rapid transit networks across Auckland are of regional importance and should attract increased regional and/or central government funding. However, these projects are often delayed because local authorities cannot fund up to 50% of their cost under current funding rules.


***Auckland, a growing international city, is critical to New Zealand's economic hub and depends upon a safe, efficient and sustainable transport system.***

## Benefits of an integrated plan

Transport planning has moved from a focus on outputs to a focus on outcomes. This ATP aligns transport planning with land use, and economic, social and environmental objectives, to ensure transport investments are allocated to achieve the region's important outcomes. Benefits will include:

- → *Better coordination of residential and commercial development with the transport system*
- → *Certainty over project timing for the construction sector, reducing construction costs and accelerating project delivery*
- → *A transport network connecting and supporting a vibrant, prosperous Auckland*

The ATP is aligned with central government's transport objectives. It is also the main method by which ARTA will implement the Regional Land Transport Strategy (RLTS), the overarching policy document for Auckland transport planning.

The ATP provides ARTA with the framework for the development of the tri-annual Regional Land Transport Programme, and is a reference for KiwiRail in preparing rail network development plans.

## Prioritisation

Funding pressures necessitate careful choices and trade offs between transport projects, and their timing, to ensure the right projects receive funds at the right time. The ATP provides for a rigorous approach to project prioritisation to address the region's most pressing transport needs and to advance the strategic objectives of the RLTS.

The Auckland region's priority outcome areas are:

- → *Greater focus on regional arterial roads*
- → *Emphasis on safety engineering for streets and roads*
- → *Optimising the existing transport system to move people and goods*
- → *Strong focus on transport investments that support the Regional Growth Strategy, and integrated land use and transport planning*
- → *Completion of key elements of strategic roading, passenger transport, walking and cycling networks*

**Providing people with choices about how they get around is one of the major goals of the Auckland Transport Plan, particularly making healthy and sustainable options to move people and goods more attractive**

# HIGHLIGHTS OF WHAT THIS PLAN DELIVERS FOR AUCKLAND

### → *Electrification of the Auckland rail network*

Auckland's rail system is to be electrified. A modern electrified rail system has significant performance advantages over the current and even new diesel systems for urban rail operations, including better acceleration between stations and the ability to operate high frequency trains through tunnels. In addition, electric trains provide environmental benefits such as improved air quality and reduced noise and air vibration, so they are compatible with the intensified development along rail corridors envisaged by the Regional Growth Strategy. Electrification will enable ARTA to provide fast, reliable journeys at 10-minute frequencies and attract 17 million passengers to rail by 2016. It will also future-proof the Auckland rail network and provide for the development of the CBD rail tunnel. The Auckland region will continue to work with KiwiRail to ensure delivery of this project, critical for the continued growth of Auckland.

### → *CBD Rail Tunnel*

The decision to electrify the rail network has allowed work to begin on protecting and constructing the CBD rail tunnel. This will allow higher train frequencies across the entire rail network, as well as providing new stations in the heart of the CBD and future extensions to an electrified network such as to the airport. Overall, this project will increase the accessibility of the CBD, New Zealand's largest concentration of economic activity, to more than half a million people within 30 minutes travel time by rail, which is completely free of road congestion. This will release the economic potential of Auckland's CBD and growth centres, and lead to economic benefits estimated at $2.4 billion.

### → *Western Ring Route*

Finishing the Western Ring Route network with the completion of the SH20-SH1 Manukau Link, SH18 extension and the Waterview Connection will provide a complete alternative to State Highway 1 from Manukau through to Albany. The 5.5km Waterview proposal is for a combined tunnel and surface option, which will be funded through the current transport budget at about $1.4b. The completion of the Western Ring Route will improve transport links for Aucklanders and businesses and provide more reliable travel time to Auckland Airport.

### → *AMETI – The Auckland Manukau Eastern Transport Initiative*

AMETI is a three-way (Auckland City, Auckland Regional Transport Authority and Manukau City) project that will deliver increased passenger transport, demand management and economic development opportunities for the south-east metropolitan Auckland region. The first stage of the project will include the Panmure Transport Plan to support business and residential growth planned for Glen Innes, Panmure, Mt Wellington and Sylvia Park, by improving roads, bus lanes, walking and cycling, the addition of a pedestrian/cycle lane on the Panmure Bridge and improvements from Panmure through to Pakuranga and along Ti Rakau Drive, including a dedicated bus route.

### → *New Lynn Undergrounding*

New Lynn station is one of the busiest stations on Auckland's rail network, and with projected population growth in the region, will be an important hub in Auckland's transport network. Its development will allow for more frequent and reliable passenger services and improve pedestrian safety and traffic flow around the rail network. The rail station is part of an integrated bus and train transport interchange at the junction of Clark Street, Totara Avenue and Memorial Drive in New Lynn. The project forms part of the overall KiwiRail DART 6 rail corridor project, which separates the rail corridor through New Lynn from the local roading and pedestrian network via 'grade separation'.

### → *Integrated fares and ticketing*

Travel by public transport will be made easier and simpler with the introduction of the new Integrated Ticketing System for Auckland, which will be based on smartcard technology. The new smartcard will allow Aucklanders to travel on any form of public transport using just one card, utilising a simple touch-on, touch-off system. The smartcard will contain 'stored value'; it will automatically calculate the cheapest fare for the journey and deduct this from the "stored value" associated with the card. The smartcard will be able to be used on all operators and modes of transport in Auckland's public transport environment including buses, trains and ferries. It is anticipated that integrated fares and smartcard ticketing will result in faster boarding times, easier transfers, and convenient payment options as part of ARTA's focus on delivering equitable and quality access to our public transport networks.

### → *Walking and cycling initiatives*

Delivering on the regional cycle network will ensure that the Auckland region makes its contribution to the New Zealand Transport Strategy targets for active modes. Key walking and cycling projects to be delivered over the next three years and beyond include providing walking and cycling facilities on local roads affected by the SH20-SH1 motorway connection project, design and construction of a cycle lane adjacent to SH1 between Northcote Road and Constellation Drive, design and construction of a cycle connection between SH1 and SH16 in the Auckland CBD, and over 38km of off-road walking and cycling in FlatBush. A number of neighbourhood accessibility programmes will also be implemented to improve walking and cycling in and around town centres.

### → *Safety engineering*

Safety engineering for streets and roads will reduce road trauma, which currently costs the region $990 million each year. Engineering and enforcement for safety continue to be a key part of overall transport expenditure. While safety is a given in all new projects there is also a need to continue to focus on improving safety for all users of the transport system. All road controlling authorities have a number of crash reduction studies underway across the region.

### → *Additional Waitemata Harbour Crossing*

Protecting the route for the additional Waitemata Harbour Crossing will improve accessibility for all modes across the Waitemata Harbour. While tunnels are proposed for the new road and rail connections, these new routes will allow for the reallocation of space on the Auckland Harbour Bridge for both walking and cycling across the Waitemata Harbour.

The ATP gives effect to the RLTS objectives of:

- → *Assisting economic development*
- → *Promoting safety and personal security*
- → *Improving access and mobility*
- → *Protecting and promoting public health*
- → *Ensuring environmental sustainability*
- → *Supporting the Auckland Regional Growth Strategy*
- → *Achieving economic efficiency*

The ATP considers goals in the New Zealand Transport Strategy and the Government Policy Statement for 2009/10–2014/15 including:

- → *Improvements in journey times*
- → *Easing of severe congestion*
- → *More efficient supply chains*
- → *Better use of existing transport capacity*
- → *Better access to markets*

## Transport opportunites and challenges

The Auckland region is growing more quickly than any other region in New Zealand. Such growth will place a major demand on transport infrastructure, requiring a transport system that anticipates and accommodates change. Transport shapes the way cities develop.

Development of an international-scale metropolis, however, does not rely solely on the development of the transport system. Integrating land use and transport will lead to a transport system that balances the needs of the environment and of the economy. While the transport system allows the population of Auckland and wider economy to access jobs, social opportunities and recreational pursuits, use of the system has impacts to be managed.

The transport sector accounts for 32% of New Zealand's energy requirements. Transport produces 18% of national carbon dioxide emissions, of which Auckland contributes 85%. Sources of energy are finite, in particular oil. Optimistic estimates of peak oil production forecast that global decline will not begin until 2020 or later. It could be sooner.

Transport demands create congestion when demand for road space exceeds supply. Congestion is estimated to cost around $1 billion annually.

Providing for a growing economy, integrating transport and land use, managing the use of finite resources, addressing climate change and environmental impacts are all challenges and opportunities to be considered in this ATP.

# 1. INTRODUCTION

## 1.1 Auckland Transport Plan

The Auckland Transport Plan (ATP) has been prepared by the Auckland Regional Transport Authority (ARTA) as a single, comprehensive transport plan for the region until 2019 and beyond. Outlining priorities and the phasing of projects, the ATP sets out a coordinated programme for the delivery of an integrated, efficient transport system.

ARTA has developed the ATP in collaboration with the New Zealand Transport Agency (NZTA), Kiwi Rail, the Auckland Regional Council, and the seven territorial authorities in the region (Rodney District, North Shore City, Waitakere City, Auckland City, Manukau City, Papakura District and Franklin District Councils), taking into account District Plans, and local councils' Long Term Council Community Plans. The ATP covers the entire Auckland region, including the area of Franklin District that is located within Environment Waikato's boundary.

The region's vision is for an integrated road, rail, bus, ferry, cycle and walking network that gives effective access to transport for people and goods, including an integrated passenger transport system that provides an attractive, viable and regionally agreed alternative to the use of private vehicles. There will be greater choice as to how people and goods move around Auckland, including the rural areas, between Auckland and the rest of New Zealand, and internationally.

The ATP will assist cooperative action between all agencies involved in transport; it will enable the prioritisation of funds, and it will raise awareness of the funding issues faced by the region, in particular those created by fragmented governance and funding arrangements.

## 1.2 The need for an effective transport system and plan

Transport is, directly or indirectly, an important part of life for everyone. As New Zealand's main commercial and population centre, and only city of global scale, Auckland needs first-rate transport infrastructure and services to remain internationally competitive.

An effective system will allow for growth, help to attract and retain business, enhance the experience of visitors, be environmentally sustainable, and improve the quality of life for residents.

## *Growth*

Auckland is currently home to more than 1.4 million residents – a third of New Zealand's population – with around 25,000 more added every year. It is expected there will be two million people living in metropolitan Auckland before 2036 (see figure 1). This anticipated growth alone is larger than the current population of any other New Zealand city (see figure 2).

The number of visitors to Auckland is estimated to increase from approximately 12 million in 2006 to 13.8 million by 2013.

The ATP looks ahead 30 years or more, to when a world-class transport system will require a completed strategic road network, including State highways and regional arterial roads, and a passenger transport network that can carry at least 200 million passenger transport trips annually between regional centres, at high frequencies and with reliable travel times.

Currently, more than $33 billion of goods are carried annually on roads within the Auckland region, with freight movements by road expected to double in number over the next 25 years.

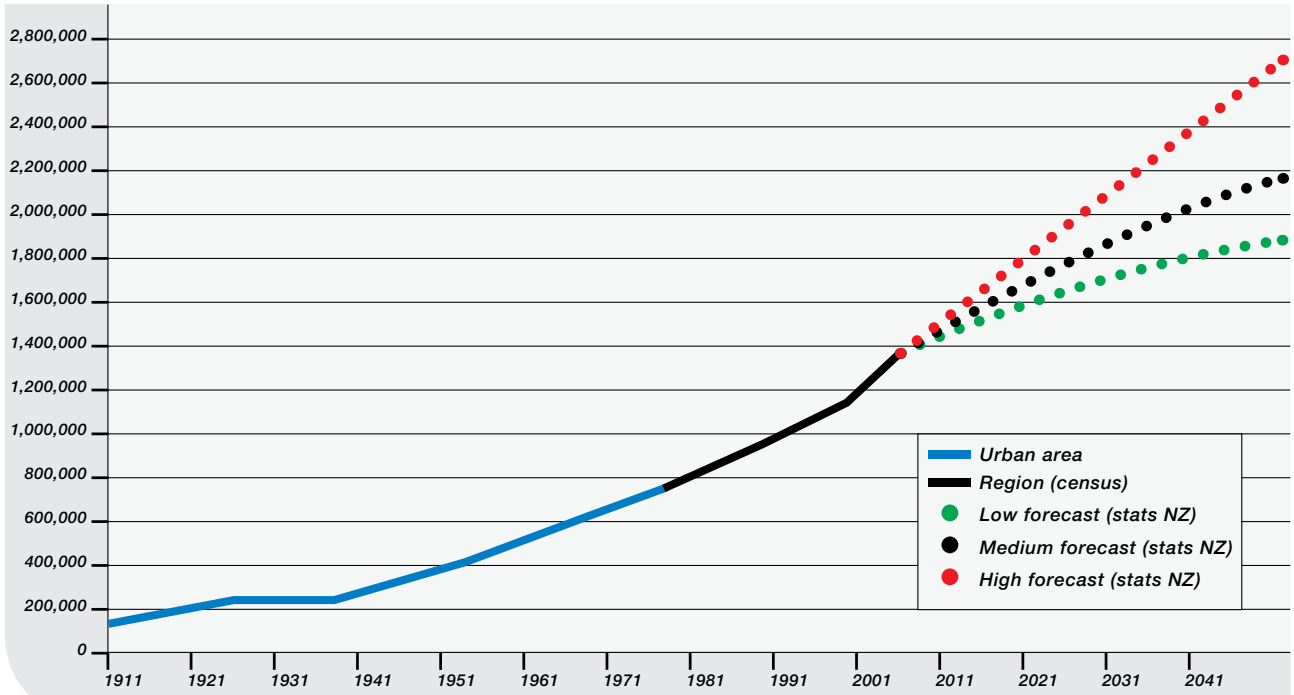
## *Attracting and retaining business*

Auckland currently generates a third of New Zealand's wealth. Central Auckland contains many global company headquarters and high-value-added enterprises. There is evidence that the extended Northern Region (metropolitan Auckland and the surrounding centres of Hamilton, Tauranga and Whangarei) will increasingly be treated by business as a single economy, and will continue to grow more quickly than other regions in New Zealand.

A successful economy depends on reliable infrastructure. Businesses will benefit when they can easily access markets, labour and goods, and when, with reduced travel times, more people are able to access key commercial and retail centres across the region, including central Auckland. As an example, completion of the CBD rail tunnel will result in more than 200,000 people being within 30 minutes' travel of the Auckland CBD.

The ATP enables forward planning and certainty so both public and private agencies can confidently invest in the Auckland region.

**Figure 1.** *Auckland's population growth to 2041*




## *Quality of life*

Efficient public transport systems strengthen local communities, benefit the environment and have a positive effect on people's health (see figure 3). Figure 3 shows that internationally competitive cities, both larger and smaller than Auckland, also have excellent public transport systems, making them attractive to visit and easy to move around to work and do business. Auckland has an ageing population, many of whom have some form of disability. The ATP brings together work programmes by local authorities, NZTA and KiwiRail to ensure people of all abilities have access to Auckland's spaces and places, by progressively improving access to public transport stops and upgrading footpaths. The Mercer 2009 quality of life survey, in which Auckland was placed fourth, includes transport infrastructure and particularily public transport as a key factor in contributing to quality of life.

**Figure 2.** *Population growth by regional council*

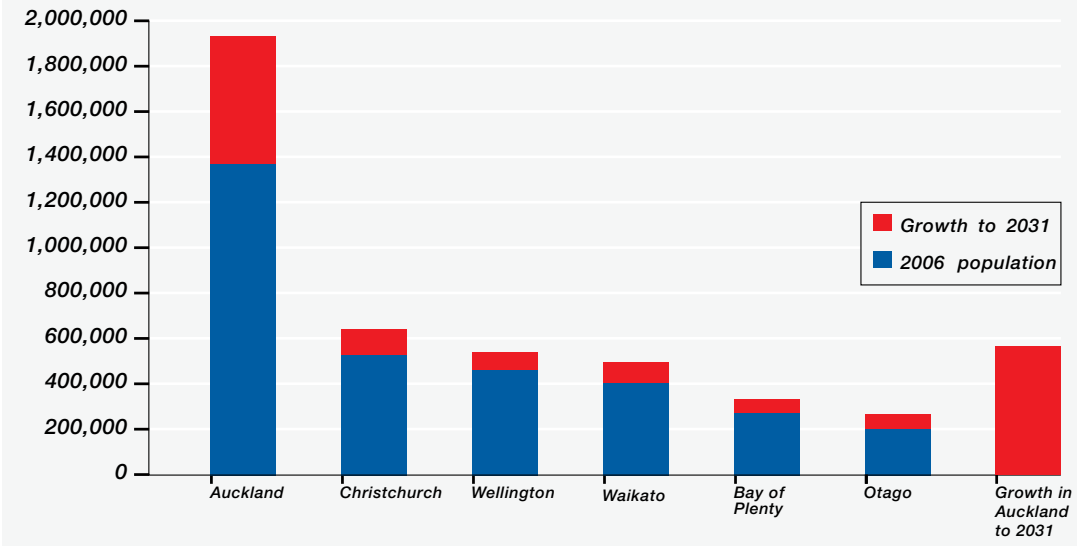
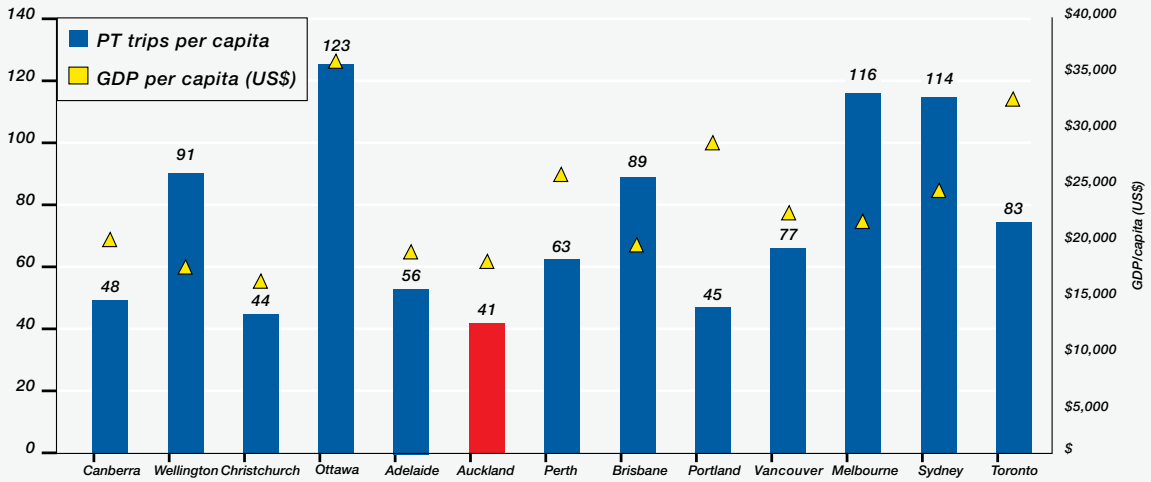


**Figure 3.** *PT trips and GDP per capita (2007/08, US$)*




## *Rugby World Cup 2011 regional transport and traffic planning*

The 2011 Rugby World Cup (RWC 2011) is the biggest global sporting event of 2011 and will start and finish in Auckland. The event will be held over six weeks in September and October 2011, with 48 matches played across the country. Auckland will play host to 13 teams throughout the RWC 2011 with eight pool matches and four finals; two semifinals, the bronze final and the tournament final.

Paramount to the success of RWC 2011 will be the successful delivery of the transport and traffic operations. ARTA chairs the transport and traffic workstream for the Cup, with the responsibility to develop a detailed RWC 2011 transport and traffic plan for the Auckland region.

In 2008, ARTA undertook an initial public transport feasibility assessment. The assessment identified a potential 60% to 80% uptake in non-private car transport and the crucial importance of an integrated ticket in order to speed up loading times and increase efficiencies on public transport modes.

It is expected that in-depth transport planning for the Cup will be completed in mid 2010, followed by the preparation of a detailed transport and traffic operations plan.

**Table 1.** *Capacity of different modes to move people*

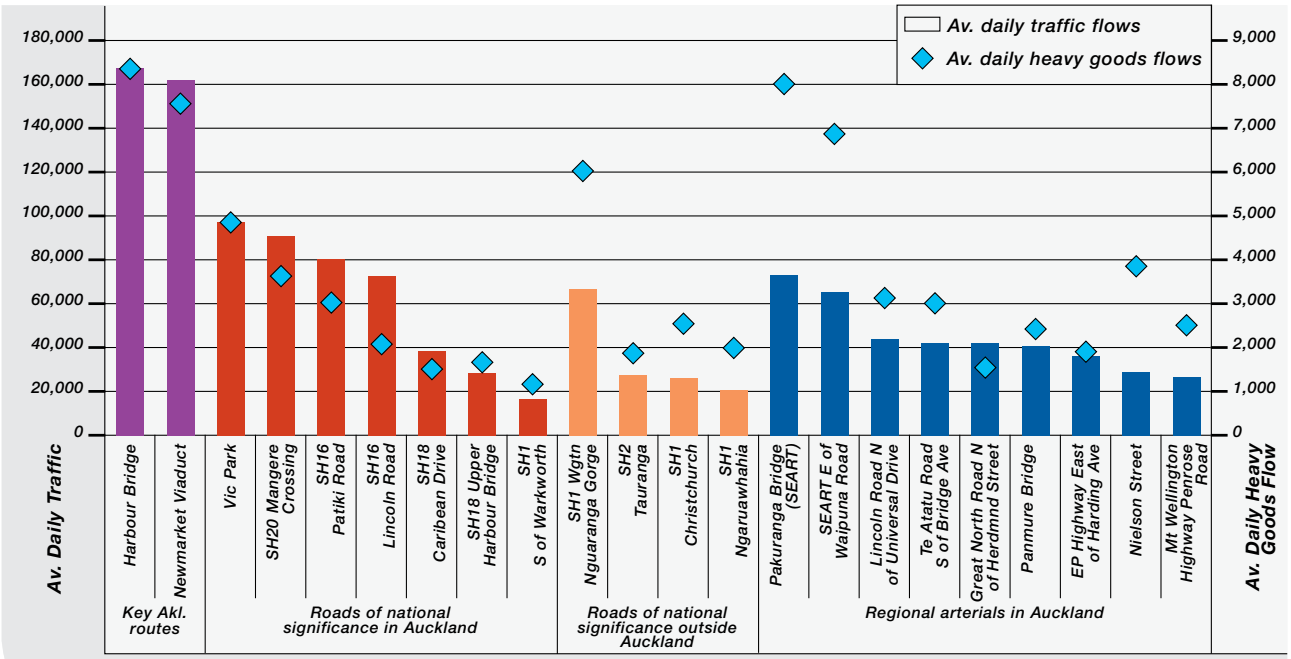
| | *Capacity per hour* |
|---|---|
| ***A single lane of motorway*** | *2,400 people* |
| *Bus lanes* | *7,500 people* |
| *Dedicated busway* | *12,000 people* |
| *Dedicated light rail* | *12,000 people* |
| *Auckland's rail corridors (potential)* | *20,000-25,000 people* |

## *Managing capacity and balancing priorities*

Over 80% of morning peak trips are longer than 2km in length, therefore only cars, trains, buses or ferries are generally suitable for these distances, so adequate infrastructure must be provided across the Auckland region. With 1.5 vehicles for each of Auckland's 1.4 million inhabitants, Auckland's existing transport network is under pressure. At peak times, much of the arterial road system is congested, the rail system is struggling to meet demand and the bus network is at times unreliable, with its efficient operation further hampered by commuter traffic (see Table 1). Overcrowding of road and rail systems restricts freight movement.

The ability of Auckland's transport system to meet the burgeoning growth in travel demand will depend on future investment in its rail and bus network. This investment will free up the road network for freight, commercial and other trips that cannot be made by public transport.

**Figure 4.** *Average daily vehicle and freight movements on key State highways and arterial roads*




Completing the State highway network will assist in relieving the congestion of the road system, however the benefits of improving State highways will be significantly reduced if the arterial roads feeding the State highways are too congested to cope with the additional flows created by the improved motorways. It is important to consider Auckland roads including State highways as one inter-related network, in which motorways and arterial roads are dependant upon each other. Many of Auckland's urban arterial roads carry far more total and commercial traffic than most State highways outside the metropolitan urban limit – as shown in Figure 4.

## *Transport and land use*

Transport and land use influence urban form, which is an important determinant of travel patterns. The history of urban growth across the Auckland region, shows that changes in land use have a direct effect on urban form in that it led to significant urban sprawl and an ever-increasing demand for travel.

Transport development is a critical shaper of urban form. Development of an international-scale metropolis, however, does not rely solely on the development of the transport system. While an effective transport system

is vital for Auckland's economic, social and cultural aspirations, continued growth in road and public transport infrastructure and the consequent environmental impacts present a major challenge to the objective of sustainable development outlined in many statutory and other Auckland policy documents.

Integrating land use and transport planning is vital to delivering balanced transport and land use solutions. By shaping the pattern of development and influencing the location, scale, density, design and mix of land uses, integrated planning can help reduce the need for travel. Ensuring that it is safe and easy for people to access employment, shopping, leisure facilities and services using passenger transport, walking and cycling, and providing capacity for freight movement, leads to a transport system in which the needs of the environment and of the economy are in balance.

Providing transport infrastructure requires a long lead-in time and it is expensive. While there are significant costs in protecting future transport corridors, it is necessary to provide for expansion. The additional Waitemata Harbour Crossing and the CBD rail tunnel are two current projects designed to provide protection for future needs. Investigations are needed to determine other future connections and routes, such as completing the 'ladder' concept for Auckland State highways, a complete RTN network covering the Auckland region; and future long-term connections north and south of Auckland. The ATP addresses these requirements.

In future, Auckland will have a network of high-quality, high-density centres and corridors linked to a high-quality passenger transport network.

## 1.3 Transport impacts

Transport plays a key role in the economy in that it facilitates access to employment, education, sources of trade, markets, leisure pursuits, and social activities. It enables people to move around, earn an income and achieve an acceptable standard of living. On the other hand, concerns are mounting about the detrimental effect of some forms of transport on the environment and on human health. These concerns are broadly related to energy use, climate change, and activity levels.

- → *Current forms of motor transport consume energy, depleting natural resources and so having an adverse affect on the economy.*
- → *Burning of fossil fuels creates greenhouse gases, which are considered the major contributing factor to accelerated climate change.*
- → *Most forms of transport create emissions that are bad for human health. Noise pollution adversely affects social life.*

Each transport-related effect imposes a considerable burden on society. Effects do not operate in isolation, but are inter-related.

### *Stormwater and air quality: two environmental challenges*

## Bus lanes – supporting a shift to public transport


### *Transport and energy use*

Transport is necessary for the functioning of the total economy: its contribution to the national Gross Domestic Product (GDP) is estimated to have been in the order of 5% over the last ten years.

Transport uses energy to make this contribution. In New Zealand, the transport sector is responsible for 86% of total oil consumption, with road transport using 87% of that total. Transport accounts for 42% of New Zealand's total energy use – higher than any other sector; and energy is used at a rate that often exceeds the GDP growth rate. Land transport (road and rail) accounts for around 90% of total transport energy use, while private motor vehicles account for almost 90% of total passenger transport energy use.

Oil, a fossil fuel, is the main source of energy for transport. Burning fossil fuel releases carbon dioxide and nitrous oxide into the atmosphere, gases that make a major contribution to global warming and climate change. Burning fossil fuel also releases other gases and particles harmful to health. In New Zealand, the energy used for transport accounts for some 18% of total carbon dioxide emissions, and it is estimated that harmful particle emissions from vehicles contribute to the premature death of some 500 people each year.

Transport's contribution and its costs become obvious in two issues currently receiving attention at all levels – peak oil and congestion.

### *Peak oil*

Sources of oil are finite. When oil's maximum rate of extraction is reached globally, the rate of petroleum production will terminally decline, a phase known as oil depletion. Optimistic estimates of peak production forecast that global decline will not begin until 2020 or later, and assume major investments in alternatives will mean people in economies that are dependent on oil will not experience major lifestyle changes. They suggest the price of oil will increase quickly but then fall as other fuels and energy sources come into general use. Pessimistic predictions operate on the premise that peak production has already occurred or will occur shortly. Proactive mitigation may no longer be an option and a global depression might result in the collapse of global industrial civilisation, potentially leading to large falls in population numbers within a short period.

Fuel price volatility is the major effect of peak oil. Using 2007 inflation-adjusted dollars per barrel of crude oil for comparative purposes:

- *In 1980, the maximum price was $95–100*
- *In August 2003, the price was about $25*
- *By May 2008, the price was more than $130*
- *Price peaked on 30 June 2008, at more than $143*

With prices much higher than those that caused the 1973 and 1979 energy crises, there were fears of a global economic recession similar to that of the early 1980s due to the impacts that high oil prices have on the global economy (referred to as price shocks). This was realised at the beginning of 2009 when the combination of high debt levels and oil price shocks caused several western nations to declare their economies officially in recession.

The effect of oil price volatility on travel patterns differs over the short and the long term. In the short term, extreme fluctuations in fuel prices will cause moderate changes in travel patterns and transport mode shifts unless demand is reduced through planned conservation measures (such as pricing) and the use of alternative travel choices. If fuel prices remain high in the longer term, there will be major changes in travel patterns, population movements, transport mode shifts and land use. Such changes, in the absence of major technological innovations, could threaten the fabric of society. High population densities in cities will affect the use of inner city infrastructure and have a flow-on effect to critical industries such as agriculture, trade and tourism.

## *Congestion*

Congestion occurs when demand for road space exceeds supply, limiting the throughput of the road. Congestion is estimated to cost $755 million annually in the Auckland region. Solutions involve building more roads (increasing supply) and/or preventing automobiles from using roads (decreasing demand). Building more roads is considered a short-term solution as increases in capacity are cancelled out by an increase in road users (more vehicles on the road). Reducing the demand for the road use by car drivers, primarily by means of various pricing methods,

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appears to be the only viable long-term solution because it leads to optimum use of both energy and land resources. High fuel prices for example (above $4 per gallon in the United States, $2 in New Zealand and £1 in the United Kingdom) have caused a decline in automobile counts across most motorways and highways and decreased average journey times. Demand managment measures require viable alternative travel choices to be available, such as public transport.

If economies are to depend less on fossil fuels they need an alternative energy source(s) and time to incorporate the source(s) into the daily fabric of economic life, in the short as well as the long term. The current trend in thinking is to focus on the use of electricity instead of fossil fuels as it will save time, especially over the longer term. Although this would lessen emissions and solve other environmental issues, it may aggravate congestion, as it would not necessarily lead to fewer automobiles on the roads in the long term.

## *Impacts of energy price increases on Auckland*

The effect of rising energy prices will differ across the user population according to its effect on profits and disposable income. Freight transport operators will generally pass increases in energy costs on to consumers. However, in the medium to longer term, businesses will also have to reevaluate supply chains in order to cut costs. It is especially the trade-off between inventory-holding costs and transport costs that will have to be reevaluated. For commuters, fuel price rises will affect disposable income.

The volatility of fuel prices will have an impact on transport providers such as ARTA because of:

- *The need to adapt capacity over the short term to accommodate changes in demand to compensate for increases and decreases in fuel prices*
- *Overcrowding, due to unevenly distributed demand for services*
- *Limited funds and options available to cover any escalation in the costs of providing services, especially in the short term*

Extreme price inflation is likely to influence the behavior of all transport users. When fuel prices are consistently high, transport users will switch to less costly modes such as passenger transport. It will then cost more to supply sufficient capacity, which can be a severe challenge with a fixed budget. The establishment of a fuel contingency fund to provide additional funds when fuel prices spike, would be consistent with contingency funds for other emergencies outside the control of transport agencies (for example, road maintenance due to flooding). It could be argued that there should be a similar fund specific to fuel price increases.

### Fuel price volatility – Challenge

The international economy has slowed considerably following the dramatic oil price increases of 2008, as economies in general could not handle the price shocks brought about by increases in the price of oil. However, the effects on Auckland are not clear. What is clear is that more Aucklanders are using public transport. While this is certainly due to improved services and infrastructure, the additional contribution of the current economic crisis and fuel price volatility is less certain. International experience though indicates that increasing fuel prices is likely to boost patronage of public transport. The ATP therefore assumes that fuel price volatility will:

- *Have a major impact on the region's economy*
- *Affect transport use by altering travel patterns and enable transport mode switching in the short term*
- *Change urban settlement patterns, land use, and transport options in the long term*
- *Influence the cost of service provision in the short and long term*
- *Influence the choice of infrastructure to be provided in the medium and long term*

Because there is often a time lag between implementing projects and obtaining results, the first step should be to lessen the possible effects of future price shocks. At a regional level, there should be a focus on:

Providing public transport with the emphasis on:

- → *Non-fossil-based mass transit modes such as electric trains*
- → *Provision and funding of public transport services that enable mode shifts between private and public transport in the short and long term*
- → *Improving transport infrastructure in order to provide an integrated public transport system*

Traffic management to enable:

- → *Greater integration of sea, road and rail transport*
- → *Priority lanes and other methods to expedite the movement of preferred passenger, commercial and freight traffic*

Travel demand management to enable:

- → *Prioritising transit-oriented development projects*
- → *Encouraging the supply and use of active modes of transport such as cycling and walking*
- → *Encouraging the application of the 'user-pays' principle for resource use*

Travel time improvements:

- → *Shortening travel times and improving travel time reliability between key growth centres for commercially sensitive traffic*

At a regional level, these steps will reduce the consumption of fossil-based fuels; shorten travel times for commercially sensitive traffic by alleviating congestion; and enable changes in travel patterns, including use of more active modes, to take place in a planned environment.

At a national level, such actions could lead to fewer greenhouse gas emissions and a possible slowing of climate change.

## *Transport and climate change*

The current scientific consensus is that changes in world climate over the past several decades have been caused by increasing amounts of greenhouse gases (water, nitrous oxide, methane, and carbon dioxide ($CO_2$)) created by human actions, primarily the burning of fossil fuel. Reducing human impact on climate change will ultimately require eliminating fossil fuels as an energy source. Since that will take time, plans to minimise human impacts are needed. As a major contributor to $CO_2$ emissions, transport is particularly affected.

The principal greenhouse gas generated by transport is $CO_2$. In New Zealand, the transport sector currently generates 18% of total $CO_2$ entering the atmosphere, with road transport generating 92.4% of that. These emissions are increasing by 3.2% each year.

If emissions worldwide follow a similar pattern and are left to continue unchecked, serious environmental consequences lie ahead, which will impact on transport networks.

### Climate change – Challenge

The Auckland Transport Plan focuses on ways to minimise carbon dioxide emissions in the region in the short and medium term, whilst achieving regional outcomes and national goals.

In the short term, the focus is on changing travel behaviour by providing infrastructure and services that enable and encourage people to shift from private cars to public transport, and to walking and cycling. In the medium term, the emphasis is on integrating transport and land use through transit-oriented development; providing park and ride facilities at appropriate major transport interchanges, promoting mixed land use improvements around major transport interchanges, and implementing the region's parking strategy. Travel demand would be managed mainly by applying the 'user pays' principle.

In the absence of technological innovation, the short-term aim is to provide transport users with choices. There is a trade-off between the costs of making mobility available and the cost of making a journey. In this process, the aim of transport demand management is that users should themselves decide on the best ways to access and use current resources.

In the longer term, the real issue is the future of the city and the region. This will require strategies, plans and actions at a national and even international level.

## *Transport and public health*

Transport affects public health in a number of ways, of which a decline in individual activity, air pollution, noise, and injuries, are the most important.

In New Zealand, one third of adults are not active enough to benefit their health. Adult obesity increased by 55% between 1989 and 1997. It is estimated that physical inactivity contributes to the death of 2,600 New Zealanders each year, 9% of all deaths. That figure is likely to increase in future, as current demographic trends suggest a further 4% decline in physical activity by 2021.

Although inadequate design and provision of many transport systems means that pedestrians and cyclists are vulnerable to injury, overall health gains from walking and cycling are substantial. The British Medical Association concluded that even in hostile traffic environments, the health benefits from regular walking and cycling would outweigh the risks of cycling-related injuries.

Deaths attributed to vehicle particle emissions have been termed the 'invisible' road toll. Research in Europe has estimated the number of deaths caused by air pollution from fine-particle emissions from vehicles to be approximately twice the number of deaths from road traffic injuries. Research in New Zealand found that for adults aged over 30 years there were 200 premature deaths attributed to emissions compared with a road toll of 243 deaths – a ratio of 0.8 to 1. Evidence is also emerging of a direct link between respiratory problems and living near busy roads, or living near roads with high levels of heavy-vehicle traffic.

Current evidence indicates that noise affects people's ability to hear, communicate, learn and sleep; contributes to hypertension; and adversely affects psychology. Most transport makes a lot of noise. Very little information exists on transport noise in New Zealand or its effects on the health and wellbeing of communities.

Road traffic injuries are the most obvious, and significant, effect of transport on health. New Zealand's relatively high road accident fatality rate is partly due to the large number of vehicles per person. However, the accident fatality rate per vehicle is also one of the highest in developed countries.

**More people walking and catching public transport: not just critical transport goals that the ATP will deliver, but helping to build a more vibrant and healthy city for all those who live work and play there**

### Public health – challenge

Although some modes of transport have a negative overall effect on public health, others can have a positive effect. Physical activity can be encouraged through the provision, promotion, maintenance and upgrading of infrastructure related to walking and cycling. This is a strategic focus area in the ATP. Projects such as initiating workplace travel plans, neighbourhood accessibility plans (NAPs), and groups of schoolchildren supervised as 'walking school buses', are part of a package of plans to encourage physical activity.

Public transport can also play a part in encouraging physical activity. On average, a journey by public transport requires a 10-minute walk. A person who travels by bus twice a day is physically active for 20 minutes – two-thirds of the time needed for their health to benefit.

To reduce the number of injuries on the roads, projects in the ATP address lowering speed limits on selected roads, monitoring law enforcement, and the education of vehicle users and cyclists.

Other possible ways suggested in the ATP to solve transport-related health issues include:

- *A supportive funding environment for encouraging behavioural changes towards using healthy forms of transport*
- *Encouraging piloting, and evaluating the use of high-occupancy vehicles, heavy commercial vehicle lanes, and high-occupancy toll lanes, as a means of optimising the use of the existing transport system*
- *Encouraging the rationalisation and pricing of parking throughout the region in accordance with the Regional Parking Strategy*

### Conclusions

Along with the impacts and challenges identified above the rapid growth of Auckland's population and its economy drives a strong increase in demand for travel, the national economic imperative for Auckland to have a competitive, world-class transport system with public transport at its centre, the difficulty and expense of extending roads in the future, and Auckland's reliance on heavy trucks to move freight around Auckland and the country, all provide challenges that are addressed by the ATP.

The overall land transport challenges facing Auckland are to:

- *Complete the work already under way, to deliver a properly connected strategic and arterial road network*
- *Manage the use of the road network as the primary mover of freight, road-based public transport, for commercially important trips and other trips that cannot be made by public transport*
- *Accelerate the uptake of public transport, cycling and walking*
- *Maintain and improve interregional road and rail connections*

## 1.4 Policy framework

A number of national, regional and local strategies and plans govern Auckland's transport arrangements and improvements. They set out a broad range of objectives to which the ATP must contribute and they have been used to establish the implementation framework for the ATP (see Figure 5).

In addition to legislative requirements and programmes for Auckland, the main influences on the ATP are:

New Zealand Transport Strategy (NZTS)

Government Policy Statement (GPS)

Auckland Regional Growth Strategy (RGS)

Auckland Regional Policy Statement (RPS)

Auckland Metro Project Action Plan

Auckland One Plan

Regional Land Transport Strategy (RLTS).

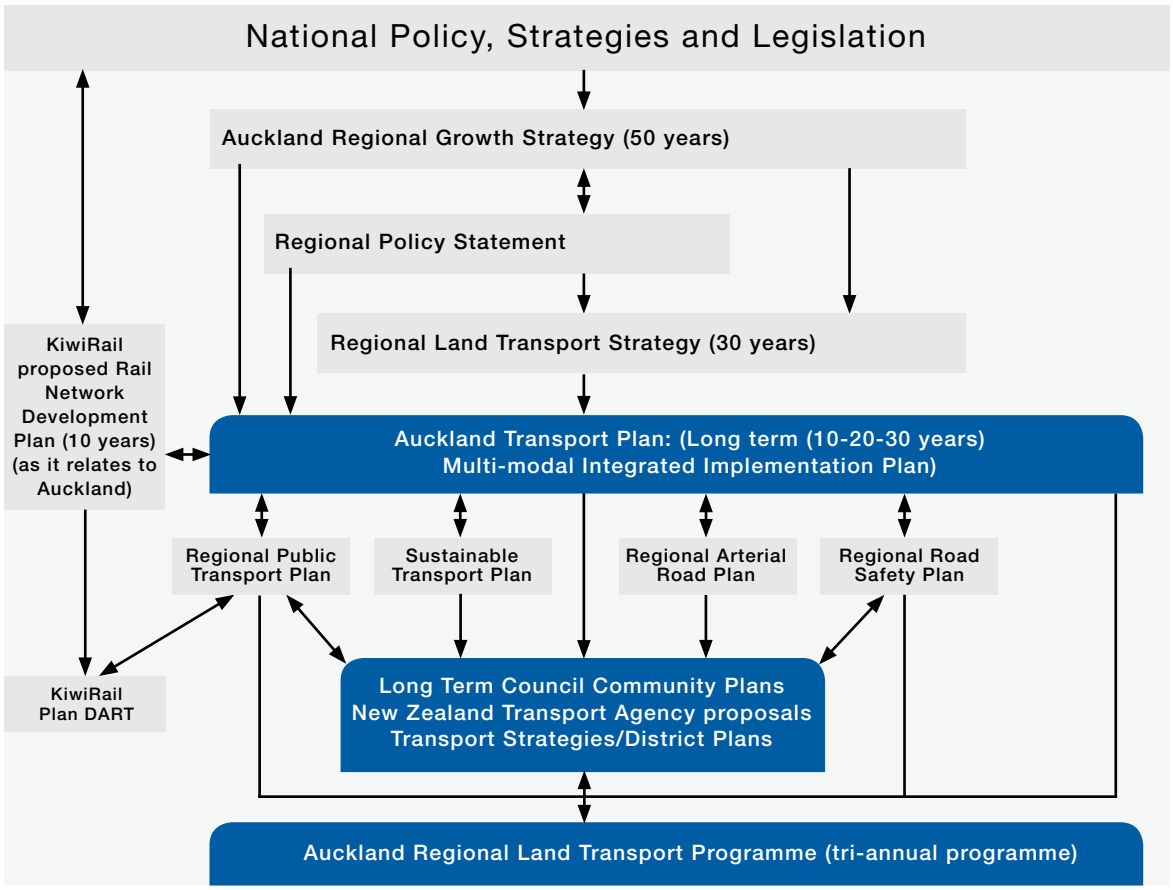
Auckland Sustainability Framework (ASF)

**Integrating land use and transport:**
**Wynyard Quarter now (left) and Artist's Impression (right)**

The Regional Land Transport Strategy (RLTS) is the policy document that leads the planning for Auckland's transport system. The goal of the RLTS is a transport system that enhances the Auckland region as a great place to live, work and play.

The ATP shows the method by which ARTA will put RLTS policies into action. The ATP will provide ARTA with the framework for the development of the three-yearly Auckland Regional Land Transport Programme (RLTP), so ARTA can fulfil its legislative obligations. The RLTS has a ten-year time period set by statute, but its vision is to deliver a transport system that requires many years of development. The new RLTS will take a 30-year perspective and the NZTS vision for transport has been extended to 2040.

**Figure 5.** *Hierarchy of plans*



Work is well under way for electrification of Auckland's rapid rail network

The Regional Transport Committee resolved (Oct 2007) "That preparation of the draft (2010) RLTS should build on the 2005 RLTS rather than be a zero-based approach to transport in Auckland" and (May 2009) that the strategic direction of the draft RLTS will be:

- *Supporting and contributing to land use policy that supports a compact and contained urban form consisting of centres, corridors and rural settlements*
- *Continuing major investment in rail, bus and ferry infrastructure and service improvements*
- *Implementing behaviour change programmes*
- *Improving the operation of existing roads, especially regional arterials*
- *Constructing limited additional road capacity*
- *Reducing the impacts of transport on the natural environment and communities*

The ATP takes a similar long-term view.

## 1.5 ATP priority areas

Based on the priority outcome areas in the hierarchy of plans outlined, and specifically the targets in the GPS, 2005 RLTS and 1999 RGS and subsequent review progress under way (and continuing throughout 2009), the ATP has identified the following five strategic priority areas for focused attention (see Appendix 1):

- *Greater focus on regional arterials*
- *Greater focus on safety engineering for streets and roads*
- *Optimising the use of the existing transport system to move people and goods*
- *Strong focus on transport investments that are supportive of the RGS and integrated transport and land use planning*
- *Completing the key elements of the strategic road, passenger transport, and walking and cycling networks*

The ATP sets out:

- *Key corridors, centres and hubs vital to the improved performance of the economy*
- *An indication of the broad priorities attached to the main elements of the strategy*
- *An assessment of key problems and opportunities for making improvements to Auckland transport services. For instance, reducing journey times for all road users by improving the network and its operation (especially movement of freight – exports – to key port hubs, both airport and sea ports)*
- *Guidance on funding options, and ways to help determine and give certainty to the arrangements for allocating resources for implementing the RLTS*

The full prioritisation process is in Appendix 2. This process provides the framework for project/package prioritisation in the tri-annual Regional Land Transport Programme.

A return to a vibrant global economy is anticipated within the time of the ATP, as businesses take advantage of new communications technology and a more open market develops. Knowledge-based, manufacturing and agricultural products and tourism generate around $45 billion of exports and imports annually, carried through the air and seaports, on the region's road network and, to a lesser extent, by rail. Auckland's transport system needs to be a competitive, modern, integrated and largely automated freight network hub and distribution centre. There should be efficient and timely clearance of freight (and other business-related traffic) internationally, nationally, and to neighbour regions; integrated road, rail, ferry and coastal shipping; and dedicated, efficient corridors with increasing levels of automated control.

At the same time, the ATP has to address environmental sustainability. It also has to consider the growing case for better access and mobility within the extended Auckland catchment – from Northland to Tauranga – around which the regional economy now operates, and which generates half the nation's wealth and is home to half of all New Zealanders, as well as travel during holidays between metropolitan Auckland and destinations in Northland, Waikato, the Coromandel and the Bay of Plenty, which puts even more pressure on the road network

New transport options are opening up as technologies and techniques previously considered uneconomic become viable (for example electronic tolling, tram-train technology, guided busways, Intelligent Transport Systems, and new fuel options). These opportunities must be identified and assessed.

## 1.6 Funding

Although investment in transport has increased greatly over the past ten years, securing adequate funding will continue to be the most significant barrier to delivering the region's vision. With projected expenditure outstripping available funds, Auckland must make trade-offs. Projects such as rail electrification and network extension, the proposed CBD rail tunnel, additional harbour crossing, and airport rail link represent major funding challenges, at a national as well as regional level.

A global sum required to deliver the vision needs to be identified. The ATP provides the means for prioritising transport funding, ensuring best use is made of scarce funds and ensuring a return on investment through wider growth management, economic benefits and a contribution to national transport objectives. It provides a coordinated programme to address agreed and justified NZTA/GPS/RLTS objectives and targets.

By working in partnership with others to have a single, accountable transport-funding role, ARTA expects to make a difference.

## 2.1 Long-term transport plan

To meet RLTS and NZTS targets and GPS impacts, a comprehensive transport plan for Auckland must include a fully developed and completed passenger transport network, regional arterial improvements for increased capacity to carry goods and to improve bus travel times and reliability, a strategic rail network for both freight and passengers, and a completed State highway network for the Auckland region. Along with the individual components of the Long-term Transport Plan (see Map 1), it is critical that all the elements are integrated across all modes and all agencies with transport responsibilities.

### *Passenger transport*

Future development of the passenger transport network, primarily the Rapid Transit Network, is expected to be given effect via:

- → *Electrification of the existing rail network (by 2013)*
- → *An inner city underground passenger rail loop connecting the Britomart Transport Centre and the North Auckland Line in the vicinity of Mt Eden station*
- → *A Waitemata Harbour Crossing rail tunnel*
- → *Rapid transit connections between Avondale and Southdown, the Auckland CBD and the Auckland Airport, and Manukau City Centre and Auckland Airport*
- → *Rapid transit connections between Orewa and Albany; between Albany, Westgate and Henderson, and between Panmure, Botany Downs and Manukau City Centre*
- → *Additional ferry terminals and services to provide additional capacity for connectivity by sea*

### *Regional arterials*

Development of the region's arterial roads to give priority to moving people and goods, rather than trucks and cars will result in increased arterial road capacity for freight, passenger transport and general traffic movements as well as better integration with surrounding and rapidly growing town centres and commercial areas.

- → *Improvements to access for people and goods in the AMETI areas along with enhanced land use and transport integration*
- → *Improved bus priority and traffic management improvements along the Ellerslie Panmure Highway*
- → *Whau River Crossing*
- → *Improving Lincoln Road to provide safer and more efficient freight, passenger transport and general traffic movement as well as an upgraded interchange with State Highway 16*
- → *Providing for improved safety, freight and passenger transport movements along Albany Highway between Upper Harbour Highway and Wairau Road*
- → *Construction of Penlink connecting State Highway 1 to the fast growing Whangaparaoa Peninsula and relieving pressure on the Hibiscus Coast Highway*
- → *Improving the Mill Road corridor serving the Takanini growth area and providing an alternative route to the Southern Motorway between Papakura and East Tamaki*

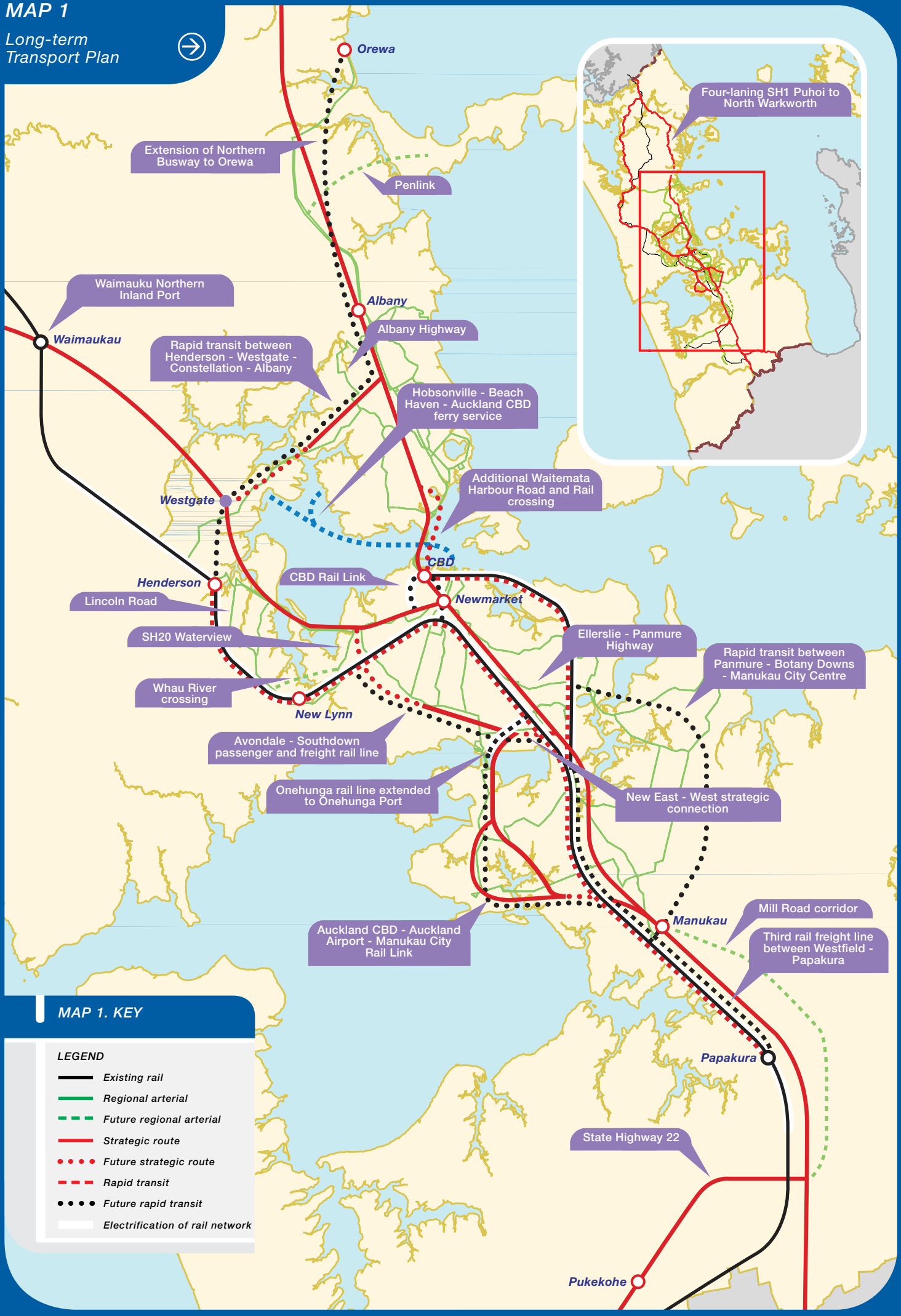
### *Rail network*

Future freight transport infrastructure needs to give effect to the Auckland Regional Freight Strategy (RFS) 2006 and could also include:

- → *An upgraded rail link with Northland (Marsden line) and related freight infrastructure including the establishment of a number of inland ports for servicing sea ports in Auckland and neighbouring regions*
- → *Upgrading and optimisation of rail signalling*
- → *Avondale – Southdown freight and passenger link*
- → *Onehunga line extended to Onehunga Port*
- → *Third freight line Westfield – Papakura*
- → *Inland ports with intermodal transfers, e.g. Waimauku Northern inland ports*
- → *Grade separation of road/rail intersections (55 region wide, seven high priority)*

# MAP 1

*Long-term Transport Plan*




## MAP 1. KEY

**LEGEND**

- Existing rail
- Regional arterial
- Future regional arterial
- Strategic route
- Future strategic route
- Rapid transit
- Future rapid transit
- Electrification of rail network

### *State highways*

Over the medium and longer term, the strategic roading network is expected to be given effect through a range of projects, including:

- → *Completion of the existing motorway network including the Western Ring Route*
- → *A new east-west strategic route between SH1 at Mt Wellington and SH20 at Onehunga*
- → *An additional Waitemata Harbour Crossing road tunnel*
- → *Upgrading SH22 between Drury and Pukekohe*
- → *Providing for four-laning of State Highway 1 from Puhoi to Warkworth*
- → *In the Waikato region completion of the SH1 Waikato Expressway and upgrades to the SH2 connection to the Hauraki Plains, including a new Kopu Bridge linking the Thames and Coromandel Peninsula*

### *Walking and cycling (Map 3)*

Walking and cycling make important contributions to travel in the Auckland region.

- → *Land use changes around town centres which provide for people to live, work, study and socialise with less need for long distance travel*
- → *Completion of the regional cycle network*
- → *Completion of regional and local walking networks*

### *Travel behaviour change*

Important changes to attitudes, behaviours, and social norms will be achieved by:

- → *Ongoing expansion of walking school bus and school travel plan programmes*
- → *A comprehensive approach to workplace and tertiary travel plans which increase walking, cycling, public transport and car pooling to work and study*
- → *Neighbourhood accessibility plans which promote local amenities and encourage local trips*
- → *Pricing tools to influence travel behaviour*

## 2.2 Areas for action

The 2005 RLTS provided for a shift in the proportion of funds allocated to activities to manage public transport and travel demand, with an allocation of 62% of the available funding to roads, 34% to public transport and 4% to demand management. The split indicates how the ATP should prioritise the expenditure programmes of ARTA, the NZTA, KiwiRail and local authorities

Particular points to note include:

- → *The consolidated expenditure pattern over the next ten years needs to be broadly in line with the proportions identified in the RLTS*
- → *The ATP identifies a significant gap between proposed expenditure and available funds, especially for public transport, local roads, and walking and cycling*
- → *To some extent, the funding challenge is a result of the different funding 'rules' that apply to different land transport activities, especially those that require a 'local share' component*

The prioritisation of projects must be flexible to anticipate and take into account 'must do' projects required for positioning Auckland to meet international challenges and opportunities, such as hosting the Rugby World Cup in 2011 and a Cricket World Cup in 2015.

As a result of funding challenges, the ATP has taken steps towards improving the prioritisation of expenditure for new activities to reflect the general RLTS priorities of:

- → *Making best use of the existing transport system*
- → *Managing travel demand*
- → *Increasing the capacity of the transport network*

The ATP prioritisation process will affect the future assessment of projects. In particular, the ATP process focuses on tackling congestion in those parts of the network that cater to commercial traffic.


Because the 2007 ATP developed from expenditure plans of various organisations, it has not yet had a strong influence on the choice of projects for the region. While this ATP is also influenced by existing expenditure plans, there is greater consideration of those projects and programmes that have not been 'submitted' through the RLTP but that will contribute to achieving the region's transport outcomes.

### *Government Policy Statement*

The Government Policy Statement (GPS) details the Government's desired outcomes and funding priorities for the use of the National Land Transport Fund (NLTF) to support land transport activities. While the New Zealand Transport Agency (NZTA) is required to give effect to the GPS in developing the National Land Transport Programme, ARTA is required to be consistent with the GPS in developing the Regional Land Transport Programme.

The GPS covers the financial period 2009/10-2014/15 and provides indicative figures for 2015-2019 and will be in effect from 1 July 2009 to 1 July 2012.

The Government's stated priority is for land transport investment to support national economic growth and productivity. Of particular importance to this priority for the Government are:

- → *Investing in the State highway network, as a key to the efficient movement of freight and people*
- → *Generating better value for money from the Government's investment across all land transport activity classes and enhancing the economic efficiency of individual projects*

The specific impacts the Government expects to be achieved through the use of the NLTF are:

### Short to medium-term impacts that contribute to economic growth and productivity

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 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*

### Other short to medium-term impacts

- → *Reductions in deaths and serious injuries as a result of road crashes*
- → *More transportation choices, particularly for those with limited access to a car where appropriate*
- → *Reductions in adverse environmental effects from land transport*
- → *Contributions to positive health outcomes*

The GPS also indicates that while the Government supports the overall intent of the New Zealand Transport Strategy of 2008 (NZTS), developed by the previous Government, it considers that moving too quickly on the aspirational targets for modal shift will have a negative impact on environmental and economic efficiency. The Government will develop a forward plan for transport with the first three years of the current GPS.

The GPS lists seven roads of national significance, which the Government considers New Zealand's most essential routes; requiring significant development to reduce congestion, improve safety and support economic growth. The GPS requires that these roads are given priority when NZTA develops the National Land Transport Programme. The seven roads of national significance are:

- → *Puhoi to Wellsford – State Highway 1*
- → *Completion of the Auckland Western Ring Route – State Highways 20/16/18*
- → *Auckland Victoria Park bottleneck – State Highway 1*
- → *Waikato Expressway – State Highway 1*
- → *Tauranga Eastern corridor – State Highway 2*
- → *Wellington Northern Corridor (Levin to Wellington) – State Highway 1*
- → *Christchurch motorway projects*


The GPS also provides guidance on transport planning and evaluation. Key aspects of this guidance that ARTA's planning and evaluation processes must take account of:

- → *The Government's priority for land transport investment to support national economic growth and productivity growth – including the roads of national significance*
- → *The impact of volatile fuel prices by providing transport choices such as public transport*
- → *Achieving value for money by prioritising projects which not only make the greatest contribution to the Government's priorities, but which also give projects with higher benefit/cost ratios higher priority. Projects with a benefit/cost ratio of less than 2 will require more scrutiny. The GPS also requires NZTA to consider broader benefits and costs of proposed investments not captured in traditional benefits/cost analysis methods. An example would be the economic agglomeration benefits of the CBD tunnel*
- → *The need for integrated planning to ensure that transport and land use is connected. This includes identifying and protecting future transport corridors*

Given the benefits of increasing public transport use to economic growth and productivity, developing and delivering on the region's public transport objectives will be consistent with the outcomes being sought from the GPS.

### *Development of the strategic roading network*

The 2009 GPS provides more certainty for elements of the strategic roading network than identified in the earlier ATP. As highlighted above, the GPS provides significantly increased funding for the completion of key elements of the State highway network, and funding has been identified to progress elements of the Auckland Manukau Eastern Transport Initiative to deliver increased passenger transport, demand management and economic development opportunities for the south-east metropolitan Auckland areas. However, there is no clairty on the future nature of the strategic east-west connection between SH20 and SH1, a key rung in the NZTA 'ladder concept' of State highways in Auckland.

### *Development of the rapid transit network*

While the GPS provides more certainty for the strategic roading network, there is less certainty for the development of the Rapid Transit Network.

Patronage growth on the Rapid Transit Network (Northern Busway and passenger rail) delivers a significant benefit to the performance of the

Auckland economy by removing car trips that would have otherwise been made on congested motorways and arterials, complementing investment in the motorway and regional arterial network by freeing capacity for freight and other trips that cannot be made by public transport. As shown in Figure 6, the Rapid Transport Network has the biggest impact on reducing congestion. The investment that the Government will make in purchasing and operating electric trains for Auckland can only be fully realised if there is sufficient funding for public transport services.

However, there is still uncertainty about planning, delivery and funding of key components of the Rapid Transit Network, such as:

- *Rail electrification – The 2009 Government Budget has identified almost $670m for the renewal, upgrade and electrification of the Auckland metropolitan rail network, however the $500m required for new electric rolling stock has not been allocated as a decision has not yet been taken that the funding will be approved.*
- *CBD rail tunnel – While work is progressing on the identification of the route for the CBD rail tunnel, there is no current allocations for the protection, nor subsequent construction of the tunnel*
- *Rail to the airport – There is strong regional support for the identification and protection of the rapid transit routes from the CBD to Auckland Airport, however budgets have not been allocated for this work to be undertaken.*

## Accessibility in growth areas

Areas containing key economic activity are currently congested. Further growth carries the risk of greater congestion. For example, the planned concentration of employment and residential activity in growth centres will create demand for further travel that can be only partially served by public transport.

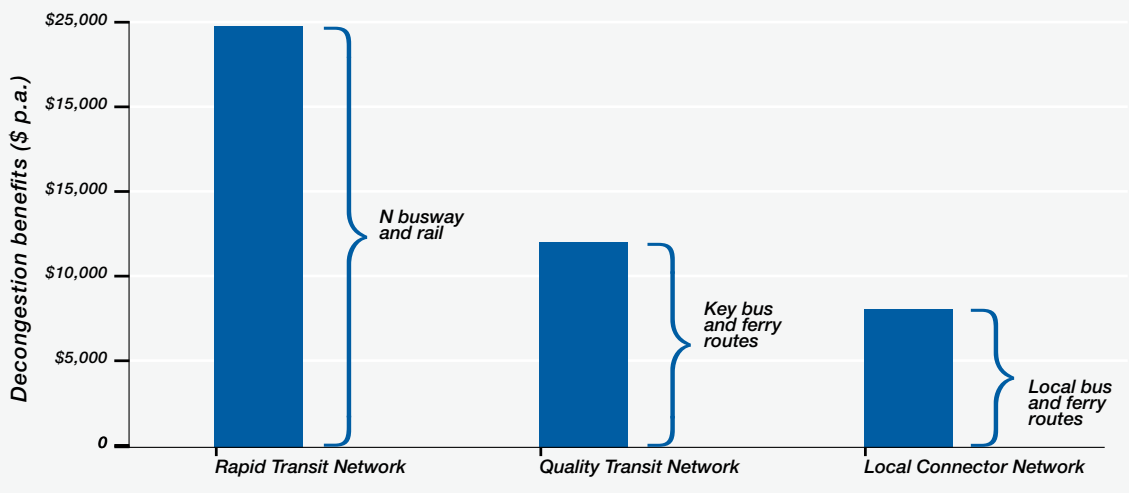
Unless the local road system in these areas is improved, the result is likely to be more congestion, which may stifle future growth. The accessibility of 'brownfield' locations that have been earmarked for redevelopment is also problematic. For example, brownfield areas such as Auckland City's 'industrial edge' are located in increasingly congested parts of the network, and there are concerns over the ability of current transport proposals to resolve these problems, despite it being a key RGS area for economic revitalisation.

## Freight and commercial travel connections

Identification of a strategic freight network linking key manufacturing/distribution hubs of the region is urgently needed. The initial work for this is set out in the Auckland Regional Freight Strategy (2006) but awaits implementation.

The transport requirements of the distribution sector need attention. It is increasingly located in the south of the region, and needs good access to bulk rail freight and inland port opportunities, the airport, and to the strategic State highway/arterial road network to enable distribution back into Auckland, and to growth areas further south, especially Bay of Plenty and Waikato.

**Figure 6.** *Annual decongestion benefit of each additional user of the RTN, QTN, and LCN networks*



### *Greater attention to arterial roads*

As highlighted by ATSAP, arterial roads will require greater attention in future, as they can be expected to carry more traffic as a result of:

- → *Traffic management approaches to remove short trips from the motorway network*
- → *Increased bus priority on the Quality Transit Network*
- → *More intensive land use development at centres and along major arterial corridors*

The management of arterial roads should be closely integrated with the management of State highways, the development of public transport and planning for land use.

Achieving network integration will be a challenge. However, there is scope for addressing this matter in the implementation phases of the Auckland governance reform currently under development.

### *Completion of Auckland's regional walking and cycling networks*

Considerable progress has been made on the Auckland regional cycle network, with the development of both on- and off-road cycle paths. There are still a number of key sections to be completed over the lifetime of the ATP. Investigations into the provision of walking and cycling opportunities over the Auckland Harbour bridge have identified a number of options. The ATP supports in principle walking and cycling across the Auckland Harbour Bridge, however the project has not been submitted for funding through the Regional Land Transport Programme, and when and if it is, it must be prioritised against other regionally important walking and cycling projects.

## 2.3 Ten-year plan

**Table 2.** *New and improved roads*

| | *2009 – 2012* | *2012 – 2015* | *2015 – 2019* |
|---|---|---|---|
| ***New and improved infrastructure for local roads*** | *961,034,984* | *537,692,268* | *489,022,207* |

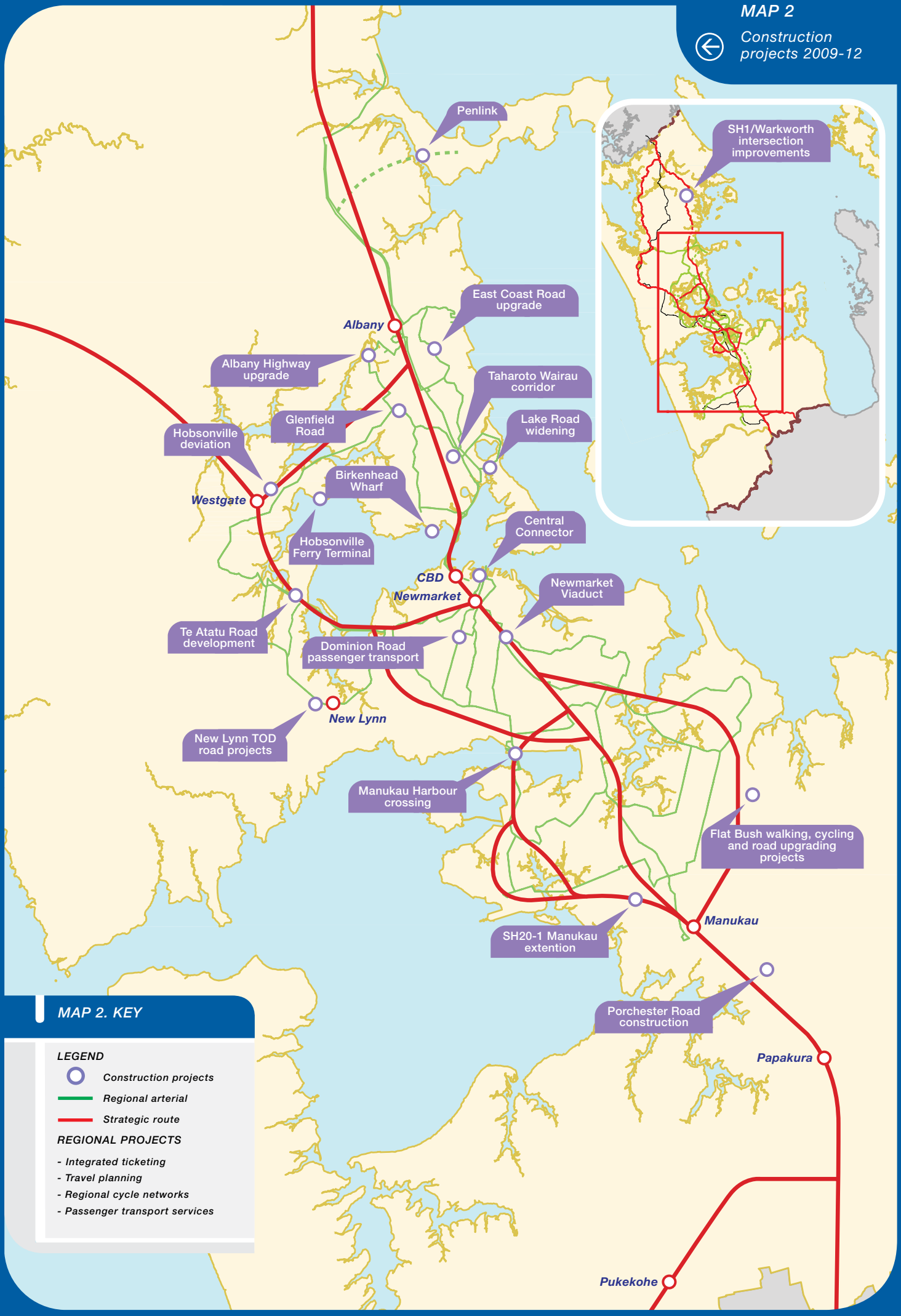
**Key Projects**

- → *New Lynn local road improvements to integrate the surrounding network with the passenger transport interchange and underground of New Lynn rail station*
- → *Mill Road route protection*
- → *Designation for AMETI multi-modal corridor*
- → *Upgrading of Albany Highway*
- → *Construction of Penlink to Whangaparaoa Peninsula*
- → *Manuroa Road-Rail overbridge and approaches to grade separate road and rail to accommodate town centre redevelopment and increased train services*

| | *2009 – 2012* | *2012 – 2015* | *2015 – 2019* |
|---|---|---|---|
| ***New and improved infrastructure for State highways*** | *1,462,218,549* | *900,000,000* | *900,000,000* |

**Key Projects**

- → *Victoria Park Tunnel – capacity improvements to the Northern Motorway between Auckland Harbour Bridge and Wellington Street as part of the Central Motorway Improvements. This project is key to maximising the benefits of the improvements already made to the Central Motorway Junction*
- → *Newmarket Viaduct Improvements are part of a series of ongoing improvements to reduce congestion through Auckland's Central Motorway. The project is being undertaken to reduce southbound congestion on the Southern Motorway and will be achieved through the construction of a fourth southbound lane on the motorway between Gillies Avenue and Greenlane and the upgrade of Newmarket Viaduct by replacing it with a new structure. Newmarket Viaduct is part of State Highway 1, a strategic route for the region. Structural standards and capacity in this section of State Highway 1 need to be improved to coordinate with other developments on the network, such as Central Motorway Junction improvements and the Grafton Gully motorway upgrade*
- → *Waterview Connection – The Waterview Connection project will connect SH20 at Maioro Street in Mt Roskill to the Northwestern Motorway SH16 at Waterview by Great North Road*


MAP 2
Construction projects 2009-12
Penlink
SH1/Warkworth intersection improvements
East Coast Road upgrade
Albany
Albany Highway upgrade
Taharoto Wairau corridor
Glenfield Road
Lake Road widening
Hobsonville deviation
Birkenhead Wharf
Westgate
Central Connector
Hobsonville Ferry Terminal
CBD
Newmarket
Newmarket Viaduct
Te Atatu Road development
Dominion Road passenger transport
New Lynn
New Lynn TOD road projects
Manukau Harbour crossing
Flat Bush walking, cycling and road upgrading projects
Manukau
SH20-1 Manukau extention
Porchester Road construction
Papakura
Pukekohe
MAP 2. KEY
LEGEND
Construction projects
Regional arterial
Strategic route
REGIONAL PROJECTS
- Integrated ticketing
- Travel planning
- Regional cycle networks
- Passenger transport services

## Table 3. *Transport planning*

| | 2009 – 2012 | 2012 – 2015 | 2015 – 2019 |
|---|---|---|---|
| *Transport planning* | *45,567,487* | *28,441,060* | *39,648,511* |

### Key Projects

- → *Route designation for the CBD rail tunnel to support future growth of the CBD and region, and optimise capacity of the existing rail network*
- → *Crash reduction planning by the New Zealand Transport Agency and territorial authorities*
- → *Corridor designation for the additional Waitemata Harbour Crossing will improve accessibility for all modes across the Waitemata Harbour. While tunnels are proposed for the new road and rail connections, these new routes will allow for the reallocation of space on the Auckland Harbour Bridge for both walking and cycling across the Waitemata Harbour*
- → *Port access studies and other investigations to improve the movement of freight internationally and intra- and inter-regionally by the New Zealand Transport Agency, Auckland Regional Council, ARTA and territorial authorities*
- → *Route identification and protection for additional capacity on State Highway 1 between Puhoi and Warkworth*
- → *Route identification and protection for rail to Auckland Airport*

## Table 4. *Walking and cycling*

| | 2009 – 2012 | 2012 – 2015 | 2015 – 2019 |
|---|---|---|---|
| *Walking and cycling* | *190,136,309* | *193,500,345* | *180,441,790* |

### Key Projects

- → *Providing walk and and cycle facilities on local roads affected by the SH20 – SH1 motorway connection*
- → *Improving walk and cycle access to Northern Busway stations*
- → *Designing and constructing a cycle lane adjacent to SH1 between Northcote Road and Constellation Drive*
- → *Designing and constructing a cycle connection between SH1 and SH16 in the Central Isthmus*
- → *Constructing a walk and cycle connection between Pioneer St and Westwave in Henderson*
- → *Construction of 38km of off-road walk and cycle paths in Flat Bush*
- → *Upgrading the Northwestern cycleway and extending into Grafton*

## Table 5. *Public transport, demand management and rail*

| | 2009 – 2012 | 2012 – 2015 | 2015 – 2019 |
|---|---|---|---|
| ***Public transport infrastructure*** | *510,804,370* | *138,655,310* | *57,380,720* |

### Key Projects

- → *Implementing integrated public transport fares and providing an electronic smartcard ticket for use on all public transport modes*
- → *Provision of new ferry terminal at Hobsonville*
- → *Land purchase and construction of the Dominion Road Passenger Transport corridor, including bus priority measures and cycle facilities*
- → *Completion of the Central Connector between Newmarket and Britomart*
- → *Construction of a park and ride facility at Silverdale*

| | 2009 – 2012 | 2012 – 2015 | 2015 – 2019 |
|---|---|---|---|
| ***Public transport services*** | *721,644,641* | *949,285,964* | *1,254,234,095* |

### Key Projects

- → *Improved connectivity into rail stations plus further development of high-quality, high-frequency services*
- → *Bus service improvements on Isthmus, Waitakere, NW Rodney, Manukau and Papakura*
- → *Provision of a new ferry service to Hobsonville*
- → *Increasing train services towards 10 minutes peak and 15 minutes off peak, with extended operating hours*

| | 2009 – 2012 | 2012 – 2015 | 2015 – 2019 |
|---|---|---|---|
| ***Demand management and community programmes*** | *43,222,059* | *49,774,856* | *60,553,533* |

### Key Projects

- → *Continued school and work travel planning by ARTA and the TAs to achieve the target of 9% reduction in car trips to school and a reduction in car trips to participating workplaces by 2016*
- → *Community road safety projects such as child restraint clinics, drink driving and driver speed education will contribute to achieving 400 or fewer fatal and serious crashes by 2012*
- → *Trialling new and innovative tools and techniques such as personalised journey planning, carpooling and area wide travel planning to increase travel choices*

| | 2009 – 2012 | 2012 – 2015 | 2015 – 2019 |
|---|---|---|---|
| ***Rail projects*** | *700,000,000* | *450,000,000* | *45,000,000* |

### Key projects

- → *Electrification of the Auckland rail network*
- → *Wiri Station Inland Port*
- → *Completion of Western line double tracking*
- → *Constructing new rail stations and transport interchanges at Newmarket, New Lynn and Manukau*
- → *Onehunga Branch Line*

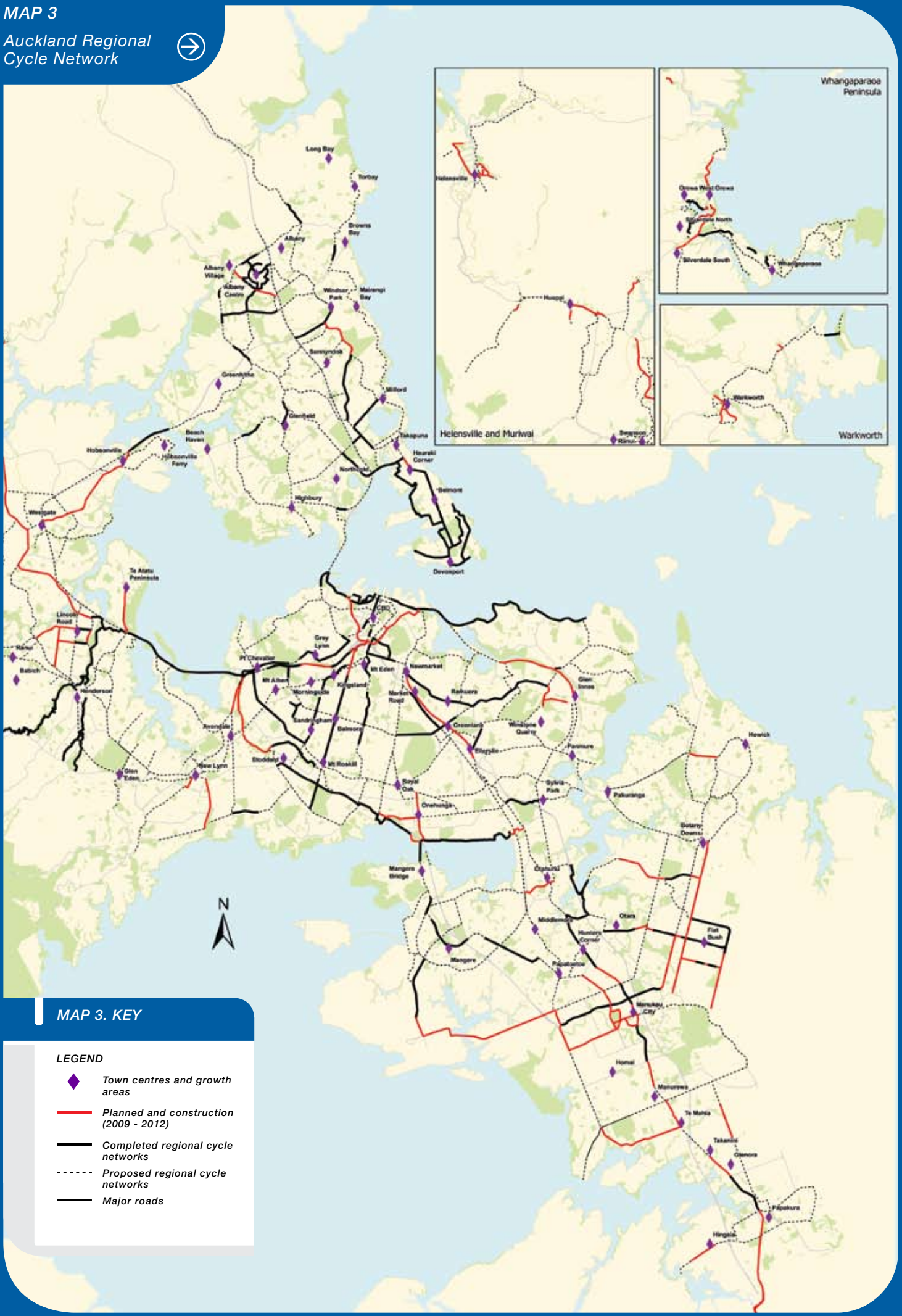
| | 2009 – 2012 | 2012 – 2015 | 2015 – 2019 |
|---|---|---|---|
| ***Local roads renewal and maintenance*** | *677,721,051* | *797,787,099* | *1,195,050,158* |
| ***Highways renewal and maintenance*** | *297,102,714* | *330,000,000* | *550,000,000* |

***Ongoing programmes of maintaining the region's local road and State highway network up to an acceptable standard. Maintenance includes roads, bridges and drain maintenance.***

***Ongoing programmes of renewal of local roads and State highways, which includes re-metalling unsealed roads, resurfacing sealed roads, replacing drainage and traffic signals and reconstructing damaged road structures.***

## MAP 3

## Auckland Regional Cycle Network




### MAP 3. KEY

**LEGEND**

- Town centres and growth areas
- Planned and construction (2009 - 2012)
- Completed regional cycle networks
- Proposed regional cycle networks
- Major roads

Auckland must make trade-offs where funding constraints pose a major limitation on the region's ability to meet national targets and objectives. The ATP provides the means for prioritising transport funding in the region, ensuring that the best use is made of scarce funds. However, without the ability to re-allocate funding between transport activities to reflect the region's priorities the ATP's effectiveness is limited to prioritising within activity classes.

The ATP also provides the opportunity to look for ways of addressing the funding situation. Other organisations' funding policies are not the responsibility of ARTA. However, ARTA's prioritisation role can allow ARTA to assist other organisations with suggestions of how unfunded programmes, or programmes that miss out under the ARTA prioritisation process, might still be able to be funded.

This could be through better use of existing funding tools, looking for new funding streams, asking how different governance arrangements might ease existing constraints or by simply providing the rationale for more investment in transport in Auckland from existing agencies. It is time to seriously consider how Auckland maximises the benefits of its accumulated public assets for the long-term benefit of the region and country. A pool of regional funds for transport that can be allocated by the region to the areas of greatest need and benefit would be a major step forward for Auckland.

However, experience has also shown there is no single solution to lifting Auckland's transport funding constraints. By working in partnership with others to demonstrate the value of investing in Auckland's transport future, ARTA will continue to make a difference.

## 3.1 Funding requirements

Almost $15 billion is required over the ten year period of the ATP to fund the activities put forward to address the challenges of the Auckland transport system. Of the $14.76 billion for planned expenditure required (see Table 6) approximately $9.3 billion is required from the National Land Transport Programme to fund State highways ($4.5b) and the Government's share of the local programme ($4.8b). Local authorities have identified approximately $5.7 billion for their share of the transport programme, which

**Figure 7.** *Indicative expenditure by category*

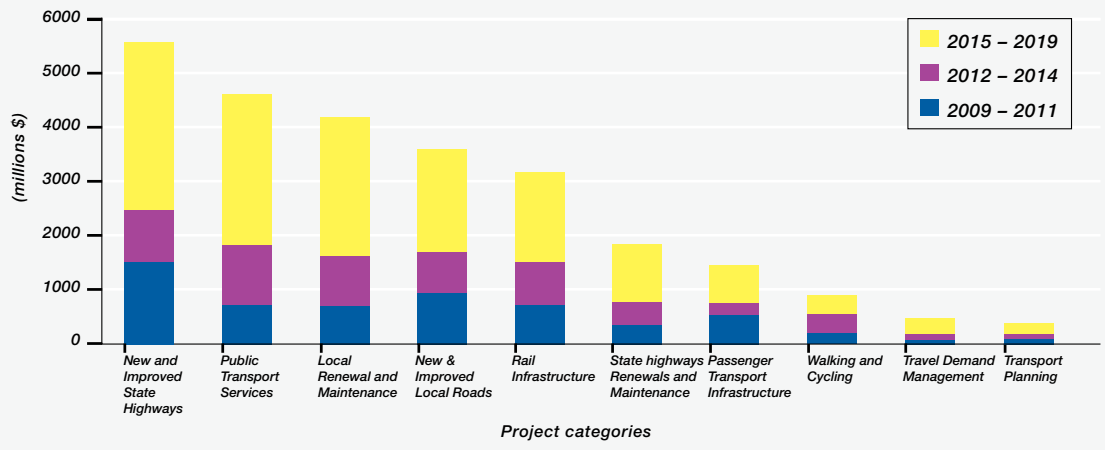


**Table 6.** *Indicative expenditure 2008/09 to 2018/19 ($m)*

| | 2009 – 2011 | 2012 – 2014 | 2015 – 2019 |
|---|---|---|---|
| *New and improved State Highways* | *1,476.0* | *900.0* | *900.0* |
| *Public Transport Services* | *721.6* | *949.3* | *1,254.2* |
| *Local Road Renewal and Maintenance* | *677.7* | *797.8* | *1,195.1* |
| *New and Improved Local Roads* | *961.0* | *537.7* | *489.0* |
| *Rail Infrastructure* | *700.0* | *450.0* | *45.0* |
| *State Highway Renewals & Maintenance* | *297.1* | *330.0* | *550.0* |
| *Passenger Transport Infrastructure* | *510.8* | *138.7* | *57.4* |
| *Walking and Cycling* | *190.1* | *193.5* | *180.4* |
| *Demand Management* | *43.2* | *49.8* | *60.6* |
| *Transport Planning* | *45.6* | *28.4* | *39.6* |
| ***TOTALS:*** | ***5,609.5*** | ***4,375.1*** | ***4,771.3*** |
| ***GRAND TOTAL: 14,755.9*** | | | |

includes $1.08 billlion of unsubsidised works. Rail infrastructure comes to approximately $1.2 billion over the ten-year period, however in excess of $500 million of this is currently unfunded, primarily the investment required for new rolling stock for the electrification of the Auckland Metropolitan Rail Network.

The 2009 Government Policy Statement has indicated the funding streams available from the National Land Transport Programme, however these have not been regionalised, therefore an assumption has been made with respect to the funding available to meet Auckland's transport needs.

Based on current estimates of funding availability and expenditure, the ATP envisages that the required transport expenditure for Auckland between 2008/09 and 2018/19 will total approximately $14.76 billion.

At this stage it is possible that planned expenditure will be fully funded, even though not all the potential funding has been identified at this stage.

However, there are a number of important factors that are masking the true amount of funding required and the potential gap between planned expenditure and funding. For example, it appears that funding availability is driving project lists. Projects may have

been delayed, deferred or scaled back to meet financial constraints without consideration of the effect this may have on the region's ability to meet national targets and objectives. While it is essential that investments are tailored to the current economic climate, it does result in delays to important projects and the subsequent delays in achieving the economic benefits and growth that would accrue to the region as a result of undertaking and completing the project sooner.

## 3.2 Funding pressures

One role of the ATP is to deal with the potential gap between available funds and the cost of delivering Auckland's transport needs.

In one way, a gap between available funds and planned expenditure is a healthy position to be in. It allows the region to choose the best projects from those that could be implemented. However, it is not a good outcome for the region when continued underinvestment leads to a backlog of desirable and beneficial projects, with the consequent delay leading to the loss of economic, social and environmental benefits.

In the past, a major issue for Auckland has been that a major funding gap has prevented delivery of identified projects. It now appears that a major issue is that, where funding is unavailable, some projects are not being included in long-term plans. If the availability of funding drives project lists, the region will fail to meet desired targets and objectives – we have moved from a funding gap to an outcome gap.

Trends in fuel sales also have implications for the National Land Transport Fund. The Land Transport Management Act now requires that all income from fuel excise taxes be used for land transport purposes. In the short term, this means an increase in transport funding. However, it also creates a tight link between fuel sales and income for the National Land Transport Fund. Variability in fuel sales creates uncertainty for future income projections, and constrains central government's ability to fund transport projects.

In this context, the task of prioritising transport projects becomes both more important and more complex. If the future brings low fuel sales, either because of high prices or for wider economic reasons, then this does not only mean less funding. It also means that a different mix of transport projects is needed.

The ATP recognises this by allocating higher priority to strategic investments such as rail electrification, which will enable people to travel without being so reliant on fossil fuels. However, this is only a partial solution; trends in fuel sales and fuel excise duty income are a key reason ARTA is advocating

**Figure 8.** *Funding streams for land transport in Auckland*

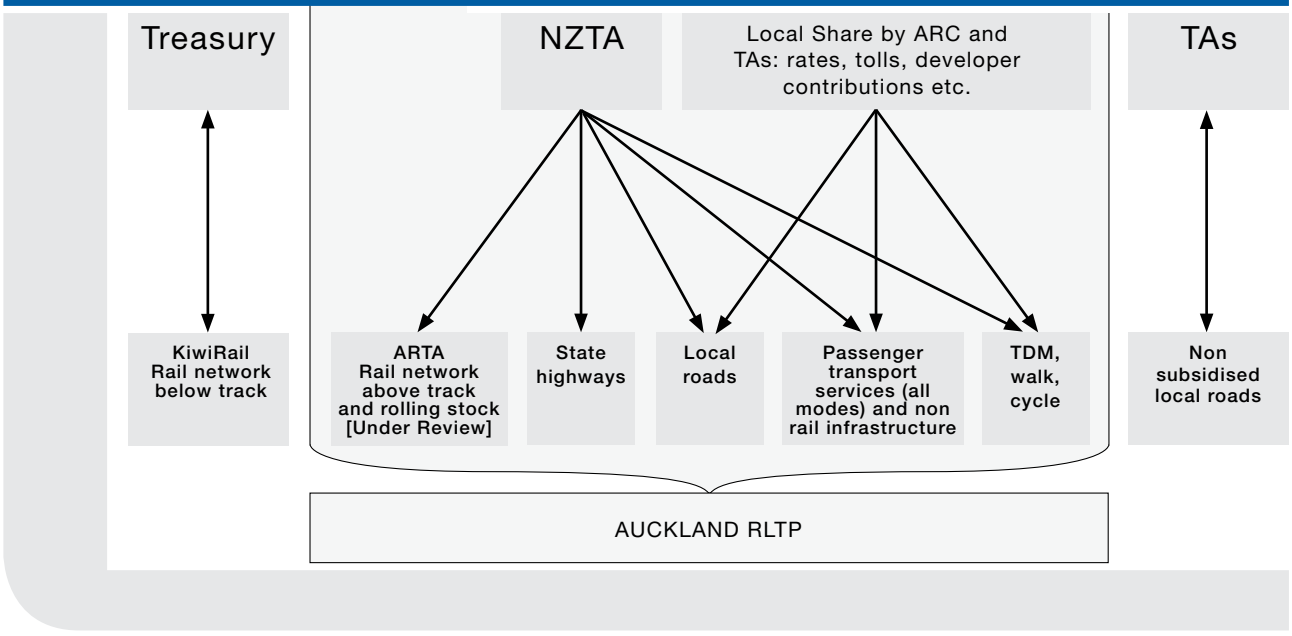
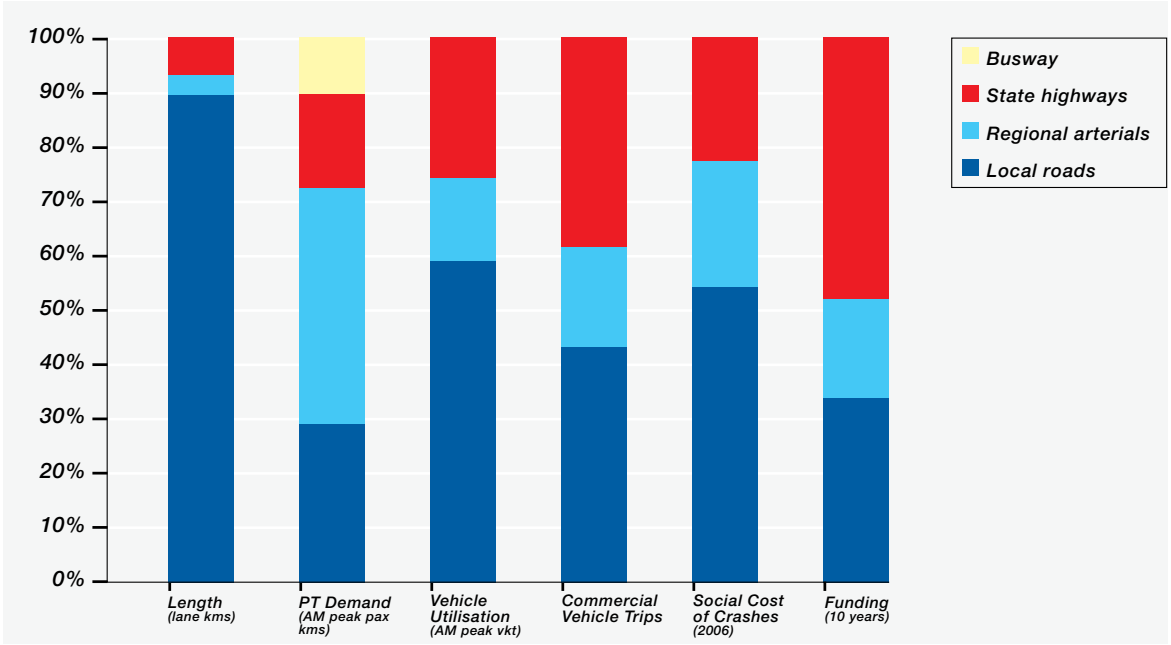


**Figure 9.** *Predicted performance of the road networks in 2016*




greater flexibility in funding rules, in order to achieve the best transport outcomes for the region within available funding.

## 3.3 Funding allocation

Whilst the amount of funding for transport has increased considerably over recent years, a real issue continuing to face Auckland is the means by which funding is raised and allocated.

Transport funding in Auckland is complex because of the many agencies responsible and the different mandates applying to these agencies (see Figure 8):

- → *State highways are funded 100% through the National Land Transport Programme (NLTP)*
- → *Local roads are funded from local sources (rates, development contributions) and the NLTP*
- → *KiwiRail is funded directly by Treasury*
- → *ARTA's rail infrastructure responsibilities are currently funded by Auckland Regional Council, however this is under review*
- → *Passenger transport services are funded from regional rates and the NLTP*
- → *Councils, ARC and the NLTP fund ferry wharves*

The current fragmented governance and funding arrangements create a number of difficulties around the effects of different funding sources, different funding criteria and a lack of integration between modes. A critically important effect of this for ARTA is that it limits the ability to reallocate funds to different modes and can lead to a situation where certain types of projects are more easily funded than others.

For example, the majority of recent transport investment has been directed towards State highways and rail. An issue facing Auckland is that investment in arterial roads has fallen behind State highways, partly due to the difference in funding rules, with councils finding it difficult to raise adequate local share.

This is a real issue. Although State highways are funded differently to regional arterials they have complementary roles in the transport network. The performance of the State highway network is severely impacted by congestion on arterial roads, particularly in peak hours when key parts of the network are at or near capacity.

Securing sufficient funding to keep pace with vital arterial roading is also important for Auckland, as regional arterials form a vital part of the passenger transport network. Currently, 44% of all peak period road-based public transport travel is on arterial roads, with only around 28% on State highways and 29% on local roads (see Figure 9).

One way to deal with this situation of funding challenges is to consider changing the Financial

Assistance Rate (FAR) by introducing different FARs for different categories of local roading projects. For example, regional arterial roads could receive a higher (e.g. 75 %) financial contribution from NZTA to help redress the funding imbalance between strategic arterial roads and State highways in Auckland and to reflect the greater importance of regional arterials to economic development. This is a matter that needs to be advanced with both the Ministry of Transport and NZTA.

The use of development contributions is another issue for projects that require local funding. Currently, only capital growth-related projects are eligible to be funded by development contributions, and only city and district councils can levy development contributions. The ARC cannot levy development contributions, even where it is providing for the effects of growth. Similarly, central government projects that provide for growth can be funded only from Government sources.

This has the potential to lead to inconsistencies. For example, while councils could be asked to recoup some of the economic benefits from projects via development contributions, no similar mechanism exists for State highways, even though the Government's tax revenue is automatically indexed to economic activity.

Issues of affordability arise as a consequence. Councils may be able to fund passenger transport infrastructure but there might not be sufficient funding for services. Alternatively, using development contributions (which usually form part of the local share) to reduce the total cost of a project (effectively sharing with NZTA) reduces the amount of local funding available for councils, making it harder to fund the local share of a project's costs, which is already a significant issue in Auckland.

## 3.4 Funding priorities

### *Criteria for prioritising funding*

ARTA is required to make a statement about its view of the land transport priorities in the Auckland region, including the priorities of other organisations.

In doing this, ARTA must be satisfied that its priorities will contribute towards its objectives, as well as the objectives and targets of the NZTS and GPS.

Prioritisation in the ATP is based on a set of principles that reflects these requirements and retain consistency with the guidelines developed for the Regional Land Transport Programme, assessing seriousness, urgency effectiveness, efficiency and strategic balance.

Prioritisation is also reflective of the five strategic priority areas identified in the ATP, and endorsed by the Regional Transport Committee for focused attention:

- → *Greater focus on regional arterials*
- → *Greater focus on safety engineering for streets and roads*
- → *Optimising the use of the existing transport system to move people and goods*
- → *Strong focus on transport investments that are supportive of the RGS and integrated transport and land use planning*
- → *Completing the key elements of the strategic roading, passenger transport, and walking and cycling networks*

### *Major funding priorities*

Accordingly, the infrastructure improvements identified by the 2009 ATP, unite and actively take forward the strategies, plans, projects and packages that have been developed by a range of transport sector provider groups and organisations – ARTA, the NZTA, KiwiRail and local authorities.

The ATP programme aims to get the most out of the whole transport network to ensure people and freight in Auckland have access to an affordable, integrated, safe, responsive and sustainable transport system.

However, current funding arrangements dictate that prioritisation must be undertaken on a modal basis as follows:

- → *Rail network improvements (KiwiRail)*
- → *State highways*
- → *Local roads*
- → *Passenger transport*
- → *Sustainable transport*

While ARTA accepts that funding is currently allocated on this basis, the ATP prioritisation process does seek to prioritise the region's transport expenditure across the silos towards achieving a position where funding can be reallocated across modes or activity classes based on merit.

## 3.5 Funding and financing options

One way to mitigate funding constraints is to use alternative sources of funding. These could include additional revenue streams from road users, such as tolls on individual parts of the roading network, or possibly some form of pricing across larger parts of the network.

As well as additional revenue streams, there is the option to use financing tools to spread project costs over time. Public Private Partnerships (PPPs) are a way of financing infrastructure investments and are worthwhile where it can be clearly demonstrated that they offer better value for money than alternatives. At the same time, the competitive tensions that are brought about through the PPP procurement process encourage the public sector to match or exceed any time and cost savings that could be offered by a private sector competitor.

'Land use value capture' is another way to inject funds into infrastructure investment, using a method that captures the increase in land values around fixed-route public transport systems, which may benefit both transport sponsors and contributing developers. The process secures an assured level of private funding, thereby reducing the impact on the public purse and making the project more affordable.

There are also other options related to making better use of Auckland's accumulated public assets for the benefit of the region. It is time to look at pooling Auckland's income-earning assets so the revenue generated can be invested in the future of the region, including transport.

There may be other financing opportunities in the use of financial instruments such as infrastructure bonds or other forms of term debt.

ARTA is realistic about the current economic climate, and the pressures on spending faced by councils and the Government. ARTA's strategy is not simply about looking for more money from the Government to close the funding gap or to bring forward critical projects that have been deferred past the ten-year horizon due to lack of funds. All agencies need to work together to demonstrate the value of investing in Auckland's transport system and achieving the region's vision. ARTA will continue to advocate that Auckland be given more responsibility and become more accountable for raising the additional funds necessary to achieve our vision.

## 3.6 Summary

Based on current (indicative) estimates of planned expenditure and available funding, a significant transport funding gap exists in Auckland. Three major projects – the CBD rail tunnel, rail to the airport, and the additional Waitamata Harbour Crossing are not included within current funding plans.

Furthermore, whilst financial prudence is important, council expenditure constraints have led to a significant reduction in local projects to make budgets balance. Councils have moved projects they cannot fund to beyond the ten-year funding horizon, masking a potential funding gap. We have effectively moved from a funding gap to an outcome gap.

The concern for ARTA is that funding is not adequate to deliver the full ten-year programme, and that the programme itself may be too little and too late to make acceptable progress towards Auckland's and the Government's objectives and targets.

A second major concern for ARTA is the fragmented and siloed approach to funding. More flexibility is needed to allow the redistribution of funds between activity classes. One way that ARTA supports for addressing these funding inconsistencies is to move towards a pool of regional transport funds that can be allocated consistently.

## 4.1 What Auckland needs

The planned transport system response to the challenges of growth and development in Auckland is laid out in the 2005 RLTS (with an interpretation and areas for action in the inaugural 2007 ATP), and also the Ministry for Economic Development's Economic Transformation agenda and associated New Zealand Transport Strategy and Government Policy Statement (2008). These documents provide a 'common strategic view' that includes the following elements:

- *A substantial investment in public transport, with priority given to the development of a rapid transit network on dedicated corridors (mainly electrified rail-based) connecting growth centres*
- *Development of the strategic road network, including the completion of missing links in the planned motorway network, and an increasing focus on traffic management to improve the integration and operational efficiency of existing regional arterial and State highway networks, particularly for freight services and other trips that cannot be made by passenger transport*
- *Increased emphasis on travel demand management, and the promotion of walking and cycling*

## 4.2 Review of the 2007 ATP

The ATP transforms the RLTS policies and strategies into actions and an investment programme. Those actions and investments have been selected and prioritised on the basis that they will contribute to the outcomes sought by the RLTS.

### *Purpose of the 2007 ATP*

The 2007 ATP relied on information from councils' LTCCP, Transit New Zealand's State Highway Forecast, Land Transport NZ's National Land Transport Programme, ARTA and KiwiRail plans and programmes in order to create a consolidated transport plan indicating strategic focus areas, major packages, projects and indicative funding requirements.

The consolidated approach followed therefore did not allow for the ATP giving significant guidance or direction as to envisaged future planning for the region even though the outcomes to be achieved from the envisaged packages and projects were largely consistent with the direction set by the RLTS. It is within this framework that projects were prioritised and it is therefore also within this framework that the success of the 2007 ATP should be judged.

### *Fund expenditure*

In the 2007 ATP it was estimated that approximately $16.8 billion would be invested over the next ten years on identified transport services and infrastructure, however the amount of funding available was estimated to be $13.7 billion with a further $900 million available for post 2016. It was noted in the 2007 ATP that the resultant shortfall of $3.1 billion could be financed by means of various measures such as a regional fuel tax, toll fees, road financing and public-private-partnerships. However, specific measures or a combination of measures are only now being implemented, such as tolling the Northen Gateway. The following table shows actual versus planned expenditure for the period 2006 to date.

In 2006/07, nearly $170.67 million less was invested than planned on different activities and various reasons have been put forward for the under spending. The reason for the difference for

**Table 7.** *Planned versus actual expenditure 2006-2008 ($'000)*

| Activity | Planned exp 2006/07 | Actual exp 2006/07 | Planned exp 2007/08 | Actual exp 2007/08 | Total Planned 2006/08 | Total Exp 2006/08 | Deviation % |
|---|---|---|---|---|---|---|---|
| *Maintenance* | 258,853 | 244,389 | 273,159 | 247,053 | 532,012 | 491,442 | -7.62 |
| *Traffic Management* | 26,181 | 25,686 | 29,316 | 27,890 | 55,497 | 53,576 | -3.46 |
| *Safety* | 58,047 | 61,488 | | Included in road infrastructure from 2007/08. | | | |
| *Road Infrastructure* | 417,361 | 323,044 | 535,349 | 498,425 | 1,010,757 | 882,957 | -12.64 |
| *Passenger Transport Services* | 156,434 | 132,999 | 174,035 | 174,396 | 330,469 | 307,395 | -6.98 |
| *Passenger Transport Infrastructure* | 284168 | 262,550 | 285678 | 49689, | 569,846 | 312,239 | -45.21 |
| *Traffic Demand Management* | 31,973 | 12,194 | 49,307 | 23,850 | 81,280 | 36,044 | -55.65 |
| TOTAL | 1,233,017 | 1,062,350 | 1,346,844 | 1,021,303 | 2,579,861 | 2,083,653 | |

*Note:* 1. The figures above include NZTA (previously Transit NZ) expenditure for State highways
2. KiwiRail expenditure was only available for the 2006/07 years. The 2007/08 expenditure has been estimated

the planned versus actual safety expenditure may be found in the manner in which the road and PT infrastructure figures were calculated. One of the common benefits cited in most road and PT infrastructure projects is improved safety, and to allocate the total project costs to road/rail infrastructure would therefore be incorrect. A manual correction was made to the cost allocation for such projects and a percentage of the total costs were allocated to safety, for example, in the case of rail an amount of $215,630 were allocated to safety – this amount could have been equally allocated to PT infrastructure improvements which would have made the difference between planned and actual expenditure on passenger transport infrastructure $55,000.

The areas which did not perform as planned were road infrastructure ($94.3 million), passenger transport services ($23.4 million) and transport demand management ($19.8 million).

The main reasons advanced for the under-spending includes:

- *A lack of skilled people and resources to design, evaluate and implement programmes*
- *Unforeseen delays due to consent-related requirement.*

Indications from the data available for the 2007/08 year also suggest under-performance of planned versus actual expenditure. The reasons for such under-spending may be similar to those already mentioned but could in fact be more likely attributed to the deliberate changes of financial priorities due to political changes in local council governance structures.

## 4.3 Achieving strategic focus and planning responses

The consolidated approach followed in the 2007 ATP allowed for the proposed major transport packages to be divided into regional and sub-regional packages with the sub-regions being identified as Rural, North, West, Isthmus and South. Strategic focus areas were then developed for each sub-region with planned responses developed for each strategic focus area. Only projects exceeding $10 million were included in the table, however, this does not reflect or indicate that other projects are less important, as it was done primarily for the purpose of brevity. Progress to date with regards to implementing the major packages and planned responses for each key area is as follows:

**Table 8.** *Regional transport packages*

| Package | Agency | Comments |
|---|---|---|
| *Western Line Duplication* | KiwiRail/ ARTA | Completed from Swanson to New Lynn. Grafton to Avondale currently in progress |
| *Newmarket station upgrade* | KiwiRail/ ARTA | Project scheduled completion Nov 09. Funding to be confirmed |
| *Rail station improvements* | ARTA | Improvements are ongoing at various rail stations |
| *Manukau rail link* | KiwiRail/ ARTA/MCC | Funding to be approved. Construction to start 09/10 |
| *Other rail infrastructure* | KiwiRail/ ARTA | Construction started at Papakura and Pukekohe. Funding for next phase to be finalised |
| *Rail rolling stock: interim* | ARTA | Sets 15-17 delivered. Sets 18-23 being refurbished for delivery 2010 |
| *Rail rolling stock: long term* | ARTA | Process underway. KiwiRail to acquire EMUs |
| *Rail electrification* | KiwiRail/ ARTA | Process underway. KiwiRail to manage projects |
| *Integrated ticketing* | ARTA | Process underway. Expected completion 2011/12 |
| *Real time information* | ARTA | Installing type 2 real time equipment on bus network<br>Investigating real time requirements for rail network |
| *New ferry infrastructure* | ARTA | Bayswater design underway. Funding to be confirmed |
| *Northern Busway* | NZTA/NSCC/ ARTA | Phase 2 in progress |
| *Onehunga branch line* | KiwiRail/ ARTA | Project to start from 09/10. Funding to be approved |
| *New Lynn underground* | KiwiRail/ WCC/ARTA | Progress to start from 09/10<br>Design completed |

## Table 9. *North: Strategic focus and outcomes*

| Strategic focus | Planned response | Action taken |
|---|---|---|
| Dealing with cross-harbour commuter demand | Increased bus services utilising Northern Busway and improved ferry services | Northern Busway stage 1 completed – stage 2 in progress<br>Develop ferry plans – Resource consents obtained for Bayswater and Beachhaven<br>Design finalised and put out to tender<br>Additional Waitemata Harbour Crossing Route protection underway |
| Provide more efficient passenger transport | Bus priority measures and intersection improvements on the Quality Transit Network and key arterial corridors connecting the busway | Bus transit lanes complete at Forrest Hill Road-Tristram Ave and Akoranga Drive<br>Bus transit lanes underway at Tristram Avenue-Wairau Road and Lake Road to Sylvan Road<br>Installation of bus priority measures at Albany Civic Crescent due to start<br>Design stage near completion for bus transit lane Constellation Drive-Forrest Hill Road<br>Ongoing road and intersection improvements at Taharoto-Wairau corridor<br>Bus transit lane extension of existing Onewa Road bus transit lane in progress |
| Facilitating economic development at existing and emerging economic hubs | Roading and other developments to improve access to Albany, Wairau Valley and Silverdale North | Access to Silverdale North under construction<br>Construction in progress on the Wairau-Taharoto corridor<br>Massey Link Road – preliminary design stage underway |
| Improving access to Whangaparaoa Peninsula | Penlink and associated improvements | Orewa township upgrade in progress<br>Penlink – awaiting funding decision |
| Providing transport to newly developed residential areas | Long Bay and Greenhithe transport developments to support growth areas including roading and passenger transport improvements as development occurs | Long Bay – investigation and design to start pending Environment Court outcomes<br>SH18 Greenhithe complete |
| Supporting development at key growth centres | Walk, cycle and passenger transport improvements in key centres (Takapuna, Albany and Orewa) | Installation of Lake Road and Shakespeare Road cycle lanes complete<br>Construction of Forrest Hill Road cycle lane near completion<br>Constellation Drive bus station complete<br>Design for upgrade of Takapuna bus station complete<br>Design stage for upgrade of bus stops in Highbury and Browns Bay town centres underway<br>Design stage for Glenfield suburban bus station underway |
| Improving access between North Shore and Waitakere and alternative north-south corridors to SH1 via Western Ring Route | Complete Greenhithe and Constellation sections of Western Ring Route (WRR) | SH18 Greenhithe complete<br>SH18 Hobsonville under way |

## Table 10. *West: Strategic focus and outcomes*

| Strategic focus | Planned response | Action taken and stage of completion |
|---|---|---|
| Dealing with uneven commuter flow | Increased rail and bus services | Increase in train service frequency to Henderson<br>New Lynn TOD project under construction<br>Strategic bus priority study completed<br>District Plan changes progressed to make available employment land at Massey North and Hobsonville |
| Providing more efficient passenger transport and increasing the capacity of the strategic rail corridor | Rail upgrade, including Western Line double tracking and electrification to improve rail system frequency and reliability<br>Bus priority measures, intersection improvements and improved service levels on the Quality Transit Network | Western Line double tracking program in progress<br>Completed station upgrade at Fruitvale, Glen Eden and Sunnyvale stations<br>Station upgrade in progress at Sturges, Ranui and Swanson. Park and Ride completed at Sunnyvale<br>Bus priority measures planned for New Lynn and Lincoln Road<br>Swanson Park and Ride under construction |
| Improving the safety and efficiency of SH16 | Capacity improvements and bus priority lanes on the NW motorway | Bus priority lanes on SH16-study completed<br>Bus priority lanes being planned on Lincoln Road<br>Safety improvements completed on SH16 beyond Westgate<br>Contract was awarded for SH16 extension to be designed and constructed |
| Supporting development at key growth centres | Walk, cycle and passenger transport improvements in key centres (Westgate, Henderson and New Lynn) | Walk-cycle ways at Twin Streams and along Henderson Creek completed.<br>Walkways upgraded in Henderson town centre<br>Walking and cycling facilities as per WCC strategy at design phase.<br>Bus interchange at Henderson completed<br>Planning of major public transport interchanges at New Lynn and Westgate in progress |
| Facilitating economic development at emerging economic hubs | Roading and other developments to improve access to Westgate | Funding approved for Upper Harbour Highway improvements linking North Shore to Westgate<br>Planning of transport access to Westgate at Massey North and along Hobsonville Road |
| Increasing person-carrying capacity at major arterials | Bus priority measures and intersection improvements on key arterial corridors, especially Quality Transit Network routes | Planning of bus priority, walking and cycle improvements at Lincoln and Te Atatu Roads in progress |
| Providing transport to newly developing residential areas | Hobsonville transport developments | Clearwater Cove ferry-Park and Ride completed<br>Planning being done for passenger transport facilities at Hobsonville |
| Improving access between Waitakere and North Shore and alternative north-south corridor to SH1 via Western Ring Route (WRR) | Complete Hobsonville deviation section of Western Ring Road (WRR) | SH16 Hobsonville construction underway |
| Ensuring that the development and management of the motorway network is integrated with arterial road improvements | Enhance access between SH20 and New Lynn via Tiverton-Wolverton-Clark corridor | SH20 Waterview preferred option identified<br>Tiverton-Wolverton corridor development deferred<br>Planning in progress for Clark Street upgrade<br>SH16 upgrade being planned in conjunction with the planned upgrades of Te Atatu and Lincoln Roads |

## Table 11. *Isthmus: Strategic focus and outcomes*

| Strategic focus | Planned response | Action taken and stage of completion |
|---|---|---|
| Providing an alternative north-south corridor to SH1 via Western Ring Route | Complete Mt Roskill extension, Manukau Harbour Crossing and Waterview extension of SH20 | Mt Roskill extension open<br>Manukau Harbour Crossing under construction. SH20 Waterview preferred option identified |
| Improving access to the eastern suburbs and Manukau City | Progress the Auckland Manukau Eastern Transport Initiative (AMETI) | AMETI in investigation (stage 2), notification of requirements and AEE stage |
| Provide more efficient passenger transport | Rail upgrade, including Western Line double tracking and electrification, and bus infrastructure and service improvements to enhance system frequency and reliability | Service improvements to both rail and bus services<br>Airport bus service initiated |
| Enhance access and travel options to the Central Business District | Complete the Central Connector, complete rail upgrade, improve rail and bus frequencies, and undertake planning to protect the CBD rail loop corridor | Construction of Central Connector in progress<br>CBD rail loop route protection walks underway<br>Additional Waitemata Harbour crossing protection under way |
| Support development at key growth centres | Walk, cycle and passenger transport improvements in key centres | Cycling and walking construction at Ellerslie, Sylvia Park, Waikaraka and Onehunga<br>Area walking and cycling strategy implemented as per capex budget |
| Facilitating economic development at emerging economic hubs | Roading improvements focused on Industrial Edge, including Manukau Crossing, Neilson street and AMETI | Ellerslie-Panmure corridor at study phase<br>Tiverton-Wolverton upgrade deferred<br>Neilson street upgrade deferred<br>Manukau Harbour Crossing under construction |
| Increasing the person-carrying capacity at major arterials and enhancing bus travel time and reliability | Bus priority measures and intersection improvements on Quality Transit Network routes, and development of the Dominion Road priority lane | Bus priority measures initiated and/or implemented at Mt Eden, Remuera, Tamaki and Quay Street<br>Rail upgrade and station upgrade in progress<br>Intersection improvements completed at Greenlane, Great North and Great South Road<br>Dominion Road bus priority lanes at study phase |
| Providing transport to newly developing residential areas | Mt Wellington Quarry transport developments, including provision of passenger transport services | Mt Wellington developments in study and consultation phase<br>Ongoing upgrading of existing bus and rail transport services |
| Improving the efficiency of SH1 at Central Motorway Junction and filling missing links in the strategic network | Complete Central Motorway Improvements, including Victoria Park Tunnel and Newmarket Viaduct projects | Central Motorway Improvements underway. CMJ complete, Newmarket Viaduct upgrade under construction, Victoria Park Tunnel project under contract |
| Ensuring the development and management of the motorway network's integrated with arterial road improvements | Enhance access between SH20 and New Lynn via Tiverton-Wolverton-Clark corridor, and progress improvement to Neilson St to connect SH20 and SH1 | Tiverton-Wolverton upgrade deferred<br>SH20 Waterview preferred option identified<br>Linking SH20 to East Tamaki at investigation stage.<br>Neilson Street upgrade deferred and linked to the outcomes of SH20 to East Tamaki project |
| Enhance access between Auckland CBD and Auckland Airport | Complete SH20 Mt Roskill extension and Manukau Harbour Crossing projects.<br>Complete Dominion Road passenger transport improvements | Mt Roskill extension open<br>Manukau Harbour Crossing projects under way<br>Dominion Road transport passenger improvements underway and short-term measures in planning |
| Ensure that the transport system is able to respond to the needs of the Rugby World Cup 2011 | Complete SH20 Mt Roskill extension and Manukau Harbour Crossing projects. Improve passenger transport access to and from Eden Park and rest of the region | Eden Park upgrade under way with transport improvements to fit in with project<br>Continuous monitoring of passenger service levels in region to improve access and affordability |

## Table 12. *South: Strategic focus and outcomes*

| Strategic focus | Planned response | Action taken and stage of completion |
|---|---|---|
| Providing an alternative north-south corridor to SH1 via Western Ring Route | Complete SH20 Manukau extension, Manukau Harbour Crossing and Mangere-Puhinui capacity improvements | SH20 Manukau extension under construction<br>Mangere-Puhinui capacity improvements in progress<br>Manukau Harbour Crossing under construction |
| Improving access between Manukau City and the eastern suburbs of Auckland | Progress AMETI | AMETI in investigation (stage 2), notification of requirements and AEE stage |
| Providing more efficient passenger transport | Rail upgrade including the Manukau rail link and bus service improvements to improve system frequency and reliability | Manukau rail link and associated interchanges at planning stage. Funding to be finalised<br>Bus service frequency and reliability investigated and to be continuously monitored to ensure improved service levels<br>Ferry terminal at Half Moon Bay and Park and Ride facilities awaiting funding availability |
| Enhancing access and travel options to Manukau City Centre | Complete the Manukau rail link, SH20 Manukau extension and local road improvements to remove through traffic from Manukau City | Manukau rail link and associated interchanges at planning stage. Funding to be finalised<br>Upgrading of roads surrounding Manukau City Centre transport interchange in order to improve access and travel options |
| Supporting development at key growth centres | Walk, cycle and passenger transport improvements in key centres including bus services to the airport | Major ongoing development and infrastructure construction at Flat Bush, including 38km walk and cycle paths |
| Facilitating economic development at emerging economic hubs | Roading improvements focussed on East Tamaki, Waiouru Peninsula and the airport | Waiouru Peninsula access completed<br>Improving access to East Tamaki being investgated |
| Increasing the person-carrying capacity of major arterials and enhancing bus travel time and reliability | Bus priority measures and intersection improvements on Quality Transit Network routes | Major construction at Great South Cavendish-Te Irirangi Roads completed<br>Study underway to determine best implementation of bus priority measures |
| Providing transport to newly developed residential areas | Flat Bush, Takanini and Hingaia Peninsula transport developments including passenger transport services | Major ongoing development and construction at Flat Bush |
| Taking steps to provide for alternatives to SH1 for north-south travel in the southern sector | Route protection and initial; development of Mill Road corridor | Study under way |
| Ensuring that the development and management of the motorway network is integrated with arterial road improvements | Undertake local road improvements to complement SH20 Manukau extension | Study under way to determine how to integrate proposed development with regional arterial road network |

## Table 13. *Rural: Strategic focus and outcomes*

| Strategic focus | Planned response | Action taken and stage of completion |
|---|---|---|
| Improving the safety and efficiency of SH1 and SH2 with improved linkages to Northland, Waikato and Bay of Plenty | Complete ALPURT B2<br>Schedeways Hill<br>SH1 Passing lanes<br>SH2 improvements at Maramaru | ALPURT B2 – complete<br>Investigation for four laning Puhuo to Wellsford underway<br>Schedeways Hill – investigation to start<br>SH1 – passing lanes at Warkworth, Kumeu, Mangawhai and Toovey – investigation dates yet to be determined<br>SH2 improvements at Maramaru under investigation |
| Facilitating economic development at emerging economic hubs | Roading and other developments to improve access to Warkworth | SH1/Warkworth intersection improvements in design stage |
| Improving the safety and efficiency of rural arterial routes with growth pressures | Improvements to Whitford-Maraetai corridor<br>Improvements to Clevedon Arterial routes<br>Improvements to Pukekohe east access | Whitford-Maraetai corridor at various stages of design and construction<br>Clevedon interchange under construction<br>Pukekohe East – land purchase and construction is in progress |
| Improving the safety of other strategic routes | SH16 safety improvements and passing lanes | Brigham Creek extension under construction<br>Kumeu passing lanes to be investigated |

## 4.4 Performance of the transport system to achieving outcomes

Expected outcomes from the RLTS are articulated in Chapter 9 of the 2005 RLTS. Chapter 10 explains the indicators adopted to measure the outcomes. Three types of indicators are used:

- → *Headline*
- → *Strategic*
- → *Contextual*

Headline indicators are used to assess the performance of the transport system in broad terms; strategic indicators are appropriate and relevant indicators that assess how well each objective is achieved; and contextual indicators are used to measure the possible impact of variables that are currently outside the influence of the strategy on the stated outcomes.

Continuous measurement of the performance of the transport network over time must be carried out, and trend lines established to determine whether expected outcomes have been met. The ATP primarily uses strategic and contextual indicators. Headline indicators can be derived from strategic indicators.

The 2007 ATP did not mention any means of measuring outputs because key performance indicators (KPIs) were being developed. KPIs have since been developed, but as this is the first time they are used, changes are to be expected. At present comparisons will be based primarily on assumptions, and time should be allowed for trends to be established. Once trend lines have been established, the current performance of the transport system can be related to the 2016 outcomes specified by the 2005 RLTS.

It is within this framework that the current transport network's performance is evaluated. The strategic indicators used, as well as their use, relevance and measurability are given in Appendix 3.

## 4.5 RLTS funding allocation

The achievement of RLTS outcomes is dependent on adequate funding and implementation work programmes. A summary of progress over the past year in the key areas of roading, public transport and transport demand management highlighted is as follows.

### *Assessment against the 2005 RLTS funding categories*

The Land Transport Programmes from 2006/07, 2007/08, 2008/09 and the current Regional Land Transport Programme (RLTP) have been assessed against the RLTP funding targets. The overall result of the assessmnet are shown in Figure 10.

In order to provide a complete picture of transport funding in relation to the RLTS funding categories, the estimated cost of each activity was analysed from the information provided by the submissions from approved organisations, as well as information from KiwiRail and then apportioned appropriately to one or more of the RLTS funding categories.

This analysis is based on submissions for funding in the final RLTP. The final analysis will include the ten-year expenditure plan, as opposed to the three-year RLTP figures. The RLTS targets are shown in Table 14 and Figure 11 for comparison.

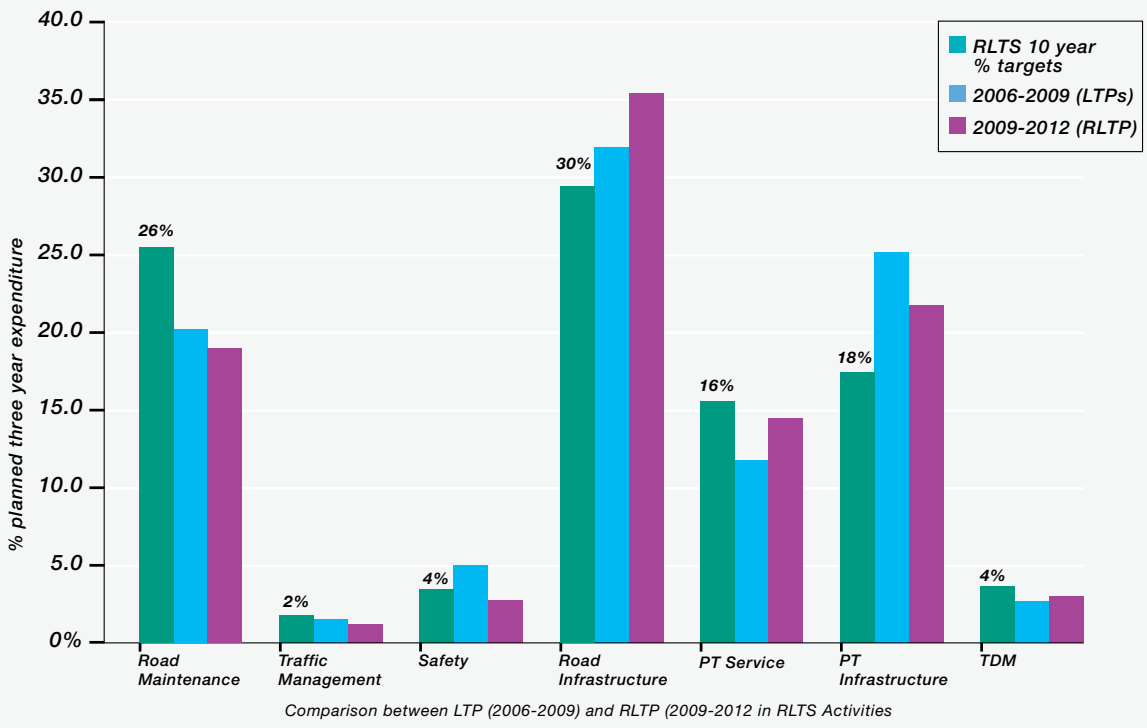
Note: It is important to consider that proportions of a programme are being presented, therefore direct comparisons on the trend can not be made, for example the total 2006-09 funding requested was $4.1 billion whereas 2009-12 funding requested is $5.3 billion.

Public transport Infrastructure includes $396 million of expenditure on electric trains, ownership of the these trains has yet to be finalised.

**Table 14.** *2005 RLTS funding allocation*

| | | |
|---|---|---|
| *TRAVEL DEMAND MANAGEMENT* | ***4%*** | |
| *PUBLIC TRANSPORT:* | ***34%*** | |
| *Infrastructure* | | *18%* |
| *Services* | | *16%* |
| *ROADS:* | ***62%*** | |
| *Infrastructure* | | *30%* |
| *Safety measures* | | *4%* |
| *Traffic management* | | *2%* |
| *Maintanence and renewals* | | *26%* |

**Figure 10.** *LTP assessment for the three-year period 2006/07-2008/09 and the RLTP 2009/10-2011/12*

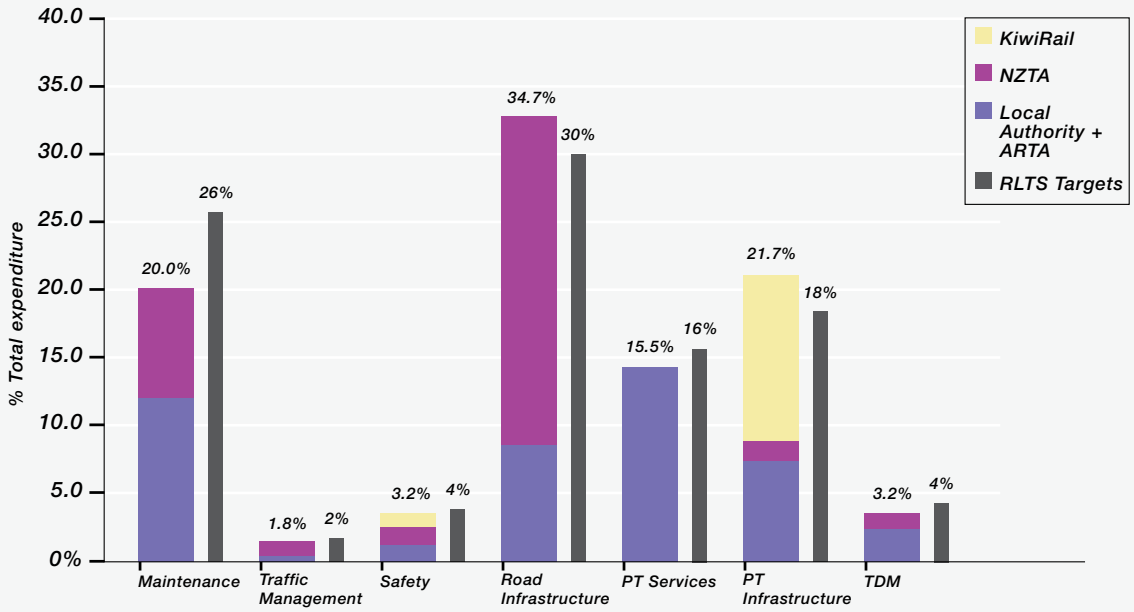



Comparison between LTP (2006-2009) and RLTP (2009-2012 in RLTS Activities

The following general trends can be seen from the analysis:

- → *The expenditure on Road Maintenance (and renewals) continues to increase year on year, this is likely to be due to an increase in the level of service that is by sought by road controlling authorities and requested by the public. However, the proportion of funding applied for by road controlling authorities in the RLTS is still less than the percentage set out in the 2005 RLTS and a slight decrease as a proportion of total spend than 2006-2009 period. This may indicate that the funding proposed in the RLTS for maintenance was over-estimated*
- → *The proportion of funding requested in the RLTP for Traffic Management is slightly less than the proportion of funding requested in the past LTPs and below the 2% target figure in the 2005 RLTS. In absolute terms, funding is increasing by $5 million, which in a $4.9 billion programme is not significant. Good traffic management is essential to ensure that the existing road network can be used to its full potential. Under-funding in this area may lead to unnecessary congestion and a poorly performing network*
- → *In the RLTP there has been a significant drop in the proportion of funding requested (as a proportion and in real terms) for the implementation of safety projects. As many projects offer a variety of benefits, the majority of the funding for safety is from projects whose main purpose is not reducing safety risks. However, the RLTS target is derived from the need to carry out safety specific projects. This suggests that there is a need to increase safety projects, especially if the impacts that the Government wishes to achieve in the GPS are to be met*
- → *There has been an increase in the funding being requested on road infrastructure (as a proportion and in absolute real terms) in the RLTP compared to previous LTPs. A general fall in local roading expenditure is being masked by Penlink, which is an expensive single project, and by a very large increase in State highway expenditure. This is likely to be due to territorial authorities wishing to keep rates increases to acceptable levels and the Government wishing to accelerate the construction of roads of national significance*
- → *Public Transport Services funding in the RLTP is greater than previous LTPs, in absolute terms and as a percentage, however it is still less than the proportion of transport funding required to be spent on PT services in the 2005 RLTS. This suggests that funding on services needs to be increased further if the full decongestion benefits of PT are to be realised*
- → *Expenditure on Public Transport Infrastructure remains at a similar proportion as that in the previous LTPs, but a greater level than was indicated in the 2005 RLTS. A large proportion of this expenditure is being incurred by KiwiRail. The full extent to the cost twin tracking the Western Line was not known at the time of the completion of the RLTS, consequently it is likely that the proportion of funding required for PT infrastructure was under-estimated in the RLTS. In addition, $396 million has been included for the purchase of electric trains*
- → *The proportion of funding proposed to be spent on TDM has increased over previous LTPs, however, remains below the RLTS percentage target. It appears that the funding requested on TDM has been increased by a large NZTA State highways programme on walking and cycling schemes and this has masked to some degree a large cutback in funding requests from the local authorities*

**Figure 11.** *Total RLTP compared to RLTS targets*




*Planned expenditure in 1st RLTP (2009-2012) compared to RLTS targets*

In roading, noticeable progress has been made on the State highway programme under the six-year funding programme guaranteed by the Crown in 2006. However, progress on the development of local roads, and in passenger transport enhancement and development, has been more constrained by the funding shortfall and by organisational considerations. While progress on freight route improvements has benefited from the State highway programme, achievement of RLTS targets requires linking these initiatives with planned improvement to key arterial routes; an area that has not progressed as rapidly as the State highway programme.

Overall, achieving most RLTS outcomes depends on the development of passenger transport. Outcomes of freely flowing traffic, good access and mobility and improved public health are closely related to developing a significantly upgraded passenger transport network that is well used. Progress has been made to secure funding for electrification of the existing rail network by 2013.

Meanwhile, upgraded rail services have resulted in significantly increased passenger transport patronage over the last 12 months, accelerated by a period of rapidly rising fuel prices, not predicted in the 2005 RLTS, but which has contributed significantly to higher use of public transport. If these trends are not offset by the economic downturn, this is expected to have an effect on a number of the outcomes listed above, in that the demand for improved passenger transport services is outstripping the ability of the programme to meet its targets ahead of the timeline provided for in the strategy.

Progress in a number of other key result areas continues to depend on willing cooperation among the many stakeholders, including the introduction of integrated ticketing, and improved bus and ferry services.

# APPENDIX 1: Regional Strategic Focus Areas

The Regional Strategic Focus Areas identified in the 2009 ATP are based on the impacts identified in the 2009 Government Policy Statement (GPS) and the results expected in the RLTS (2005), and reflect both the national desired impacts as well as those outcomes that are of special interest to the region as a whole. The RLTS is currently being reviewed, however the Regional Transport Committee (RTC) has resolved that the review is building on the 2005 RLTS, rather than a zero-based approach. The RTC has also adopted a position paper which sets out the strategic direction of the draft 2010 RLTS as:

- → *Supporting and contributing to land use policy that supports a compact and contained urban form consisting of centres, corridors and rural settlements*
- → *Continue major investment in rail, bus and ferry infrastructure and service improvements*
- → *Implement behaviour change programmes*
- → *Improve the operation of existing roads, especially regional arterials*
- → *Construct limited additional road capacity*
- → *Reduce the impacts of transport on the natural environment and communities*

The five regional strategic focus areas consistent with the GPS impacts, 2005 RLTS and the strategic direction identified for the draft 2010 RLTS consist of:

## *1 Greater focus on the regional arterials*

Linking national routes to local routes is important to ensure a high level of connectivity and thus access to markets as well as to alleviate congestion and improve the reliability of journey times. Economic and population growth in the region will lead to increases in freight and vehicle movements, thus a greater planning focus is required on the region's arterial roads, as defined in the Regional Arterial Road Plan (RARP) and the desired impacts of the GPS (2009) and the RLTS (2005). Importantly, improvements to the arterial network will also alleviate congestion, improve journey times, support achievement of the region's strategic passenger transport plan and, by providing for the right traffic in the right corridor, ensure that the regional arterials will be supportive of providing for the active modes.

Achievement of the expected increase in bus passenger boardings for example, is forecasted to come from the QTN, which is located primarily on the regional arterials, which in turn will contribute to the desired impact targets to improve travel times on regional critical routes.

| **Contribution to:** | |
|---|---|
| GPS (2009) impacts | Improvements in the provision of infrastructure and services that enhance transport efficiency and lower the cost of transportation through:<br>Improvements in journey time reliability<br>Easing of severe congestion<br>More efficient freight supply chains<br>Better use of existing transport capacity<br>Better access to markets, employment and areas that contribute to economic growth<br>A secure and resilient transport network<br>More transport choices, particularly for those with limited access to a car where appropriate |
| RLTS (2005) expected results | Substantial progress is expected in the planning and completion of key links in the strategic road network<br>Interpeak travel speeds on the region's roads for freight and general traffic are expected to decrease by only 5.6% in spite of traffic volumes between key business centres increasing by 45%<br>The transport system is expected to significantly improve access opportunities through improvements to all aspects of passenger transport journeys including the quality of the interchange environment, functionality and frequency and quality of service<br>Increase walking and cycling and other active modes |

### *2. Greater focus on safety engineering for streets and roads*

The Regional Road Safety Plan highlights the need for specific road safety engineering. While all transport projects must consider and include safety, there is a need to increase the number of road safety engineering projects on urban and rural arterials to keep track with the RLTS (2005) targets and to deliver the regional crash reduction for 2010. It is critical that road safety engineering solutions include positive urban design elements, bearing in mind that positive urban design outcomes for streets and corridors will contribute to improving safety for all users. Addressing road safety engineering, along with education and enforcement, will not only contribute to the GPS impact associated with decreased fatalities and hospitalisations but also increase use of the transport environment by vulnerable users such as pedestrians and cyclists.

**Contribution to:**

| | |
|---|---|
| GPS (2009) impacts | Reductions in deaths and serious injuries as a result of road crashes |
| RLTS (2005) expected results | Crashes, deaths and injuries, especially to pedestrians and cyclists, to decrease<br>Promote the use of alternative transport modes (walking and cycling) |

### *3. Optimise the use of the existing transport system to move people and freight*

The current and planned transport system in the Auckland region is a significant asset with a value in excess of $15 billion and it is critical that the use of the system is optimised. Shifting the emphasis from the movement of automobiles to the movement of people and freight will contribute to achieving the expected results at both national and regional level. Initiating methods that allocate road space to preferential traffic will not only ensure improvements in system efficiency but also in easing severe congestion. This can be assisted by moving non essential trips from cars to passenger transport as far as possible, which will free road space for commercial and freight movements, thus reducing congestion and improving travel times and reliability on critical routes.

**Contribution to:**

| | |
|---|---|
| GPS (2009) impacts | Improvements in the provision of infrastructure and services that enhance transport efficiency and lower the cost of transportation through:<br>Improvements in journey time reliability<br>Easing of severe congestion<br>More efficient freight supply chains<br>Better use of existing transport capacity<br>Better access to markets, employment and areas that contribute to economic growth<br>A secure and resilient transport network<br>More transport choices, particularly for those with limited access to a car where appropriate |
| RLTS (2005) expected results | Interpeak travel speeds for freight and general traffic are expected to decrease by only 5.6% in spite of traffic volumes between key business centres increasing by 45%<br>Travel speeds for freight and general traffic to be less variable than in 2005<br>Improve the reliability of public transport services<br>Improve the use of alternative transport modes (walking and cycling) |

### *4. Strong focus on transport investments that are supportive of Regional Growth Strategy*

It will be critical for transport investments to be supportive of and integrated with the Regional Growth Strategy and land use planning if a number of the GPS (2009) and RLTS (2005) outcomes are to be achieved. The GPS (2009) mentions specific focus to be given to improving transport in areas having growth and improving access to markets while the RLTS (2005) focuses on integrating transport with land use that shows growth potential. Although national emphasis seems to focus on economic growth, regional focus is aimed at both economic and population growth.

### *5. Completion of key links in the region's strategic roading, passenger transport and cycling networks*

To maximise the full benefits from the transport system it is critical that complete networks are available for use, such as the State highway, rapid transit, and walking and cycling networks. It is critical that projects or packages

| Contribution to: | |
|---|---|
| GPS (2009) impacts | Improvements in the provision of infrastructure and services that enhance transport efficiency and lower the cost of transportation through:<br>Improvements in journey time reliability<br>Better access to markets, employment and areas that contribute to economic growth<br>More transport choices, particularly for those with limited access to a car where appropriate<br>Reductions in adverse environmental effects from land transport<br>Contributions to positive health impacts |
| RLTS (2005) expected results | People will have a greater choice of travel modes and it will be easier to change between modes<br>Travel speeds for freight and general traffic to be less variable than in 2005<br>Interpeak travel speeds for freight and general traffic are expected to decrease by only 5.6% in spite of traffic volumes between key business centres increasing by 45%<br>Move commuter trips wherever possible to public transport<br>On average 65,000 more households are expected to be within 30 minutes' travel by car from employment opportunities; 37,000 more households within 30 minutes' travel by public transport from employment opportunities by 2015<br>Improve the reliability of public transport<br>13% of the urban population should be living in the regional growth zones |

of projects that come forward to meet this focus area are fully justified against the GPS impacts and in terms of all their benefits and costs, rather than just 'completing a network'.

The strategic roading network should prioritise both routes of national and regional significance if the economic potential of the region and its immediate neighbours is to be realised. The draft GPS (2009) has identified seven routes of national significance of which four are of importance to Auckland namely:

- → *State Highway 1 from Puhoi to Wellsford (linking Auckland to Northland)*
- → *Western Ring Route (Waterview connection is seen as the highest priority to complete)*
- → *Victoria Park Tunnel (to overcome severe congestion on SH1)*
- → *Waikato Expressway (enables improved linkages between Auckland and its major regional trading partners Waikato and the Bay of Plenty).*

The completion of the Rapid Transit Network (RTN) and the regional cycle network will allow users more choice, as well improve the effectiveness of implementing both travel supply and demand management. The completion of the RTN is essential for the delivery of fast and efficient passenger transport services.

| Contribution to: | |
|---|---|
| GPS (2009) impacts | Improvements in the provision of infrastructure and services that enhance transport efficiency and lower the cost of transportation through:<br>Improvements in journey time reliability<br>Easing of severe congestion<br>More efficient freight supply chains<br>Better use of existing transport capacity<br>Better access to markets, employment and areas that contribute to economic growth<br>A secure and resilient transport network<br>More transport choices, particularly for those with limited access to a car where appropriate<br>Reductions in adverse environmental effects from land transport<br>Contributions to positive health impacts<br>Making better use of existing capacity in the transport system |
| RLTS (2005) expected results | Interpeak travel speeds for freight and general traffic are expected to decrease by only 5.6% in spite of traffic volumes between key business centres increasing by 45%<br>Substantial progress is expected in the planning and completion of key links in the strategic road network<br>Travel speeds for freight and general traffic on motorways and major arterials to be less variable than in 2005<br>On average 65,000 more households are expected to be within 30 minutes' travel by car from employment opportunities; 37,000 more households within 30 minutes' travel by public transport from employment opportunities by 2015<br>Rapid transit services linking regional growth centres on the RTN will not be more than 10 minutes apart at morning peak<br>People have a greater choice of travel modes and it will be easier to change between different modes |

# *APPENDIX 2: The ATP prioritisation process*

## *General*

ARTA has developed a methodology, based on the Prioritisation Process and Assessment Criteria of the ATP for assessing profiles based on the relationship between the Regional Strategic Focus areas and the objectives of the RLTS (2005). All activities being submitted for NZTA subsidy through ARTA need to be profiled in order to determine the activity's priority and allocate available funding accordingly.

## *The profiling process*

An activity's profile consists of giving a High, Medium, or Low rating to each of the following three factors:

***Seriousness*** – (of the issue being addressed) – Seriousness refers to the scale and importance of the transport problem to which the project/activity or package responds.

***Effectiveness*** – (of the proposed solution) – refers to the extent to which the solution (the package or project/activity) contributes to addressing the issue being addressed and the broad policy objectives set out in the RLTS (2005) and ARTA's statutory objectives; and

***Efficiency*** – (of the proposed solution) – the efficiency of an activity is based on its benefit/cost ratio. In calculating the BCR, sensitivity analysis of the key BCR drivers should be undertaken, and consideration given to including all benefits and costs such as agglomeration impacts, enhanced land use outcomes and positive urban design outcomes. The economic efficiency of an activity does not necessarily have to be based on the BCR even though it almost always is the case for roading improvement schemes.

Because the factors named above are given equal weighting, the outcomes can result in activity profiles with the same seriousness rating. In such cases the urgency of a project will be considered in order to further rank the priority of projects with the same seriousness rating.

***Urgency*** – allows for the incorporation of any external factors that influence the timing of implementation.

The last part of profiling considers the activity's contribution to the strategic balance of the Auckland Transport Plan. This factor allows a structured judgement to be applied to ensure that the overall shape of the Auckland Transport Plan is acceptable, recognises the modal shares and outcomes indicated in the RLTS (2005), and takes account of broader considerations (including the impacts desired by the GPS (2009)) that might influence the priority and timing of regional projects and packages.

## *The prioritisation principles*

**Seriousness:** ***the scale and importance of the transport problem to which the project/activity or package responds***

| Strategic Focus Area | Challenges | Prioritisation principles |
|---|---|---|
| SFA1, 2, 4 | Encouraging and facilitating economic development | Priority to projects which support increased economic productivity, including intensification of employment, economic clusters, and effective heavy goods vehicle access<br>Improving accessibility to areas of intensified economic activity, including visitor concentrations<br>Priority to projects which support regionally agreed areas of new business activity<br>Priority will be given to those parts of the strategic and arterial network where limited alternative routes exist for accommodating growth<br>Transport requirements to facilitate urban growth strategies, including lead infrastructure and services |
| SFA 1, 2, 3 | Minimising the impact of congestion and unreliable travel times | Highest priority will be given to addressing congestion which impacts on freight and commercial traffic movements, and all-day congestion that constrains business and community development<br>Priority will be given to reducing congestion that impacts on the safe and efficient operation of strategic corridors and the needs of inter-regional travel will receive a high priority<br>Congestion that impacts travel to and from vital economic growth centres and markets will receive a high priority<br>Priority will be given to reducing congestion which impacts on passenger transport and improving passenger transport travel times<br>Other solutions to commuter peak travel congestion will be accorded a high priority where a viable sustainable transport alternative, or only a partial solution, is unavailable |

## Cont... seriousness: *the scale and importance of the transport problem to which the project/activity or package responds*

| Strategic Focus Area | Challenges | Prioritisation principles |
|---|---|---|
| SFA1, 2, 3, 4 | Optimise use of the existing transport system | Priority will be given to strategies aimed at Traffic Demand Management, traffic management, traffic light optimisation and road access control. |
| SFA 4 | Ensuring integrated land use and transport provision to enhance regional growth | The Regional Growth Strategy (RGS) growth concept, will be a key determinant in deciding priorities for investment in transport, with particular emphasis on:<br>Encouraging higher-density development and employment in growth nodes and corridors<br>Investment in alternative and active modes to support higher-density development in towns and sub-regional centres<br>Ensuring that land use patterns are consistent with the RPS and RGS<br>An integrated transport system<br>Priority will be given to projects that help to achieve a better balance between employment, education and residential locations, and to projects that reduce the need to travel |
| SFA 5 | Providing a transport system that is safe to use | Provision of alternative/additional capacity required in the event of critical failures on the network will be given priority to ensure security of the transport network in the event of emergencies<br>Areas with demonstrated safety problems (both current and potential) will be addressed first (i.e. accident black-spots, recognised unsafe sites, etc)<br>Safety improvements for vulnerable users will be given a high priority<br>Priority will be given to responding to perceived personal security risk issues where this is likely to restrict use of alternatives in favour of the private car<br>Priority will be given to solutions which incorporate positive urban design outcomes |
| SFA 2, 3, 4 | Increasing travel choices and reducing reliance on private cars | Highest priority will be given to the needs of those travelling to employment, education centres and vital social services<br>Priority will be given to parts of the network with poor linkages and a lack of integration between modes<br>Ensuring viable alternative transport choices to and within town centres will be a priority<br>Priority will be accorded to the provision of transport choices in growing communities where existing transport choices are limited<br>Priority will be accorded to providing transport mode choice in areas of high social deprivation and to the transport-disadvantaged<br>Priority will be given to solutions which avoid or improve community severance |
| SFA 3, 4 | Promoting environmental sustainability | Priority will be given to reducing dependence on non-renewable resources (including fuel, land, and aggregate)<br>Reductions in fuel use and $CO_2$ emissions will be prioritised<br>Priority will be given to addressing transport-related water quality issues in sensitive catchments<br>Priority will be given to addressing transport-related community dislocation in areas where this is significant |
| SFA 3, 4 | Promoting public health outcomes | Priority will be given to addressing air emissions from vehicles in areas with high population exposure<br>Priority will be given to addressing noise and vibration in areas with high residential exposure<br>Priority will be given to those parts of the region where low participation in active modes is likely to result in health problems |

| Urgency: allowing the incorporation of any external factors that influence the timing of implementation |
|---|
| Does the project have particular timing or interdependencies with other actions that make its implementation urgent, such as:<br>The potential failure of critical infrastructure<br>The potential foreclosing of significant future economic development or transport opportunities if action is not taken<br>The need for completion in time for specific events of regional or national significance, particularly the Rugby World Cup<br>The need for the project as a prerequisite for other high-priority activities (for example advance land purchase) |

| Effectiveness: the extent to which the solution (the package or project/activity) contributes to the issue being addressed and the broad policy objectives set out in the GPS, RLTS and ARTA's statutory objectives | |
|---|---|
| Objective | Assessment criteria |
| Economic development | How effective is the project in reducing travel time variability for freight movement between key economic hubs?<br>To what extent will the project encourage shorter journeys that deliver economic advantages?<br>To what extent does the project have the potential to unlock private sector investment and development benefits? |
| Integration of transport, networks, services and land use | How effective is the project in contributing to a transport network that integrates all modes?<br>How effective is the project in increasing the choice of mode? |
| Impact on sustainability of transport network | How effective is the project in retaining benefits over time?<br>To what extent does the project have an impact on other parts of the transport network? |
| Contribution to the Regional Growth Strategy | To what extent does the project actively support the RPS and RGS growth concept, including centre intensification and/or high-density corridors? |
| Safety and personal security | To what extent will the project reduce crashes?<br>How effective is the project in improving the safety and personal security of vulnerable transport? |
| Access and mobility | To what extent will the project improve the transport choices available?<br>How effective is the project in improving access to appropriate transport for vulnerable users, the transport-disadvantaged and their caregivers?<br>To what extent does the project remove barriers to people's ability to access opportunities for work, education, health and social services (especially the transport-disadvantaged)? |
| Environmental sustainability | To what extent will the project reduce reliance on non-renewable resources?<br>To what extent will the project improve fuel efficiency?<br>How effective is the project in reducing adverse water quality impacts?<br>To what extent does the project avoid environmental damage and reduce the adverse impacts of transport on the natural and physical environment?<br>To what extent does the project reduce community dislocation? |
| Public health | How effective is the project in increasing the use of active modes?<br>How effective is the project in reducing harmful air emissions?<br>How effective is the project in reducing traffic noise and vibration? |

## *Efficiency (of the proposed solution)*

The efficiency of an activity is based on its benefit/cost ratio. In calculating the BCR, sensitivity analysis of the key BCR drivers should be undertaken, and consideration given to including all benefits and costs such as agglomeration impacts, enhanced land use outcomes and positive urban design outcomes. The economic efficiency of an activity does not necessarily have to be based on the BCR even though it almost always is the case for roading improvement schemes.

| Strategic Balance: a factor that allows a structured judgement to be applied to ensure that the overall shape of the Auckland Transport Plan is acceptable, recognises the modal shares and outcomes indicated in the RLTS, and takes account of broader considerations (including national issues) that might influence the priority and timing of projects and packages |
|---|
| The balance of projects and packages in the ATP will seek to enable:<br>The achievement of the Government Policy Statement targets<br>Achievement of the expected outcomes of the RLTS<br>The general allocation of transport resources in accordance with the RLTS<br>An overall plan that builds for the future<br>Projects that contribute to an integrated solution, including the completion of a network<br>The best use of existing transport assets<br>Strong network resilience and reduced risk of network failure, with a particular focus on lifelines, civil emergencies and civil defence evacuation procedures<br>Options to be kept open for the future, and not foreclosing on opportunities (including corridor protection and advance land purchase)<br>Taking proactive actions early to influence future demand in a more sustainable way, or avoid future problems (for example early introduction of passenger transport to newly developing areas)<br>Sufficient flexibility in the programme to enable other projects to be advanced when projects encounter implementation problems<br>Fundability (i.e. local share, and the ability to gain funding from other sources)<br>Affordability of the programme as a whole, recognising available resources, and contingency planning<br>A reasonable balance between rural and urban requirements<br>Community aspirations to be met through an equitable balance of transport resources, and opportunities between different communities and socio-economic groups<br>Risks to be appropriately managed |

# *APPENDIX 3: RLTS objectives and indicators*

## OBJECTIVE 1: *ASSISTING ECONOMIC DEVELOPMENT*

### *Outcome 1*; Allowing people and goods to travel between key economic centres at reasonable speeds

#### KPI – Congestion indicator

The congestion indicator is used to measure the impact of congestion on mobility. Outcomes are reflected in terms of the average speed, average travel time and variability in travel time of a specific route. These outcomes are then related to RLTS targets and objectives.

#### KPI – Passenger transport

Real time information with regard to the actual performance of public transport by bus has become available during the year, however, real time information with regard to rail and ferry services is not currently available. The reliability of public transport (measured in terms of variability of travel times) is indicated in the tables below for the AM peak on selected routes.

**Table i.i** *Bus passenger transport reliability for selected routes (Real time)*

| *Route* | *Average travel time* | | *Variability of travel time (Real time variability)* | | | |
|---|---|---|---|---|---|---|
| | | | *%* | | *Min* | |
| | *AM* | *PM* | *AM* | *PM* | *AM* | PM |
| Albany – CBD (via Northern Busway) | 17:15 | 19:16 | 4.81 | 9.04 | 0:00 | 0:00 |
| Henderson – CBD (via NW Motorway) | 47:14 | 47:00 | 18.85 | 10.04 | 00:10 | 01:07 |
| New Lynn – CBD | 33:24 | 42:54 | 15.29 | 9.78 | 00:06 | 00:02 |
| Manukau – CBD | 58:21 | 1:04:13 | 23.17 | 11.98 | 0:22 | 0:07 |
| Botany Downs – CBD | 37:11 | 1:06:30 | 14.94 | 11.42 | 0:01 | 00:12 |
| Papakura – CBD | 1:34:40 | 1:43:23 | 11.93 | 7.41 | 00:28 | 0:00:23 |

Notes: 0630-0900 for AM Peak 1600-1830 for PM peak. (March 2008).
(inbound and outbound): the Northern Express for Albany, route 085 for Henderson, route 154 for New Lynn, route 680 for Botany, and 471 and 472 for Papakura and Manukau (along Great South Road).

#### KPI – Movement between key economic centres

Data regarding the Auckland region road network's performance was acquired by means of the car survey done bi-annually by BECA for the ARC and NZTA (Beca; November 2007). The routes used for KPI purposes are those identified by ARTA (based on previous studies and reports) as being significant for freight. Although some overlapping occurred between these routes and those actually used in the car survey, the majority of the routes are such that additional calculations were necessary. The following routes are reported on:

## Table ii.i *Vehicle travel times between key economic centres*

| *Routes* | *Survey Month/ Year* | *Time* | Average Length (km) | *Average Speed (km/h)* | *ATT (min)* | *CGI (min/ km)* | *VTT % (min/trip)* | *Comments* |
|---|---|---|---|---|---|---|---|---|
| *North* | Comparisons are made between the same periods of each year. | | | | | | | |
| Albany to CBD (Oteha Valley, Fanshaw, Quay) | 11/2007 | AM | 15.34 | 22 | 43 | 2:06 | 9 (3:52) | A general improvement in travel times and a reduction of congestion. Further improvements are expected once ph. 2 of the Northern Busway is completed |
| | 4/2008 | AM | 15.34 | 20 | 46 | 2:20 | 10 (4:36) | |
| | 11/2008 | AM | 15.34 | 23▲ | 40▲ | 1:55▲ | 8 (3:20) ▲ | |
| Albany to Newmarket (Oteha Valley; Fanshaw; Beaumont; Wellington; Market) | 11/2007 | AM | 19.636 | 24 | 49 | 1:50 | 7 (3.26) | Improvement in travel times and reduction in congestion |
| | 4/2008 | AM | 19.636 | 24 | 50 | 1.52 | 9 (4:30) | |
| | 11/2008 | AM | 19.636 | 25▲ | 48▲ | 1:44▲ | 6 (2:53) ▲ | |
| Glenfield to Takapuna (Glenfield, Wairau, Taharoto, Anzac) | 11/2007 | AM | 3.50 | 32 | 7 | 0:40 | 10.1(0:43) | A noticeable drop in average speed with an improvement in variability of travel time. The trend over time is one of increasing congestion |
| | 4/2008 | AM | 3.50 | 26 | 8 | 1.03 | 10.4 (0:50) | |
| | 11/2008 | AM | 3.50 | 24▼ | 9▼ | 1:16▼ | 9 (2:10) ▲ | |
| Sunset North-Rosedale-Waitakere (Westgate) (Constellation; Upper Harbour; Hobsonville) | 11/2007 | AM | 13.73 | 48 | 17 | 0:23 | 6 (1:01) | An improvement in all aspects of travel time is noticeable |
| | 4/2008 | AM | 13.179 | 51 | 16 | 0:19 | 8 (1:04) | |
| | 11/2008 | AM | 13.179 | 62▲ | 13▲ | 0:05▲ | 5 (0:39) ▲ | |
| *Routes West* | | | | | | | | |
| Henderson to CBD (North-Western Motorway, SH1, Union) | 11/2007 | AM | 16.884 | 31 | 33 | 1:22 | 12 (4:02) | An improvement in all aspects of travel time is noticeable. Variability of travel time remains a concern even though improvement are occurring |
| | 4/2008 | AM | 16.884 | 23 | 44 | 2:00 | 11 (4:50) | |
| | 11/2008 | AM | 16.884 | 37▲ | 28▲ | 1:02▲ | 10 (2:48) ▲ | |
| New Lynn – Henderson – Massey North (Great North, Lincoln, Sh16) | 11/2007 | AM | 12.824 | 45 | 17 | 0:23 | 5 (0:49) | A general deterioration in all aspects of travel time is noticeable |
| | 4/2008 | AM | 12.824 | 46 | 16 | 0:19 | 4 (0:41) | |
| | 11/2008 | AM | 12.824 | 37▼ | 21▼ | 0.37▼ | 8 (1:41) | |
| New Lynn to CBD (Great North, New North, Union) | 11/2007 | AM | 9.246 | 20 | 28 | 2:15 | 15 (4:12) | An improvement in all aspects of travel time is noticeable |
| | 4/2008 | AM | 9.246 | 29 | 19 | 1:16 | 10 (1:54) | |
| | 11/2008 | AM | 9.246 | 30▲ | 18▲ | 1:12▲ | 9 (1:37) ▲ | |
| Henderson to St Johns (Great North Road, Lukes Road, Balmoral Road, Greenlane, Rumuera, St Johns) | 11/2007 | AM | 23.538 | 29 | 49 | 1:08 | 5 (2:21) | A general deterioration in all aspects of travel time is noticeable |
| | 4/2008 | AM | 23.538 | 24 | 59 | 1:33 | 4 (2:22) | |
| | 11/2008 | AM | 23.538 | 26▼ | 55▼ | 1:23▼ | 5 (2.45) ▼ | |
| *Routes East* | | | | | | | | |
| Neilson to Pakuranga (Neilson, Church, South Eastern Highway, Pakuranga Motorway) | 11/2007 | AM | 8.150 | 37 | 13 | 0:38 | 15 (1:52) | A general deterioration in all aspects of travel time is noticeable |
| | 4/2008 | AM | 8.150 | 43 | 11 | 0:26 | 17 (1:52) | |
| | 11/2008 | AM | 8.150 | 27▼ | 18▼ | 1:12▼ | 17 (3:04) ▼ | |
| *Routes South* | | | | | | | | |
| Onehunga – Wiri (SH20, Wiri station) | 11/2007 | AM | 12.383 | 84 | 9 | 0:05 | 8 (0:45) | A general deterioration in all aspects of travel time is noticeable |
| | 4/2008 | AM | 12.383 | 72 | 10 | 0:13 | 8 (0:48) | |
| | 11/2008 | AM | 12.383 | 68▼ | 11▼ | 0:15▼ | 8 (0:53) ▼ | |
| AIAL to CBD (SH20A, Hugh Watt, Pah, Manukau, SH1) | 11/2007 | AM | 20.810 | 54 | 23 | 0:24 | 4 (0:55) | A general deterioration in all aspects of travel time is noticeable |
| | 4/2008 | AM | 20.810 | 48 | 26 | 0:33 | 4 (1:01) | |
| | 11/2008 | AM | 20.810 | 51▼ | 24▼ | 0:29▼ | 5 (1:12) ▼ | |
| POA – Wiri (Wiri Station, Lambie, Great South Road, Atkinson, Mt Wellington, Jellicoe, Pilkington, Apirana, Kohimarama, Kepa, Ngapipi, Tamaki) | 11/2007 | AM | 22.916 | 39 | 35 | 0:37 | 5 (1:43) | A marginal improvement can be seen in all aspects relating to travel time |
| | 4/2008 | AM | 22.916 | 42 | 33 | 0:17 | 5 (1:39) | |
| | 11/2008 | AM | 22.916 | 40▲ | 34▲ | 0:36▲ | 5 (1:42) ▲ | |

Source: Adapted from ARC and NZTA Moving Car Survey Data (November 2007; March 2008; Novem ber 2008).

**Legend:** ▲ = Improvement in relation to previous period

▼ = Decline in relation to previous period

**Trends – North:** The cgi trend for the routes North indicates increasing congestion, lower average travel speeds and longer average travel times. Variability of travel time on all the routes showed an increasing trend. This is to be expected as the routes tend to connect major growth centres, or be adjacent to, major industrial centres and/or major motorways with high traffic volumes. The opening of the Hobsonville-Greenhithe section of the Western Ring Road brought marginal improvements in congestion and ATT, however, variability of travel time increased. This could be seen as an indication of a low level of resilience to impacts caused by short-term external variables.

**Trends – West:** The cgi trend for the routes West contrasts markedly to those in the North and indicates decreasing congestion, higher average travel speeds and lower average travel times from the New Lynn hub. However, the routes to the CBD (and further) indicate a worsening of congestion with the decrease in VTT indicating that variability of travel times becoming 'stable' on these routes.

**Trends – South:** The cgi trend for the routes South indicates in the main increasing congestion, lower average travel speeds and longer average travel times. On the route POA- Wiri all measurements indicate positive trends while the Neilson-Pakuranga route indicates increased VTT with higher speeds and lower travel times. This could indicate a low resilience level to any impacts on the speed/flow relationship on this route and should be investigated further.

### *Outcome 2*; Attracting significant numbers of people to passenger transport and active modes

#### KPI – Passenger transport patronage by mode

| *Mode* | *2005/06* | *2006/07* | *2007/08* | *Growth* |
|---|---|---|---|---|
| | (000) | (000) | ('000) | % change |
| Rail | 5 029 | 5 737 | 6 794 | 18.42 |
| Bus[1] | 42 175 | 41 999 | 43 248 | 2.97 |
| Ferry | 3 926 | 4 400 | 4 380 | (0.45) |
| TOTAL | 51 130 | 52 136 | 54 422 | 4.38 |

Bus patronage includes commercial, contracted and school bus totals but excludes MoE and chartered school bus patronage (criteria for inclusion – bound by concessionary fares and open to use for any school children).

**Target:** 3% per annum in order to reach 100 million boardings by 2015

**Trend:** Patronage growth has exceeded the expected growth rate for the past year which can be attributed mainly to the opening of the Northern Busway, increased rail patronage and escalating fuel prices. In the short term, the impacts stemming from the uncertainty in energy prices, the emissions trading act and regional fuel levies as well as low economic growth conditions are still to be felt by commuters but it is expected that their cumulative impact will contribute to increasing patronage in the foreseeable future.

#### KPI – Passenger transport patronage by kilometre

| *Passengers/km* | *2005/06* | *2006/07* | *2007/08* | *% Growth* |
|---|---|---|---|---|
| Rail | 3.016 | 3.025 | 3.285 | 1.09 |
| Bus | 1.078 | 1.008 | 1.103 | 1.09 |
| Ferry | 4.80 | 4.10 | 3.90 | (0.05) |

**Target:** None

**Trend:** Although the numbers of rail and bus patronage increased, the pax/km ratio did not show the same trend. This may be due to areas receiving services where commuter numbers do not make it economically viable in the short term, or services being rendered in newly built areas in order to stimulate demand. However, increasing km without a concomitant increase in passengers will eventually lead to uneconomic services and it is therefore prudent to set a target as to what constitutes the desired minimum passengers/km ratio when evaluating specific routes or services.

## PT boardings per capita

| *PT boardings per capita* | | *% Growth* |
|---|---|---|
| 2005/06 | 39.7 | - |
| 2006/07 | 39.2 | (1.26) |
| 2007/08 | 39.2 | 0 |

**Target:** Suggested 63 boardings per capita be set as target in order to equal 100 million boardings by 2015 and assuming a 2% population growth.
**Trend:** Boardings per capita is showing signs of having stabilised over the last two years after declining from 2005. The current level of boardings per capita will only achieve 61.5 million boardings p.a. given a 2% population growth. Boardings per capita therefore needs to be increased in order to achieve the set target.

## Active modes

| *Active modes* | | | | *% Growth* |
|---|---|---|---|---|
| | 2005/06 | 2006/07 | 2007/08 | |
| Walking | - | - | - | - |
| Cycling | NDA | 17,807 | 19,401 | 1.09 |

### Active modes

Methods for measuring walking trips (or trip chains) in the Auckland region are in the process of being developed, using data obtained from census and various regional surveys. The methods must be able to produce results that can be used to compare actual regional outcomes to national and regional targets.

Cycling currently reflects the cycle movements monitored at 77 established monitoring points in the Auckland area which are then converted to AADT figures using a NZTA approved method, which is still being evaluated and refined. Data from this monitoring process, the census data and data from regional surveys will be used to calculate cycle trips, trip chains and trip lengths to compare actual regional outcomes to national and regional targets.

## OBJECTIVE 2: *ASSISTING SAFETY AND PERSONAL SECURITY*

### KPI – Statistics of transport crashes by mode and type of road

**Trend:** In 2007, 76% of total crashes in NZ involving cars and trucks, 75% of total crashes involving motorcycles, 98% of total crashes involving pedestrians and 96% of total crashes involving cyclists occurred on urban roads. Of these 94% of vehicle and truck crashes, 93% of motorcycling crashes, 99% of pedestrian crashes and 95% of all cycling crashes occurred on urban local roads with speed limits of 70km/h or less. Of the crashes on local roads 21% involving cars and trucks resulted in injuries, 72% involving motorcycles resulted in injuries, 91% involving pedestrians resulted in injuries and 71% involving cyclists resulted in injuries.

From the above it should now be clear that it is the vulnerable users who are more susceptible (by a factor of +3.5) to incur injuries during an accident than those in cars and trucks and that it is important to take steps to protect and minimise injuries to these users. It is with this in mind that safety engineering design is being promoted to enhance vulnerable transport users' safety.

## KPI – Casualty statistics for vulnerable user groups and priority action areas

| *Road Crash Data per Year* | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|---|---|---|---|---|---|---|---|---|---|
| *Deaths* | | | | | | | | | |
| Number of Road Deaths (fatal casualties) | 70 | 74 | 84 | 81 | 93 | 77 | 84 | 61 | 55 |
| *Injury crashes* | | | | | | | | | |
| Total casualties (fatal, serious and minor) | 3197 | 3437 | 3834 | 4187 | 4151 | 4175 | 4494 | 4304 | 4232 |
| *Casualties/10,000 Population* | 27 | 28 | 30 | 32 | 31 | 31 | 33 | 31 | 30 |
| *Priority Action Areas* | | | | | | | | | |
| *Alcohol related* | | | | | | | | | |
| Deaths | 17 | 16 | 31 | 39 | 39 | 25 | 26 | 22 | 29 |
| Total casualties | 539 | 525 | 629 | 620 | 660 | 641 | 871 | 701 | 724 |
| *Speed* | | | | | | | | | |
| Deaths | 16 | 28 | 33 | 39 | 51 | 37 | 33 | 23 | 23 |
| Total casualties | 568 | 615 | 603 | 718 | 768 | 701 | 810 | 675 | 722 |
| *Intersections* | | | | | | | | | |
| Deaths | 15 | 13 | 16 | 22 | 14 | 17 | 19 | 12 | 12 |
| Total casualties | 1020 | 1036 | 1268 | 1391 | 1323 | 1314 | 1462 | 1396 | 1454 |
| *Pedestrian Safety* | | | | | | | | | |
| Deaths | 11 | 19 | 14 | 15 | 13 | 8 | 13 | 13 | 6 |
| Total casualties | 349 | 408 | 422 | 430 | 379 | 345 | 371 | 290 | 329 |
| *Motorcycle Safety* | | | | | | | | | |
| Deaths | 4 | 5 | 7 | 8 | 8 | 13 | 7 | 4 | 7 |
| Total casualties | 168 | 169 | 190 | 205 | 192 | 252 | 294 | 355 | 360 |
| *Cycle Safety* | | | | | | | | | |
| Deaths | 2 | 3 | 3 | 1 | 0 | 1 | 2 | 0 | 1 |
| Total casualties | 166 | 154 | 204 | 180 | 179 | 223 | 198 | 192 | 209 |
| *Young driver deaths* | 7 | 8 | 11 | 9 | 17 | 12 | 13 | 6 | 16 |
| Total casualties | 565 | 619 | 671 | 801 | 804 | 801 | 915 | 935 | 866 |

Source: NZTA CAS Safety statistics; Veolia.

Note: The priority action areas represent amixture of crash factors and road user types. As a result the casualty data for each priority area may develop i.e. both speed and alcohol can be a factor in one road death.

**Trends:** The casualties per 10,000 population have been relatively constant over the period 2002 to 2007, which is very similar to the trend line found for fatal and serious casualties due to alcohol, speed and intersection related factors. These factors are mainly controlled by means of road policing. While pedestrian casualties are showing a downward trend since 2004, motorcycle casualties are showing an increasing trend with cycle casualties showing no visible trend for the last six years.

## KPI – User's perceptions of the safety of using different modes of transport (expressed as a percentage)

| *Year* | *2000* | *2002* | *2004* | *2006* | *2008* |
|---|---|---|---|---|---|
| Private transport | 75 | 77 | 77 | 85 | 86 |
| Passenger transport | 62 | 64 | 63 | 69 | 68 |
| Walk | 52 | 56 | 57 | 59 | 57 |
| Cycle | 19 | 15 | 24 | 22 | 26 |
| Motorcycle | - | - | 22 | 24 | 31 |

Source: ARC's Community perception's of transport choices survey. May 2008.

**Trend:** User perceptions of public transport, walking and cycling as being safe have increased marginally since 2000 (6-7%), but are still lacking far behind that of private transport which has increased by double this margin. The increase in user's perception of motorcycling as being more safe than cycling is also quite surprising given the number of fatal and serious accidents in this mode. What is disturbing, however, is the lack of progressive growth in user perceptions regarding the safety of using sustainable transport modes. Over the last six years, this has all but stagnated for walking and cycling, with small growth for PT and motorcycling. This should be seen as a cause for concern if growth in the use of sustainable modes is to be become a reality.

## OBJECTIVE 3: *IMPROVING ACCESS AND MOBILITY*

### *Outcome 1;* More passenger transport trips in the region

## KPI – Transport trips by mode

| *Mode* share | *2001* ('000) | *2006* ('000) | *% Increase (decrease)* | *% of total trips* | *% change since 01* |
|---|---|---|---|---|---|
| *PT* | | | | | |
| - Bus | 26 340 | 28 563 | 8.44 | 5.85 | -0.52 |
| - Rail | 2 418 | 5 646 | 133.50 | 1.16 | 0.57 |
| *Total* | *28 758* | *34 209* | *18.95* | *7.00* | *0.04* |
| Private car | 360 686 | 425 400 | 17.94 | 87.05 | -0.26 |
| Walk | 18 747 | 24 045 | 28.26 | 4.92 | 0.38 |
| Cycle | 4 920 | 5 013 | 1.89 | 1.03 | 0.70 |
| *Total* | *413 111* | *488 667* | *18.28* | | |

**RLTS 2016 target – 11 percent of total trips by passenger transport**
**– 15.5 percent of total trips by active modes**

Note: The information is updated every five years as it is based on census data.

**Identified Trend:** Although both bus passenger trips and private car trips have increased relative to their 2001 values their percentage of mode share has declined. This indicates that bus and car trips did not increase at the same rate (or faster) than the growth in total trips, which in the case of private car travel, is considered good. In the case of buses it could be due to mode switching (from bus to train), service requirements or historic factors (i.e. still recovering from the bus strike in 2005) but it could also be due to other reasons. The increase in the total number of car trips is more than likely due to population growth and growth of the vehicle fleet but this should be seen as assumptions pending updated information.

## KPI – People travelling by PT as a percentage of motorised trips in the Auckland Central Area (AM-peak only)

| *Year* | *2000* | *2002* | *2004* | *2006* | *2008* |
|---|---|---|---|---|---|
| Private transport | 75 | 77 | 77 | 85 | 86 |
| Passenger transport | 62 | 64 | 63 | 69 | 68 |
| Walk | 52 | 56 | 57 | 59 | 57 |
| Cycle | 19 | 15 | 24 | 22 | 26 |
| Motorcycle | - | - | 22 | 24 | 31 |

Source: ARC Passenger patronage report (Screenline 70) *Motorised patronage reports are only done every three years, with the next to be done in 2009.

**Trend:** No conclusions can be made in the absence of total trips with regards to attaining the set target. [ARC annual PT patronage and private car survey audits]

### *Outcome 2;* Increase the level of integration between transport modes

**KPI – Capacity of RTN and QTN/walk and Cycle/integration points**

## KPI - User perception regarding the suitability of various modes of transport for journey to work/study for all or most of their journeys (expressed as a percentage of the survey population)

| *Year* | *2004* | *2006* | *2008* |
|---|---|---|---|
| Private transport | 67 | 68 | 67 |
| Passenger transport | 24 | 25 | 23 |
| Walk | 17 | 16 | 17 |
| Cycle | 11 | 7 | 13 |
| Motorcycle | 16 | 15 | 26 |

Note: Survey done every two years

**Identified Trend:** Private transport is still perceived to be the most suitable mode of transport available. The increase in the perception of cycling and motorcycling as suitable modes of transport to work/study is enlightening, as it indicates that transport users are contemplating mode shifts. The reason for this perception change can more than likely be related to the impacts of fuel price volatility, which may force transport users to experiment with different transport choices. Passenger transport is not seen as being the most suitable for all or even most of work/study trips by three out of four people surveyed. This has serious implications for public transport usage, and the reasons for this have to be established in order to progress. Various steps will also have to be taken to make transport more attractive to users such as:

→ *Integrated ticketing efforts and the cooperation of the partners concerned with the effort*

→ *Integration of facilities – number of stations, park and rides; ferry terminals, etc for interchange to enhance PT travel*

### *Outcome 3;* Deliver public transport services to areas with a transport deprivation index >9

**KPI – Level of transport services delivered to deprivation areas >9**

### *Outcome 4;* Develop a comprehensive walking and cycling network

## KPI – Km of cycle network completed

| *Year* | *Kilometres* |
|---|---|
| 2006 | 42 |
| 2007 | 74 |

**Identified Trend:** The cycle network is growing – mainly due to a push strategy used by Government (MoT) by making funding readily available.

### *Outcome 5;* Affordability of transport system

**KPI – Percentage of household income spend on transport**

| *Year* | *Auckland* | *New Zealand* |
|---|---|---|
| 1998 | 15.72 | 17.9 |
| 2001 | - | 15.9 |
| 2004 | - | 16.0 |
| 2007 | 14.24 | 14.2 |

Source: Stats NZ. Three yearly Household Expenditure Survey.

**Identified Trend:** While the percentage of household income spent on transport has declined, given the scarcity of data (two points) it is difficult to identify a trend at this time.

## OBJECTIVE 4: *PROTECTING AND PROMOTING PUBLIC HEALTH*

### *Outcome 1;* Protect the air quality

**KPI – Number of one hour NO2 exceedances (> 200 µm/m3) per annum in Auckland**

| *Year* | *2006* | *2007* | *% Increase(decrease)* |
|---|---|---|---|
| Exceedances | 1 | 11 | 1100 |
| Standard | 9 | 9 | |
| Target | 0 | 0 | 0 |

**Identified Trend:** Every one of the eleven exceedances occurred in Queen Street during reconstruction of the road. It is suspected (not proved) that the exceedances were mainly due to the use of diesel powered equipment and construction vehicles.

### *Outcome 2;* Develop and implement plans to enhance public health

**KPI – Number of TravelWise plans initiated at organisations and percentage reduction in car trips**

**KPI – Savings due to implementation of sustainable transport plans**

**Target:** 15.5 percent of the total trips to be by active modes.

*Determined by means of the AADT method (LTNZ). Based on a morning peak of 4,358 and an evening peak of 4,661 cycle movements on a clear day.

**Identified Trend:** Patronage of the active modes is increasing and should continue to grow in the foreseeable future. The workplace travel plans that are being implemented to incorporate universities and major employment groups to support walking and cycling will contribute to a large extent in this regard.

### *Outcome 3;* Control noise and vibration impacts caused by transport

**KPI – Number of noise exceedances (> ?dB) per annum in Auckland**

**KPI – Number of vibration exceedances (> ?Hz) per annum in Auckland**

Note: At present, the impact from noise (measured in decibel) and vibration (measured in hertz) resulting from transport induced activities are not being measured or monitored by local authorities or NZTA in the region.

## OBJECTIVE 5: *ENSURING ENVIRONMENTAL SUSTAINABILITY*

### *Outcome 1;* Transport's use of energy resources

**KPI – Bio and fossil fuel used per VKT and per capita**

| *Year* | *Litres/VKT* | *Litres/capita* |
|---|---|---|
| 2005/6 | 0.1347 | 1153 |
| 2006/7 | 0.1353 | 1150 |
| 2007/8 | 0.1271 | 1174 |

**Identified Trend:** On average, 13 litres of fuel are used per 100 VKT which seems to be on the high side. However, if the assumption is made that a vehicle uses 8l/100km, the 1150 litres will give an annual distance of 14,375km which seems to be average. The decline in litres/VKT could be attributed to an increase in the efficiency of the fleet within the region. The litres per capita data shows an increasing trend, which could be attributed to the decrease in fuel prices in the first part of the monitoring period.

### *Outcome 2;* Roads fitted with storm water treatment

**KPI – Number of stormwater treatment devices per kilometre**

### *Outcome 3;* Regional number of single vehicle trips

**KPI – Number of single occupancy vehicle trips in the region**

### *Outcome 4;* Regional annual motor vehicle kilometres travelled (VKT) local and highways

**KPI - Total motor vehicle kilometres travelled (VKT)**

| *Year* | *Total (Million km)* | *Local (Million km)* | *Highways (Million km)* |
|---|---|---|---|
| 2006 | 11,734 | 7,644 | 4,090 |
| 2007 | 11,853 | 7,767 | 4,086 |
| 2008 | 12,999 | 7,899 | 5,100 |

**Identified Trend:** There was a slight decline in VKT in 2007, followed by an increase in 2008. The impact of fuel price increases at the end of 2008 can be seen in the decline in highways VKT but there is still an increase in local VKT. Any further movement in VKT due to fuel price volatility will only become 'visible' in the 2009 year.

## OBJECTIVE 6: *SUPPORTING THE AUCKLAND REGIONAL GROWTH STRATEGY*

### *Outcome 1;* Percentage of people and employment opportunities within the regional growth nodes

### *Outcome 2;* Walking and cycling capacity available in and between key centres

### *Outcome 3;* Service frequency of passenger transport services between key centres

## OBJECTIVE 7: *ACHIEVING ECONOMIC EFFICIENCY*

**KPI – Gross transport cost per passenger**

**KPI – Transport revenue and subsidies per mode of public transport (actual $ values)**

**KPI – Projects delivering forecasted outcomes (following project completion) within budgeted costs**

No outcomes are available at this stage due to lack of monitoring and data. Need list of projects completed e.g. Northern Busway and compare the budgeted with actual costs as well as projected benefits with actual benefits. LTNZ is currently revising the LTP programme to include some of the data requirements.

**KPI – Funding allocated versus funding spend**

# *GLOSSARY*

| | |
|---|---|
| *ARC* | Auckland Regional Council |
| *ARTA* | Auckland Regional Transport Authority |
| *ATP* | Auckland Transport Plan |
| *ATSAP* | Auckland Transport Strategic Alignment Project |
| *GPS* | Government Policy Statement |
| *LGAAA* | Local Government (Auckland) Amendment Act 2004 |
| *LTCCP* | Long Term Council Community Plan |
| *LTMA* | Land Transport Management Act 2003 |
| *NLTP* | National Land Transport Programme |
| *NZTA* | New Zealand Transport Agency |
| *NZTS* | New Zealand Transport Strategy |
| *PTNP* | Passenger Transport Network Plan |
| *QTN* | Quality Transit Network |
| *RLTS* | Regional Land Transport Strategy |
| *RTN* | Rapid Transit Network |
| *RTPIS* | Real Time Passenger Information System |
| *SHF* | State Highway Forecast |

## Useful websites:

| | |
|---|---|
| *Auckland Regional Council* | www.arc.govt.nz |
| *Auckland Regional Transport Authority* | www.arta.co.nz |
| *Northern Busway* | www.busway.co.nz |
| *KiwiRail* | www.kiwirail.govt.nz |
| *RoadSafe Auckland* | www.roadsafeauckland.org.nz |
| *Auckland City Council* | www.aucklandcity.govt.nz |
| *Franklin District Council* | www.franklin.govt.nz |
| *Manukau City Council* | wwwmanukau.govt.nz |
| *North Shore City Council* | www.northshorecity.govt.nz |
| *Papakura District Council* | www.pdc.govt.nz |
| *Rodney District Council* | www.rodney.govt.nz |
| *Waitakere City Council* | www.waitakere.govt.nz |
| *New Zealand Transport Agency* | www.nzta.govt.nz |