SUSTAINABLE TRANSPORT PLAN

2006-16

ARTA

Auckland Regional Transport Authority

www.arta.co.nz

ARTA

Auckland Regional Transport Authority

www.arta.co.nz

ABOUT THE PLAN

This Sustainable Transport Plan sets out the actions needed to deliver the Sustainable Transport component of the Regional Land Transport Strategy (RLTS), to be implemented over the next 10 years, to 2016.

ARTA will work in partnership with all transport agencies in Auckland to deliver the activities in this plan.

This partnership starts at the planning stage, and the Sustainable Transport Plan has been prepared with input from the Regional Walking and Cycling Group, the Regional Stakeholder Group for School Travel Plans, the National Travel Behaviour Change Group, Roadsafe Auckland and many other groups, agencies and individuals.

Detailed submissions were received from 47 organisations and individuals in the consultation phase, and these submissions have resulted in the following significant changes to the plan:

> The plan now includes a definition of Sustainable Transport, and its scope and relationship to other plans is clarified,

> Links between land use planning and Sustainable Transport are clarified, and a new section (Section 13) on land use planning is included,

> Town Centre Transport Plans have been renamed Neighbourhood Accessibility Plans to align with Land Transport NZ's methodology. The list of priority neighbourhoods has been revised to align with the work done for the Regional Policy Statement,

> The map of the Regional Cycle Network has been replaced with an improved map following close consultation with Territorial Authorities,

> A new chapter on Tertiary Travel has been included,

> Information on Travel Management Associations has been included within the Workplace Travel section,

> The needs of older adults and people with disabilities are recognised by promoting Neighbourhood Accessibility Plans,

> There are more case studies, giving real examples of the concepts underpinning the plan.

This is the first Sustainable Transport Plan prepared anywhere in New Zealand, and sets out a programme that is comprehensive and ambitious by world standards. Yet already we are succeeding – through School and Workplace Travel Plans there are around 3,200 fewer car trips each morning, well on the way to our 10-year goal of shifting 20,000 trips.

This result is due to the combined efforts of all Auckland transport agencies, and of schools, employers and individuals across the region. Now that we have a clear, agreed plan, we expect our efforts will be better co-ordinated and even more successful.

Published in February 2007 by:
The Auckland Regional Transport Authority
Private Bag 92 236
Auckland Mail Centre, Auckland 1142, New Zealand
ISBN: 10: 0-9582719-5-X
13: 978-0-9582719-5-0

This document is available on the ARTA website: www.arta.co.nz

CONTENTS

FOREWORD

ARTA's Sustainable Transport Plan is the first of it's kind for the Auckland region. The impact on our planet of the effects of global warming is currently at the forefront of thoughts. New Zealanders in particular are thinking very seriously about the impact we make on our environment and reviewing the steps we can undertake to minimise that impact.

The impact of Auckland's car congestion with respect to the levels of harmful CO_2 emissions and their resulting effect on the environment and on our children's health with respect to the high levels of asthma in the city, are obvious. Taking public transport, walking and cycling are all straightforward ways we, as individuals can adopt to make our contribution to increasing sustainability and the betterment of the health of our families.

Sustainability underpins and is incorporated into all of ARTA's activities. Our aim is to change the behaviour of Aucklanders with respect to car usage by providing Auckland with a working transport system and by helping Aucklanders understand the transport choices available to them.

By necessity and due to a history of decades of lack of investment in transport infrastructure in Auckland, this will be a step by step change. However, in the past two years, changes are taking place. The Northern Express bus services, which was introduced in November 2006, reached a high of 79,000 passenger journeys in one month. A survey of users of the services- showed that 39 per cent of the users were first time public transport users who had previously relied on their cars. These people intended to continue to use the service as a fast, easy way, with no parking charges, to get to and from Auckland's CBD. Rail patronage continues on the up, with 1.2 million more train journeys taken in 2006 than in the previous year. Auckland's Walking School Buses are now an iconic part of the city. While the national trend for children being driven to school in the family car has increased, Auckland's figures show the opposite. The contribution of Walking School Buses to the mental and physical health of our children, cannot be underestimated. Overall, 28 million car journeys a year are now being taken off Auckland's roads due to an increase in use of more sustainable forms of transport than the private car.

This plan is not ARTA's alone. It is the work of the combined efforts and willingness from the Auckland Regional Council, Auckland's seven local authorities, Auckland's schools, parents, Transit New Zealand, Land Transport New Zealand and ONTRACK to make a sustainable difference to transport in Auckland.

The co-operation shown to us by those working in this complex transport mix, has only been positive and supportive. We look forward to continuing to develop and grow those relationships and partnerships as we all move forward in developing an effective transport solution for Auckland and Aucklanders.

Brian Roche
Chairman
Auckland Regional Transport Authority

PART 1
THE PLAN IN OUTLINE

1. INTRODUCTION

This Sustainable Transport Plan sets out a 10-year programme of scoped and costed projects and practical actions which will help Aucklanders to make safer and more sustainable travel choices.

Most of the effort and planning in transport goes into infrastructure (roads, railways and bus stations) and services (buses, trains and ferries). The third fundamental component of the transport system is people; specifically the transport choices of individuals, and of their schools, workplaces and neighbourhoods. Understanding and influencing these choices is an essential component of Auckland's overall plans to achieve a world-class transport system.

Sustainable Transport is defined in this plan as: Working with people and their communities to improve travel opportunities and to encourage people to make fewer car journeys.

The plan aims to integrate sustainable transport activities with each other and with planned improvement to infrastructure and services. Walking, cycling, passenger transport and vehicle networks are all part of an overall transport system, and need to operate in an integrated way and to improve in response to local needs. Getting this to happen, in a way that contributes to regional and national goals, requires working across multiple agencies and developing new ways of sharing costs, managing risk, and evaluating success.

Planning context

Auckland's Regional Land Transport Strategy (RLTS) details the way forward for the region's transport system for the next 10 years. It outlines what is needed to achieve a land transport system that can cope with the additional demands placed on it by more people and business. It sets regional objectives and policies that provide a framework for transport planners and service providers in the Auckland region.

The RLTS is prepared within the framework set by legislation, by national strategies and by the Regional Growth Strategy and the Regional Policy Statement, as set out in Appendix A. The RLTS recognises the need to make major improvements to roading and passenger transport over the next 10 years, but also states that the benefits of these investments will not be realised unless steps are taken to manage an ever-increasing demand for car travel. The RLTS proposes a significantly increased investment in demand management activities, from the current level of around $10 million per year, to an average of $42 million per year for the next 10 years. This investment is expected to divert 20,000 car trips each morning peak to walking, cycling and passenger transport; and is over and above the patronage

Table 1.1 Scope of travel demand management in the Auckland Regional Land Transport Strategy – activities in bold are included in this plan

Objective	Strategy	Relevant planning documents
Reduce need to travel	Land use – intensification Mixed-use developments Telecommunications infrastructure	Regional Policy Statement, District Plans Regional Economic Development Strategy
Provide for travel choices	Allocation of road space (to PT, walking, cycling, high- occupancy vehicles) Improved passenger transport services **Improved walking and cycling networks**	Regional Arterial Road Plan Passenger Transport Network Plan
Influence travel choices	**School Travel Plans** **Workplace Travel Plans** **Neighbourhood Accessibility Plans** Improved information on travel options	**Sustainable Transport Plan**
Pricing	Regionally/nationally agreed parking controls Congestion pricing Tolling of existing roads	Ministry of Transport's Land Transport Pricing Study

Source: Auckland Regional Land Transport Strategy 2005, amended to add relevant planning documents

increase expected from the passenger transport system improvements set out in ARTA's Passenger Transport Network Plan.

A key conclusion of the RLTS – and of transport strategies and studies worldwide – is that building roads cannot, on its own, reduce traffic congestion or deliver a transport system that meets wider environmental and social goals. A range of demand management activities is needed to contribute to an integrated, safe, responsive and sustainable land transport system. These activities range from land use planning to road pricing, as shown in Table 1.1.

Integrated land use and transport planning is key to delivering sustainable transport and land use solutions. Land use changes occur over a long timescale but are ultimately the most important factor determining travel choices. 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 to travel by private cars, making it safer and easier for people to access employment, shopping, leisure facilities and services by passenger transport, walking and cycling, and ensuring capacity for key freight movements is available within the transport system.

The RLTS sets regional objectives and policies to provide the framework for transport planning in the Auckland region. Figure 1.1 shows the inter-relationships between the region's strategies, plans and programmes including those ARTA has established to fulfill its role within the Auckland transport environment.

The Auckland Transport Plan (ATP) provides the overall framework to integrate multiple programmes. It is a long-term multi-modal integrated implementation plan, and is due to be released in 2007. The Sustainable Transport Plan, Passenger Transport Network Plan, Regional Road Safety Plan and Regional Arterial Road Plan are all key inputs into the ATP. Other agency plans such as Long Term Council Community Plans, Transit New Zealand's State Highway Forecast and ONTRACK's 10-year Rail Network Development Plan are also key components of the ATP.

The ATP provides for the preparation of annual programmes using a consistent integrated approach and will be used to prioritise projects and packages within the Auckland Land Transport Programme.

The activities covered in this Sustainable Transport Plan make up around four per cent of total transport expenditure, but will contribute significantly to the overall ATP. The proposed investment in walking and cycling, School and Workplace Travel Plans, and Neighbourhood Accessibility Plans has benefits for the environment and the economy, and will build partnerships with local communities.

Targets

The Regional Land Transport Strategy sets targets for the diversion of vehicle trips to other choices, as set out in Table 1.2 below. The overall target is to reduce the number of vehicle trips each morning peak by 20,000. This will halve the anticipated increase in vehicle traffic on Auckland's roads.

The specific targets from the RLTS set out in Table 1.2 are based on Auckland travel patterns, predictions of achievable success levels based on local and international experience, and 2016 projections of population, employment and school and tertiary rolls. The activities in this plan aim to increase walking and cycling, and will also lead to greater use of passenger transport.

Through the development of Travel Plans, the overall target of diverting 20,000 morning peak journeys – equating to just over 200,000 vehicle kilometres travelled per day[1] – is achievable. The Travel Plan programme is already well underway and the results to date are equal to, or higher than, the level of success anticipated in the RLTS.

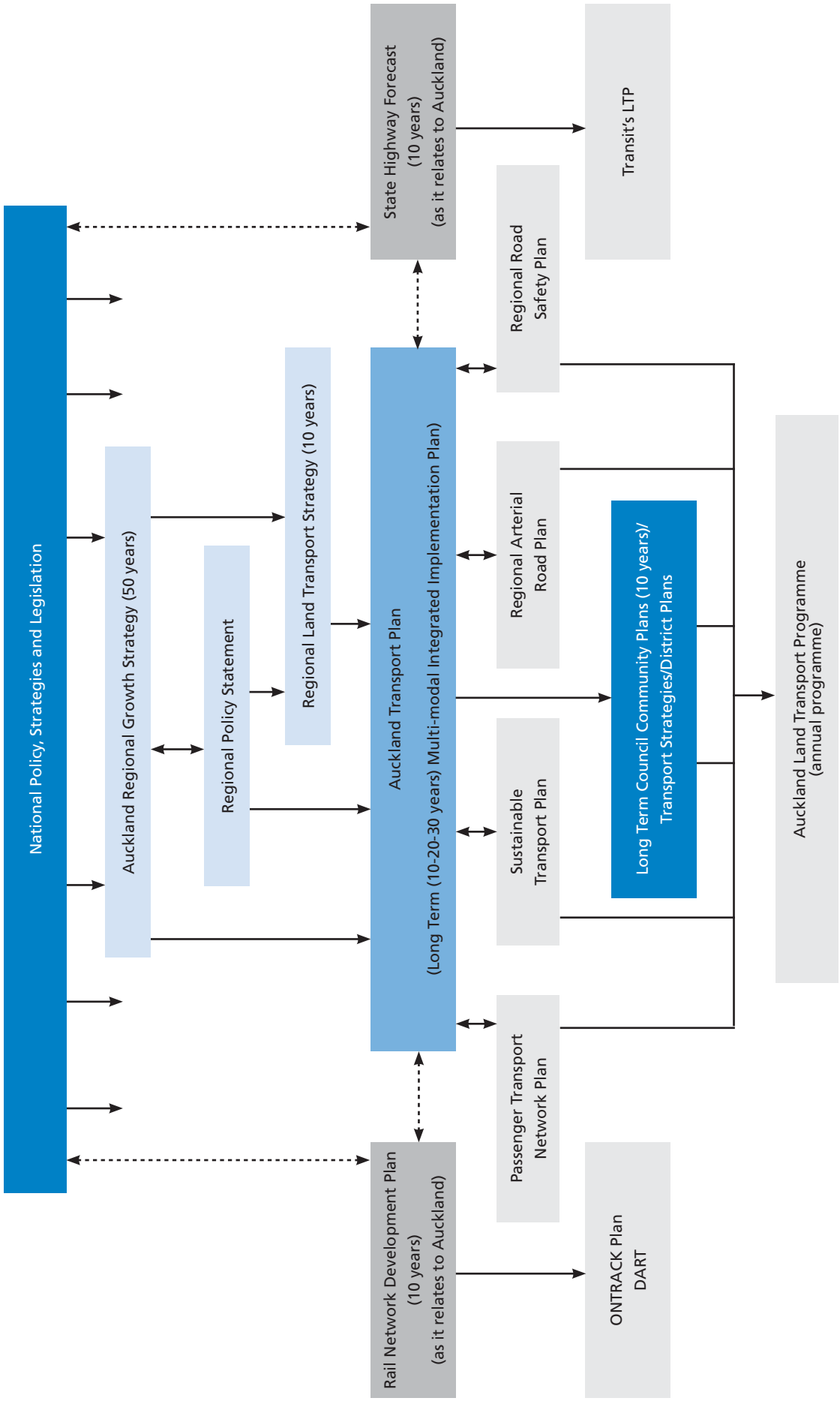
This strategy also seeks to guide investment in walking and cycling infrastructure to the areas where more people are likely to walk and cycle to achieve the RLTS targets for walking and cycling.

Table 1.2 2016 outcome targets from Regional Land Transport Strategy

Measure		Strategy	Target
Networks			
Improved walking networks		Targeted walking improvements in CBD & 17 other town centres	15.5% of trips by walking or cycling
Improved cycling networks		Complete 50% of regional cycle network	
Plans			
Travel Plans	School	9% reduction in car trips to school (equivalent to 5.5% of the school roll ceasing to travel by car)	7,800 fewer car journeys to primary schools each morning peak 4,800 fewer car journeys to secondary schools each morning peak
	Workplace/Tertiary	Reduction in car trips to participating workplaces & tertiary institutes totalling 90,000 employees/students	3,500 fewer car journeys each morning peak
Neighbourhood Accessibility Plans		3% reduction in car trips from targeted centres	3,900 fewer car journeys each morning peak, & 2,600 fewer interpeak journeys
		Total Impact:	**20,000 fewer morning peak car journeys to school, work & in the community**

Source: Auckland Regional Land Transport Strategy

Figure 1.1 – Plans and Strategies' relationships to the Sustainable Transport Plan



Long term outlook

The Regional Land Transport Strategy is Auckland's plan to develop transport over 10 years. In the longer term, walking, cycling and travel planning will become better integrated into overall transport activity. Roading and passenger transport networks will themselves need to be made more sustainable. The traditional approach to transport planning of 'predict and provide' cannot support the forecast levels of growth in the Auckland region. Building new roads, upgrading existing roads, and subsidising passenger transport are all necessary, but unsustainable in the long run as:

> Improvements in the road system reinforce the tendency for people and businesses to move further out from the centre, leading to increased traffic levels,

> Road controlling authorities are unable to create enough new road capacity to meet demand, as the financial, social and environmental costs of road building become unsustainable, especially in urban areas,

> Current road and rail improvements are using corridor space set aside generations ago. Once these are completed any major new transport capacity will come at a much higher price.

Petrol and diesel prices are likely to increase[2] and this, along with new funding mechanisms such as road pricing, could prompt people to make more sustainable travel choices – provided they have other safe ways to travel that meet their needs.

Travel Plans, along with public transport investment, have the potential to provide people with more sustainable transport choices and mitigate the economic consequences of a rise in the cost of car travel.

For now, the focus of the plan is to set out an achievable work programme with a strong monitoring focus, to demonstrate the benefits of a sustainable transport approach. This in turn will help make a case to further increase investment in the activities set out in this plan, and broaden the scope of such activities in future. The plan will be reviewed every three years to ensure it remains relevant and responsive to new ideas to improve sustainable transport for Auckland, and aligned to the RLTS.

CASE STUDY 1: VODAFONE NZ

Vodafone NZ was one of Auckland's first organisations to begin a Workplace Travel Plan, in early 2004. Vodafone needed to relocate their 1,100 Auckland staff and worked closely with ARTA to find ways to help staff get to and from their new office location in the Viaduct, without needing to provide expensive additional car parking.

The resulting i–commute programme became a catalyst for staff to reconsider how they travelled. i–commute Project Manager Annette Culpan said "We wanted to ensure that the travel plan fitted really well with our culture and brand – i–commute had to push the boundaries of conventional travel plans, be totally fresh, be great for our people and for the environment."

Two years on, i–commute is a central part of corporate culture. The company provides information, incentives and discounts to staff who catch the bus, train or ferry and who walk, run and cycle to work.

The success of the plan is shown by the numbers of Vodafone staff who drive alone to work, which has reduced from 52 per cent to 45.5 per cent. Twenty per cent of staff now arrive at work by passenger transport, up from 13 per cent in 2004.

The plan has saved car parking costs and provided benefits for employees, but the major benefits are to the wider community. This fits perfectly with Vodafone's corporate culture of 'passion for the world around us'.

The community benefits realised by the Vodafone travel plan are valued at $130,000 per year*, made up of:

> Reduced congestion which saves other road users $64,000 per year,

> Fewer road crashes due to reduced car use valued at $21,000 per year,

> Environmental and health benefits from reduced car use valued at $45,000 per year.

The next step of the travel plan will be to implement rideshare matching software to make it easy for Vodafone staff to arrange to share rides to work.

Photograph courtesy of Vincent Kar and JASMAX.

*The monetary values used to calculate these benefits are the same as those used to calculate the benefits of the entire Sustainable Transport Plan, and are set out in Appendix B.

2. THE SUSTAINABLE TRANSPORT PLAN

The Sustainable Transport Plan outlines the strategies that will achieve the Regional Land Transport Strategy's targets. This section gives an overview of all of the proposed Sustainable Transport activities, each of which involves working with people who are likely to change their behaviour and reduce their car use. The methodology for identifying the target groups and detailed activities is set out in Part 2 of this plan.

Walking

Walking is the natural choice for short journeys. Currently around 40 per cent of short journeys (less than 2km) are made on foot[3].

The most common short journeys are to school, within the CBD and to and around town centres.

Journeys to school are especially important. A clear majority of primary school children want to walk or bike to school[4], and there are important lifetime health benefits from this. Communities which are safe and walkable for children are safer for everyone, encouraging people of all ages to walk. The School Travel component of this plan sets out a process for making walking to school safer and more enjoyable for children, by working closely with school communities.

Well-designed town centres around the world are safe and pleasant places, where people often choose to walk. The high proportion of walking trips in these areas means people have a choice to live in urban environments with less parking and quieter roads.

Auckland is intensifying rapidly, with many more people living and working in the CBD and in town centres, but there is little evidence of the vibrant street life and safe pedestrian environment described in regional and local strategies. The Neighbourhood Accessibility section of this plan identifies the priority areas for walking investment, and sets guidelines for planning and implementing improvements that will make walking a better choice, particularly for short trips. The Passenger Transport Network Plan sets out the improvements which will create better links between town centres.

Walking is especially important in low-income communities where access to a car, and the cost of petrol, create a real barrier to accessing work, education and social services. Provided that the basic urban design is right, and that services are available within walking distance, there should be a wide range of transport and social benefits from walking investments in low-income areas.

CASE STUDY: BIKE BUDDIES

To get more young people off four wheels and onto two, ARTA is working with intermediate and secondary schools to set up Bike Crews and Bike Buddies.

Bike Buddies encourages existing cyclists to mentor a friend to start cycling. Together the young people bike to and from school, with the new cyclist learning new skills or touching up their existing road skills. Teaching young people to bike safely is vital, and the programme places a strong emphasis on having safe bikes and safe cycling habits. Bike checks for both existing and new cyclists are mandatory, as are talks on traffic safety by the NZ Police. Parents are encouraged to plan safer routes to and from school with their children and to speak with them about road safety.

The Bike Crew programme helps cyclists to learn about student leadership. Each Bike Crew works with the school management to make the school a more cycle-friendly place, for example by improving cycle parking or allowing cyclists to change into school uniform after they arrive at school.

Cycling

The Regional Land Transport Strategy sets a target of increasing walking and cycling to 15.5 per cent from the current 15.1 per cent. It also sets an aim of increasing walking and cycling in centres by 63 per cent.

Cycling currently accounts for around one per cent of all morning peak trips. Cycling investment presents a cheap and health promoting alternative to car use, particularly for mid range trips (2-5 km) or trips to access passenger transport. The activities included in the cycling programme aim to increase cycling as a percentage of peak trips by a further one per cent.

The main obstacle to cycling is its perceived poor safety record – over half of Aucklanders believe it is usually unsafe, or always unsafe, to cycle. New infrastructure needs to be safe, and needs to be in places where it will be used not only by those who currently cycle but also by the 'next one per cent' – those who are most likely to take up cycling.

People will cycle more if the facilities available are coherent, direct, attractive, safe and comfortable. The Cycling section of this plan sets out where new cycle facilities are most needed, what types of cycle facilities are expected to be most effective in increasing cycling, and how cycling numbers will be monitored to evaluate success.

Travel Plans

The Travel Plan process enables schools, workplaces, neighbourhoods and individuals to better understand current travel choices, and to find ways to make sustainable transport choices more attractive. Auckland's worldclass TravelWise programme is based on similar programmes in the UK, Canada, Europe and Australia.

While each Travel Plan is unique, the founding principles are common to all:

> A commitment to reducing car use overall (although the reasons for doing this vary widely),

> Actions to help shift travel choices (usually a combination of engineering, education, enforcement and encouragement),

> A system for monitoring the results of the plan and for continuous improvement.

ARTA is assisting in the preparation of Travel Plans by defining the process, and providing generic tools and templates for key stages. This is known as the "TravelWise" process and is set out in Figure 2.1. It applies to School and Workplace Travel Plans and to Neighbourhood Accessibility Plans.

School Travel Plans

Trips to school make up around a third (36 per cent[6]) of all morning peak trips in Auckland, and just over half (54 per cent[7]) of these trips are made by car.

Auckland's urban schools were never designed or located with this level of car use in mind. As well as causing congestion which impacts across the roading network, car trips to school cause problems for the schools themselves. Traffic and parking issues, local air pollution, the risks to child pedestrians and cyclists, and the decline in children's health and fitness are pressing concerns for schools, parents and communities. There is no need to compel schools to participate in Travel Plans; the issue is whether ARTA and local councils can keep up with demand.

A School Travel Plan involves regular surveys of children's travel patterns and can provide accurate data on travel choices. This component of the programme has already proved its effectiveness. To date, four Auckland schools (Fruitvale Primary, Glamorgan Primary, St Mary's (Northcote) and Verran Primary) have achieved a reduction in car trips of 10 per cent or more, and there has been a 3.8 per cent decrease in car trips and a 3.6 per cent increase in walking to TravelWise schools[8]. At the end of October 2006, 110 schools had developed, or were developing, Travel Plans.

The Walking School Bus network forms part of this programme; already over 3,800 Auckland children walk to school each morning on a Walking School Bus[9].

Workplace Travel Plans

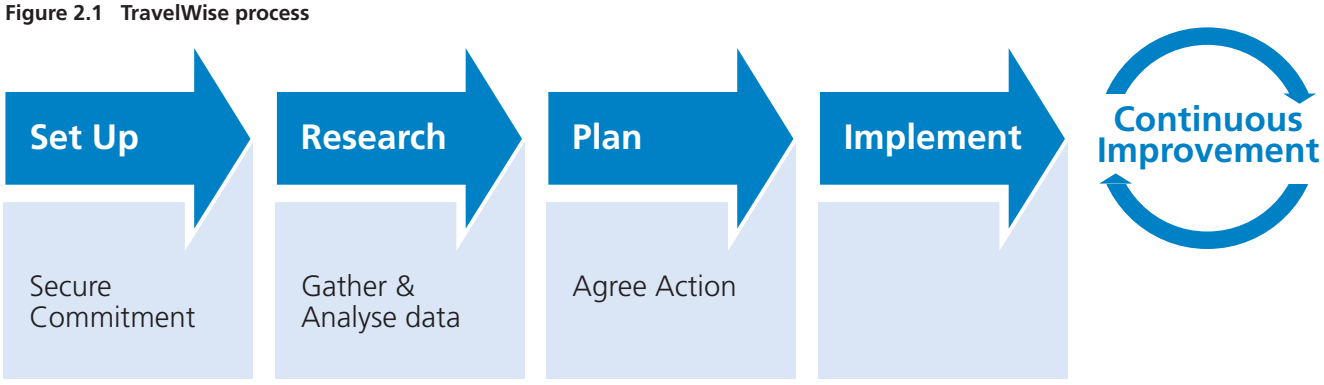
Workplace Travel Plans aim to provide better choices for travel to work or study, smarter options for in-work travel, and a better understanding of the real costs of different travel choices.

Trips to work make up just over half (54 per cent)[10] of morning peak trips and are the most significant contributors to congestion. The 2001 Census shows that most cars travelling to work (93 per cent) have only a single occupant, and this creates traffic and parking problems for the employer as well as for workers and visitors.

There are a wide range of tools to reduce car trips to work and study, including better facilities for pedestrians and cyclists (showers, lockers, cycle parking, etc), promotion and subsidy of public transport, and encouraging ridesharing, working from home (teleworking) and teleconferencing. Flexible working hours and better systems for in-work travel also reduce the impact of work travel on the road network by shifting demand out of peak times. Travel Plans are especially useful for workplaces which are relocating or which have a parking shortage.

Large Auckland workplaces are enthusiastically taking up the opportunity to prepare Travel Plans. Since ARTA began work with Vodafone in 2004, the concept has spread very rapidly; already two universities and 20 workplaces totalling over 65,000 students and employees are actively developing Travel Plans. Many TravelWise workplaces are local councils and transport consultancies; this sets a strong foundation for the expansion of the programme as these organisations will then be able to use their experience to advise others.

Figure 2.1 TravelWise process



CASE STUDY: LEARNING QUARTER

Each day during semester time, around 45,000 students and staff travel into and around Auckland City's Learning Quarter which is made up of the University of Auckland and AUT University. The significant size of the universities' travelling population, and the location of the Learning Quarter mean that actions making it easier for staff and students to travel have benefits for the rest of the City's commuters.

ARTA is working together with the Universities, Auckland City Council and Transit NZ to develop Auckland's first Tertiary Travel Plan.

Following the TravelWise process, the research phase has included interviews and workshops (with staff, students and council planners), a review of infrastructure and services, as well as a survey of over 6000 students, this survey has highlighted significant differences between student and work-place commuters, particularly in how and when they travel.

One particular difference is the high number of passenger transport users amongst students, 45 per cent compared to 19 per cent for CBD workers. Students travelling to the Learning Quarters are much less reliant on cars, 10 per cent travelling to the CBD by a single occupant car versus 64 per cent for CDB workers.

The research shows a significant number of students, 88 per cent, already using sustainable forms of transport (passenger transport, walking, cycling and car pooling).

In a time of fluctuating fuel prices, and changing perceptions of passenger transport, the challenge is to maintain and increase these numbers into the future while ensuring that journeys are also made easier for those who need to drive.

The Universities' Travel Plan (UTP) is, therefore, looking at improvements to infrastructure, services, ticketing arrangements, information and marketing to help tertiary travellers make more informed decisions about their trips. From these a wide range of recommended actions are being developed which will form the basis of the UTP.

The TravelWise programme aims for continual improvement, and the findings from the UTP have already helped in the development of other programmes and plans.

Neighbourhood Accessibility Plans

All of the priorities in the Sustainable Transport Plan come together in Auckland's intensifying town centres and neighbourhoods, where the need for transport improvements, and the opportunity to provide for more walking, cycling and passenger transport opportunities in a cost effective way, coincide.

A comprehensive, integrated Sustainable Transport Plan for a defined community, aligned with improvements to walking and cycling environments and better passenger transport services, is likely to bring about more change than a piecemeal approach. Neighbourhood Accessibility Plans are large and complex projects which include School Travel Plans for local schools, Workplace Travel Plans, targeted marketing of transport choices to residents and small businesses, and involving local communities in the specification of walking and cycling improvements. The process draws on local council expertise, ARTA's experience with large Travel Plans, and the Safer Routes community road safety programme developed by Land Transport NZ.

Working in a defined town centre makes it possible to measure the benefits of the investment made. One of the perennial problems of walking investment is the difficulty of counting pedestrians and hence measuring project benefits for walking projects. By integrating walking investment with Travel Plan activities, the effectiveness of the programme can be measured through regular surveys of schools and workplaces in the area. The systematic involvement of residents, workplaces and families in Travel Plan areas will also help to shape infrastructure projects to meet community needs.

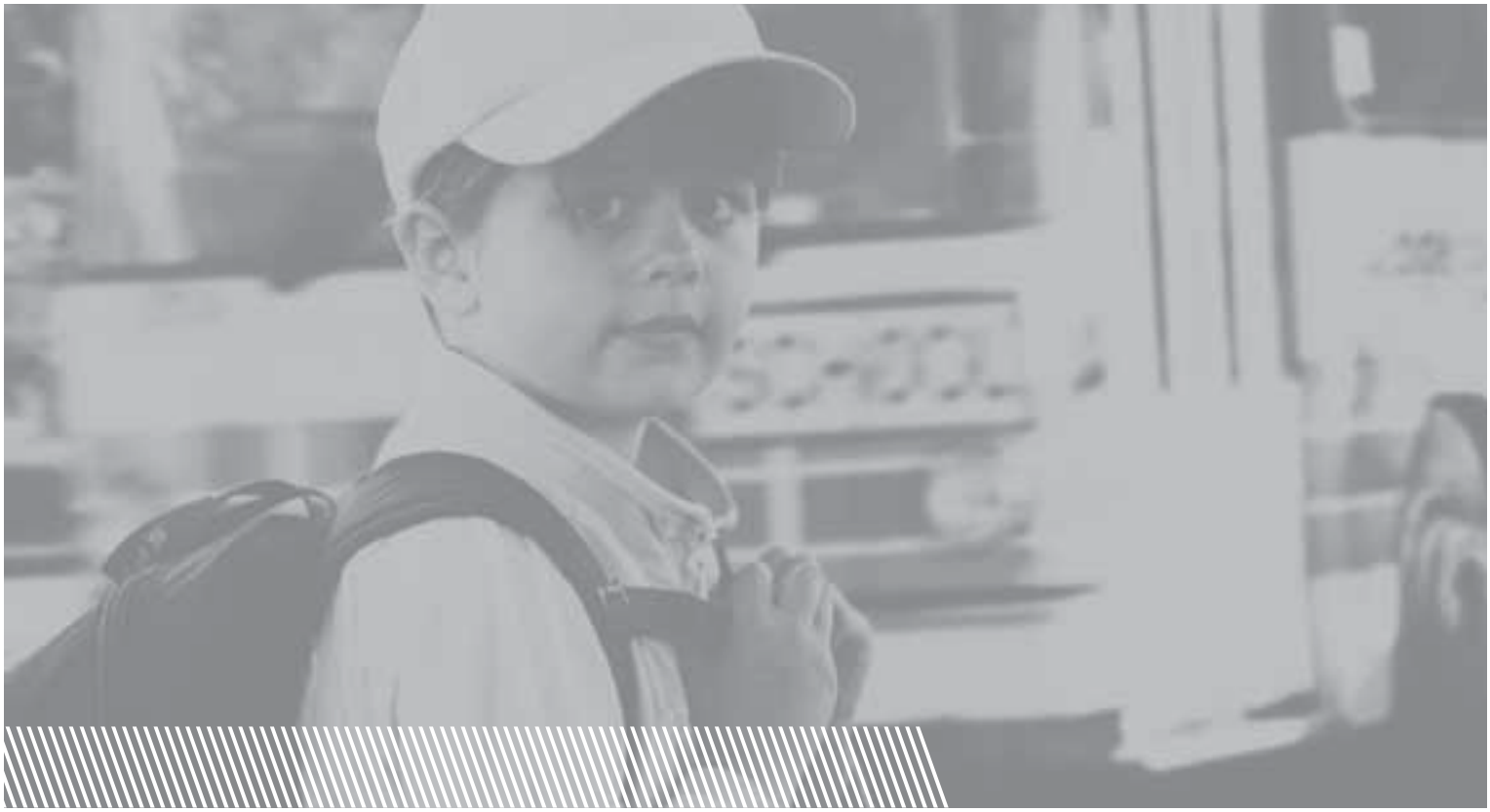
Land Use Guidelines

New developments and redevelopments represent a one-off opportunity to build communities which have a choice of sustainable transport options from the outset.

Auckland's Regional Policy Statement (RPS)[11] requires that land use and transport planning be integrated in a way that reduces the need for private vehicle travel and significantly increases the amount of travel made by passenger transport, walking and cycling. Local District Plans need to be consistent with the RPS, and should include design criteria to ensure that new roading layouts provide for passenger transport and cycling, and that each new development provides a safe and pleasant environment for walking. New developments also need to link in a logical way with the existing transport network in the area.

Many of the negative environmental and social impacts of new developments can be avoided if the number of cars accessing the development are managed. More people accessing the development by passenger transport, walking and cycling means less traffic, noise and air pollution. Good urban design for new developments can enhance the performance of the passenger transport network and promote the vitality and viability of nearby town centres and neighbourhoods.

Section 13 of this Plan sets out ARTA's principles for integrating land use and transport planning.



Safe and Sustainable

The Regional Road Safety Plan includes the target, set nationally through the Road Safety 2010 Strategy, of reducing deaths and hospitalisations from the current level of 800 per year, to 670 or fewer per year by 2010[12]. The RLTS makes provision for Auckland's share of the national reduction to be achieved by 2016 by allocating a significant component of expenditure to improving rural and urban arterials, where 80 per cent of the region's road trauma occurs. The funding allocation for local roads in the RLTS was significantly increased to provide for this.

Current safety projects, as set out in the Regional Road Safety Plan, will also continue. This includes the current funding allocation to minor road safety works, as well as current enforcement projects and increased education efforts.

Safety improvements will need to be integrated with traffic management projects and maintenance projects. Detailed planning of how this will occur will be undertaken through the Regional Arterial Road Plan, which is currently under development.

Road safety and personal safety are key factors people weigh up in choosing how to travel. Yet when people choose to travel by car because of a real or perceived safety benefit, they increase risk for other road users. Significant long term safety benefits can be achieved by encouraging travel by passenger transport, walking and cycling[13].

The Sustainable Transport Plan has the target of increasing walking and cycling while reducing overall road trauma. This will be achieved by:

> providing for engineering improvements in support of School Travel Plans, including refuge islands, crossings, speed humps, bus bays and other minor improvements on local roads

> undertaking walking and cycling improvements in the CBD and town centres, and

> constructing 50 per cent of the regional cycle network.

Taken together, the safety improvements specified in the Regional Arterial Road Plan, the Regional Road Safety Plan, and this Sustainable Transport Plan form a comprehensive set of actions which will address the priority road safety issues across the region and support the other goals of the RLTS.

Effective travel demand management programmes will improve regional road safety in four ways:

1. Improving safety through better engineering supported by education and enforcement

   The priority is to make pedestrians and cyclists safer, so that the choice to walk or cycle becomes more attractive. Safety in numbers also contributes to safer environments.

2. Reducing traffic and slowing traffic speeds

   International studies of this approach have shown that for every one per cent reduction in vehicle use there is a 1.8 per cent reduction in road trauma, as well as a 2-3 per cent reduction in road trauma for every 1km reduction in speed[14]. Reducing the number of private vehicles on a road, while also reducing speeds, will create a much safer road environment for all users, particularly pedestrians and cyclists.

3. Encouraging passenger transport use

   Whether measured by the time spent travelling or by the number of trips, travel by bus, train or ferry is many times safer than any other mode of urban transport.

4. Providing real information to counter common misconceptions about safety

   For example, many people believe that car travel is safer than passenger transport, but the opposite is true.

Overall, places with more pedestrians and cyclists have safer walking and cycling, and places with easily accessible passenger transport have reduced road trauma.

Other sustainable transport activities

A range of other activities aimed at reducing car use have been tried around the world and in New Zealand, some with considerable success.

Ridesharing/car pooling

Ninety three per cent of cars travelling to work in Auckland have only one person in them. If more people shared trips to work or to study, this would have benefits for the whole transport network.

There are three basic ways to encourage ridesharing:

> give priority to high occupancy vehicles (HOVs) through dedicated Bus/HOV lanes such as the one in Onewa Rd, North Shore City,

> make it easier to arrange ridesharing by offering a database service and/or providing pick-up points for those wishing to share rides, and

> provide incentives at the destination, such as workplace parking schemes, a guaranteed ride home in an emergency, and/or staff rewards for car poolers.

At this stage it is the view of ARTA that ridesharing is most effectively promoted within organisations, in the context of a Workplace Travel Plan. This is consistent with current legislation, which restricts ridesharing other than to work[14]. ARTA plans to assist TravelWise workplaces by providing ridesharing software and by advising on ways that workplaces can encourage ridesharing.

In the longer term, other effective models of ridesharing may also be developed which operate beyond the boundaries of a particular organisation. ARTA will continue to monitor such developments.

Teleworking

The trend towards working from home, with or without the internet or mobile phone technology, is already having an impact on morning peak traffic flows. In the 2001 Census, 7.2 per cent of workers in Auckland worked from home on Census day.

This plan recommends that teleworking, like ridesharing, be promoted within a Workplace Travel Plan process. Many workplaces choose to actively promote working from home as part of their Travel Plan. ARTA provides advice to TravelWise workplaces on ways to encourage and support working from home.

Marketing campaigns

This plan places little emphasis on standalone marketing campaigns, in recognition of the need to provide people with better choices before asking them to change their behaviour. The projects prioritised in this plan seek to understand transport issues from the perspective of the user, before offering advice. While each project in the programme includes a strong marketing component there is no commitment at this stage to standalone mass campaigns.

ARTA has an important role in marketing passenger transport, and a growing role in road safety campaigns. There are many opportunities to include sustainable transport messages within these existing work programmes.

Other initiatives

It is likely that new sustainable transport initiatives will be developed during the lifetime of this plan. ARTA will continue to monitor the effectiveness of new transport initiatives for inclusion in future iterations of this plan.

ARTA also recommends that funding provision be made at the national level to allow new demand management initiatives to be developed, and overseas initiatives to be trialled and adapted to New Zealand conditions.

3. HOW THE PLAN WILL BE IMPLEMENTED

The majority of actions in this plan are the responsibility of Auckland's Territorial Local Authorities (TLAs or local councils). ARTA also has an important role in implementing the plan, which will in turn require the support of the Government, through the transport agencies Land Transport NZ, Transit NZ and ONTRACK.

This plan is based closely on agreed regional and national strategies, as set out in Appendix A. ARTA's main mechanism for implementing the plan, therefore, is through encouragement and coordination. All relevant stakeholders have been closely involved in preparing the plan, and there is strong regional consensus behind the planned activities.

ARTA has the lead role in ensuring that the plan remains on track during the three-year period to its next review. ARTA will use three main tools to do this:

> the land use planning process

> ARTA's funding role, and

> activities directly delivered by ARTA.

The land use planning process

Under the Resource Management Act (RMA), ARTA is not responsible for preparing planning documents; however it may be deemed an affected party[16]. As such, it has the ability to influence land use decisions and to comment on whether these provide for the integration of land use and transport[17].

By being involved with structure plans, plan changes and notified resource consents, ARTA has the ability to influence proposed developments and to comment on whether these are consistent with the requirement for integration of land use and transport.

ARTA aims to influence these documents to ensure that the transport implications of land use decisions are considered, and to encourage land use that supports (and is supported by) an integrated and sustainable transport system.

ARTA can comment on:

> National Policy Statements

> Regional Policy Statements

> Regional Plans

> Regional Growth Strategies

> Regional Land Transport Strategies

> District Plans – plan changes and variations to proposed plans

> Structure Plans

> Local Growth Strategies
(including Long Term Council Community Plans)

> Notified resource consents

> Notices of requirement

> Other strategic land use and transport planning documents.

The principles which will guide ARTA's input to the land use planning process are set out in Section 13 of this Plan.

ARTA's funding role

The Regional Land Transport Strategy sets the expectation of an increase in walking, cycling and travel planning activities across the Auckland region. Funding for transport activities is provided from local and regional councils and from the National Land Transport Programme (NLTP). While there is a general increase in funding available for transport in Auckland overall, funding remains very constrained for transport projects. In the case of walking and cycling improvements, the main constraint is the need for local councils to fund the local share of the project, which impacts on rates.

The Sustainable Transport Plan aims to build up the level of activity in walking, cycling and travel planning and to closely monitor the benefits of this investment in a way that facilitates comparison with other transport investments. In this way, each incremental increase in funding can be justified in terms of its transport benefits and used to facilitate further increases in investment in sustainable transport initiatives.

The expenditure required to achieve the targets set in the RLTS has been reviewed through this Sustainable Transport Plan and is set out in Table 3.1. Each year, ARTA prepares a Land Transport Programme which sets out the actual projects proposed for the Auckland region, and their costs. The Land Transport Programme also indicates the relative priority of each project, and ARTA's recommendation of which projects should receive a subsidy through the NLTP. Walking, cycling and travel planning projects which form part of this plan (and hence part of the programme to implement the RLTS) will be allocated a higher priority than those which do not.

In proposing an activity for inclusion in the NLTP and hence a subsidy, ARTA assesses three factors:

> seriousness and urgency (of the issue the project aims to address),

> effectiveness (of the project in delivering national, regional and local objectives), and

> efficiency (the benefits of the project in proportion to its cost).

Each factor is ranked on a three-point scale, as high, medium, or low. All ARTA recommendations on NLTP funding are potentially subject to an independent assessment by Land Transport NZ.

Table 3.1 Estimated funding requirements

Project		RLTS targets	Capex requirement (10 years)	Opex requirement (10 years)
Improved walking networks		Improve walkability in CBD and 17 other town centres	$20m	$10m
Improved cycling networks		Complete 50% of Regional Cycle Network	$111m	$9m
Travel Plans	School	12,800 fewer car trips to school	$106m	$47m
	Workplace	3,500 fewer car trips to participating workplaces and tertiary institutes		$18m
Neighbourhood Accessibility Plans		3,900 fewer morning peak car trips from and within targeted centres	$83m	$17m

Seriousness and urgency

Five key issues for the Auckland region have been identified in ARTA's 2006/07 Land Transport Programme:

1. congestion and unreliable travel times,
2. lack of choice increases reliance on private car,
3. poor land use/transport integration,
4. crashes and personal safety, and
5. environmental sustainability and public health.

Part 2 of this plan sets out a framework for which Sustainable Transport projects will be ranked high, medium or low for seriousness and urgency.

Effectiveness

The effectiveness of a project is the extent to which it contributes to an integrated, safe, responsive and sustainable land transport network. This is evaluated with reference to national, regional and local objectives.

ARTA, working with local councils, national organisations and other stakeholders, has defined good practice guidelines for school, workplace and Neighbourhood Accessibility Plans. National guidelines for cycle network development are in place[18], and guidelines for pedestrian planning are under development. ARTA has also developed comprehensive systems for monitoring achievements against regional and national objectives.

Part 2 of this plan sets out a framework for which Sustainable Transport projects will be ranked "high" "medium" or "low" for effectiveness. In general, activities which follow good practice guidelines and include an effective monitoring component are given a high ranking for effectiveness.

Efficiency

The final decision about which projects will be recommended for a subsidy will also depend on the efficiency ranking, which differs for every project.

The efficiency ranking is determined by the benefit/cost ratio calculated using the methodology set out in the Economic Evaluation Manual (Volume 2) issued by Land Transport NZ. The Manual also sets out simplified procedures for walking, cycling and travel planning projects.

Further information and detail on the funding process is available in the ARTA Land Transport Programme.

ARTA activities

The third mechanism for implementing this Plan is direct action by ARTA. ARTA has planned and budgeted for the following roles, which are best delivered at the regional level:

> preparing and updating this plan, and advising on its implementation,

> participating in land use and transport projects which have regional significance, and offering best practice advice on local application of the principles in this plan,

> regional co-ordination of the activities in the plan,

> developing tools and guidelines for Travel Planning, and

> employing a team of School Travel Planners, a team of Workplace & Tertiary Travel Plan Advisors, and a Neighbourhood Accessibility Plan Advisor, to fulfill the roles set out in Sections 9, 10, 11 and 12 of this Plan.

CASE STUDY: WALKING SCHOOL BUSES

The first Walking School Bus was established in 1999 and Auckland now has over 3,800 children walking, on over 200 buses, at 91 schools, taking an estimated one million car journeys off the road each year.

Walking School Buses in Auckland were recognised by Infrastructure Auckland as 'the most economically efficient transport project we had the opportunity to fund', and have also won a national award for their energy efficiency.

Yet it's the social interaction and community building aspects that are making the buses a real success. Friendships have developed between the parent volunteers, and children have become far fitter as a result of their daily walks, with one student asking, "Why can't it be a running bus?"

The buses are also changing the mindset of those involved. As one child said, "It [the WSB] saves on petrol. Why use up petrol when you can walk?"

4. BENEFITS OF ACHIEVING THE TARGETS

The Regional Land Transport Strategy sets out seven objectives for transport in Auckland for the period 2006-16. The first five objectives incorporate the national transport objectives, while the remaining two provide an Auckland focus and include an economic efficiency dimension. The seven objectives are:

1. assisting economic development,
2. assisting safety and personal security
3. improving access and mobility
4. protecting and promoting public health
5. ensuring environmental sustainability
6. supporting the Auckland Regional Growth Strategy, and
7. achieving economic efficiency.

The outcomes sought through sustainable transport activities directly support the Regional Land Transport objectives. Each activity area has its own processes for ensuring that all of the above objectives are taken into account.

This section provides an overview of the benefits expected from implementing the entire Sustainable Transport programme set out in this plan. It uses the measurement framework from Land Transport New Zealand's Economic Evaluation Manual (Volume 2) and the earlier Travel Behaviour Change Evaluation Procedures to derive a monetary value for the benefits achieved through its implementation. Details of the calculations in this section are in Appendix B.

Table 1.1 gives a breakdown of the targets set in the RLTS, to reduce car journeys each morning peak by 20,000. Some of these journeys include more than one individual trip. Many primary school journeys, for example, include a return journey for the parent as well[19]. Overall, the activities set out in the Sustainable Transport Plan will result in a reduction of 46,000 individual car trips during both the morning and afternoon peak, and the diversion of 14,000 trips during the interpeak periods. This equates to just over 205,000 vehicle kilometres travelled per day.

Many of these benefits can be calculated as a dollar amount, and the total benefit value is $90 million (Appendix B). The components of this benefit are set out in Table 4.1 and explained in more detail below. Not all potential benefits of the activities proposed in the plan are monetised, but the important non-monetised benefits are itemised in each section.

Table 4.1 Monetised benefit of achieving the Travel Plan targets

RLTS objectives	Monetised benefit
Assisting economic development	$50 million per year
Assisting safety and personal security	$31 million per year
Improving access and mobility *	
Protecting and promoting public health	$5 million per year
Ensuring environmental sustainability	$4.4 million per year
Supporting the Auckland Regional Growth Strategy*	
Total	$90 million per year
Achieving economic efficiency	Benefit is 2.6 x cost

* Cannot be quantified

Table 4.1 shows those benefits for which it is possible to estimate a monetary value. However, there are also qualitative benefits that should be recognised. These include the difference in operating and parking costs to the user, wider economic impacts, on land use, changes in the reliability of travel times, travel time benefits to existing pedestrians, effect on freight and energy efficiency.

Community cohesion, improved access and mobility are also areas where the programme is providing wide ranging, positive but non-monetised impact on the region.

Assisting economic development

Economic development is a broad concept, but the key benefits counted under this heading are improved accessibility and better movement of goods achieved through a reduction in congestion. A further 195,000 cars are expected on Auckland roads by 2016[20], adding to the congestion in the region beyond the planned improvements and extension to the roading infrastructure network can accommodate.

In this context, road space freed up by transport projects is quickly filled with suppressed demand from new, 'induced' traffic. This factor considerably reduces the economic benefits of Sustainable Transport projects, as it does for most other transport projects. In some specific projects it will be possible to 'lock in' the benefits by reallocating road space, for example by creating bus lanes, but this is not assumed here.

The summary benefits of the programmes within the Sustainable Transport Plan are the reduction of 20,000 journeys to school, work and within the community during the morning peak period each day, comprising a diversion of 46,000 individual trips over both the congested morning and evening peak periods. This will result in a decongestion benefit value of $50 million per year.

Assisting safety and personal security

Safety is paramount to encourage people to shift to more sustainable transport as the perception that walking, cycling and public transport are unsafe will discourage people from changing their travel behaviour.

The estimated benefits related to safety improvements are $30 million per year from improvements to walking and cycling infrastructure and just under $1 million worth of benefits through the reduction of vehicle traffic.

The perceived benefits related to security and crime prevention is also a recognised benefit of the activities in this plan, although these are not monetised.

Improving access and mobility

The access and mobility objective focuses on social inclusion and the need for people of all ages and abilities to have access to employment and/or education opportunities, leisure and services. A key concern is the mobility needs of people with disabilities, and of those who do not drive a car.

It is very much the intention of the sustainable transport activities to improve access and mobility. School Travel Plans, for example, give voice and choice to one of the most transport disadvantaged groups in society, schoolage children. The Neighbourhood Accesibility Plan process enables the provision of safer infrastructure in town centres, including facilities to better meet the needs of people with disabilities.

However the impact of the Plan on access and mobility cannot be quantified on current data, so no dollar benefit is ascribed here.

Protecting and promoting public health

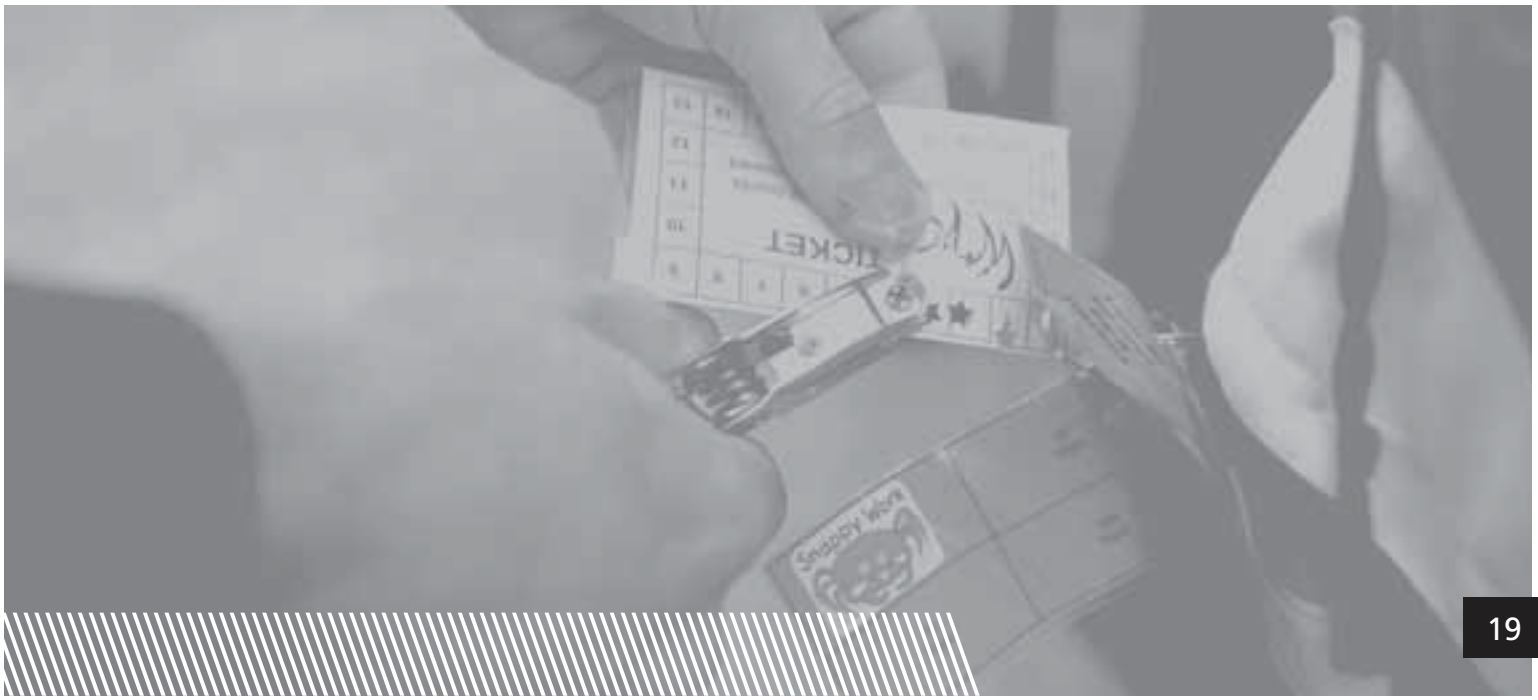
An improvement in public health is another expected benefit of the Sustainable Transport Plan. The direct health benefits come from the predicted increase in walking and cycling. The initiatives in this plan are expected to increase walking and cycling from its current level of 15.1 per cent of all trips to 15.5 per cent. This needs to be compared with a predicted decrease in trips (to 14 per cent) by 2016 if the initiatives in this plan do not take place.

The monetised health benefits from increased walking and cycling is estimated to be over $5 million per year. There are also likely to be significant non-monetised benefits, through:

> longer term impacts of forming healthy habits, especially through the schools programme,

> wider health outcomes, for example a reduction in obesity which in turn reduces health risks[21], and

> an increase in community cohesion, which is a strong predictor of health outcomes[22].



Ensuring environmental sustainability

Environmental costs are also avoided by a reduction in the number of cars travelling each day. The environmental impact of cars include local air quality, noise, water pollution and greenhouse gas emissions. These environmental benefits can be monetised, giving a benefit of $4.4 million per year.

The impact on fuel use is a good proxy measure for the contribution to national and regional targets for greenhouse gas emissions, and emissions to air and water. Without the sustainable transport component of the RLTS, fuel use is predicted to increase 31 per cent over the period 2001-16. With all of the initiatives in the Plan in place, fuel use is expected to increase a little more slowly, but is still 28 per cent higher in 2016 than in 2001.

As noted in Section 1, this programme is an achievable first step to make Auckland's transport system a little more sustainable than currently, but falls well short of being a plan to ensure environmental sustainability.

Overall costs and benefits

The anticipated benefits of this programme as a whole can be combined with the investment allocated in the RLTS to calculate an approximate benefit/cost ratio for the programme.

The RLTS allocates four per cent of total transport spending to sustainable transport activities. This allocation equates to spending of around $42 million per year, or a total spend over the timeframe of this plan of $420 million. The present value of this expenditure is $252 million when spread over the 10 year time period.

Actual expenditure will differ from the RLTS allocation, and at this early stage it appears that expenditure will be lower than the RLTS allocation in the early years of this plan, reducing the present value, but also deferring many of the benefits. It is not possible, at this time, to calculate an actual benefit/cost ratio for the programme, but the theoretical benefit/cost ratio of the RLTS targets against the RLTS allocation is a useful starting point.

Although all spending related to Sustainable Transport has the goal to encourage modal shift, the means for doing this fall into two categories; capital expenditure on infrastructure projects, and operational expenditure on Travel Behaviour initiatives. Each of the activity areas included in this plan contain a mixture of both, as set out in Table 3.1 in Section 3.

The plan anticipates an annual monetised benefit of $90 million once fully implemented. A present value of $657 million applies to the total lifespan benefits of the activities proposed. This incorporates a 25 year life span for infrastructure projects, and a 10 year lifespan for Travel Plan projects based on a commitment to continue 'maintenance' of these benefits through ongoing investment in completed Travel Plans.

This equates to a benefit cost ratio of 2:6 for the bundle of activities included in this plan.

CASE STUDY: RURAL SCHOOL TRAVEL PLANS

The Auckland region also includes many schools in rural settings. A Travel Plan for rural schools can be very effective even though there are some marked differences in the travel and safety issues compared to schools in urban communities. One of the main differences is that walking is often a less realistic option due to the distance between the students' homes and the schools. Rural schools are often located by open roads with no footpaths or signal crossings.

Even though there are difficulties in promoting walking and cycling due to distance and safety factors, there are many inventive travel initiatives that have been successfully implemented by rural schools, such as:

> ride sharing,

> clear signage of the 80km zone prior to the school,

> better situated bus stops near the school, and

> a 'Kiss and ride' point, similar to a park and ride area, where parents can drop their children off for a bus service catering to the school.

Rural schools tend to have strong links and integration in the surrounding community which means that the Travel Plan initiatives can draw on a wide range of community stakeholders to implement creative and effective activities to improve sustainable travel choices.

5. MONITORING

The Regional Land Transport Strategy sets out seven objectives, five of which are also objectives of the NZ Transport Strategy. The activities in this plan aim to achieve measurable progress towards all seven objectives, as set out in Table 5.1:

Table 5.1 Performance Measurement Framework

Objective	Detailed Objective	Measure
Assisting economic development New Zealand Transport Strategy (NZTS) and RLTS	> Effective, efficient and integrated transport links for moving people to key business, recreation and education areas to enable full participation > Effective and efficient transport links between key business areas to enable the movements of goods and services without unnecessary delays	> Reduction in vehicle kilometres travelled > Trips by mode > Mode shift > Number of people cycling and walking
Improving access and mobility NZTS and RLTS	> A high level of travel choices to all key destinations including employment areas, retail centres, tertiary institutions and major health facilities > A high level of integration between all transport modes within the transport system > A transport system which meets the needs of specific users including children, the elderly and those with a disability > Pedestrians and cyclists are able to access all local destinations easily and safely	> Trips by mode > Increased perception of travel choices > Changes or improvements highlighted by Travel Plans implemented > % of planned cycle network implemented
Protect & promote public health NZTS and RLTS	> Transport choices that contribute to making healthier choices easier and which promote a more active population > Reduction in toxic vehicle emissions	> Increase in walking and cycling kilometres travelled > Reduction in fine particulate and carbon monoxide emissions
Assisting safety & personal security NZTS and RLTS	> A safe and secure environment for vulnerable users of the transport system	> Crash reduction benefits > Reduction in vehicle kilometres travelled > Perception changes – indicated by increases in walking, cycling, passenger transport use > Parents' perception of walking and cycling safety (schools only) > Personal security-oriented changes highlighted in Travel Plans implemented
Environmental sustainability NZTS and RLTS	> Reduced non-renewable energy use by the transport system > Reduced carbon dioxide emissions from the transport system > Reduced community severance from the transport system	> Reduction in vehicle kilometres travelled > Reduction in greenhouse gas emissions
Support for Growth Strategy RLTS only	> A transport system which supports and assists growth in centres and corridors that are identified in the Regional Growth Strategy and Regional Policy Statement > Walking and cycling opportunities, which improve the cohesion of, and movement within, higher density centres > A transport system and land use policies, which together manage urban growth pressures in areas where urban growth is not planned > A high level of integration between land use and transport decision making	> Walkability of 18 priority town centres improves > Perceived number of friends in local area > Proportion of new developments which prepare comprehensive integrated transport assessments
Economic efficiency RLTS only	> All agencies responsible for transport investments will coordinate and synergise their efforts and decision making to deliver maximum benefit to the region while avoiding unnecessary costs	> Benefit/cost ratio for projects completed under the 'Safe and Sustainable' category

Regular surveys of travel behaviour and attitudes are undertaken as part of each School or Workplace Travel Plan, and within each Neighbourhood Accessibility Plan. The questions in these surveys have been designed to provide reliable data that is relevant to six of the seven objectives.

Some data is obtained through transport modelling based on survey results. For example each survey asks for a home address, a destination address and whether the trip is made in a car or by walking, cycling or passenger transport. A reduction in vehicle trips, measured through surveys, can thus be used to calculate the reduction in kilometres travelled, fuel use, greenhouse gas emissions, and toxic emissions.

Finally, ARTA tracks project implementation to ensure that the changes highlighted in Travel Plans are actually put in place, and to measure the seventh objective which is economic efficiency.

Monitoring the success of the Sustainable Transport Plan and each indicator will be done annually.

PART 2:
THE PLAN IN DETAIL

6. DESIGNING A SUSTAINABLE TRANSPORT PLAN

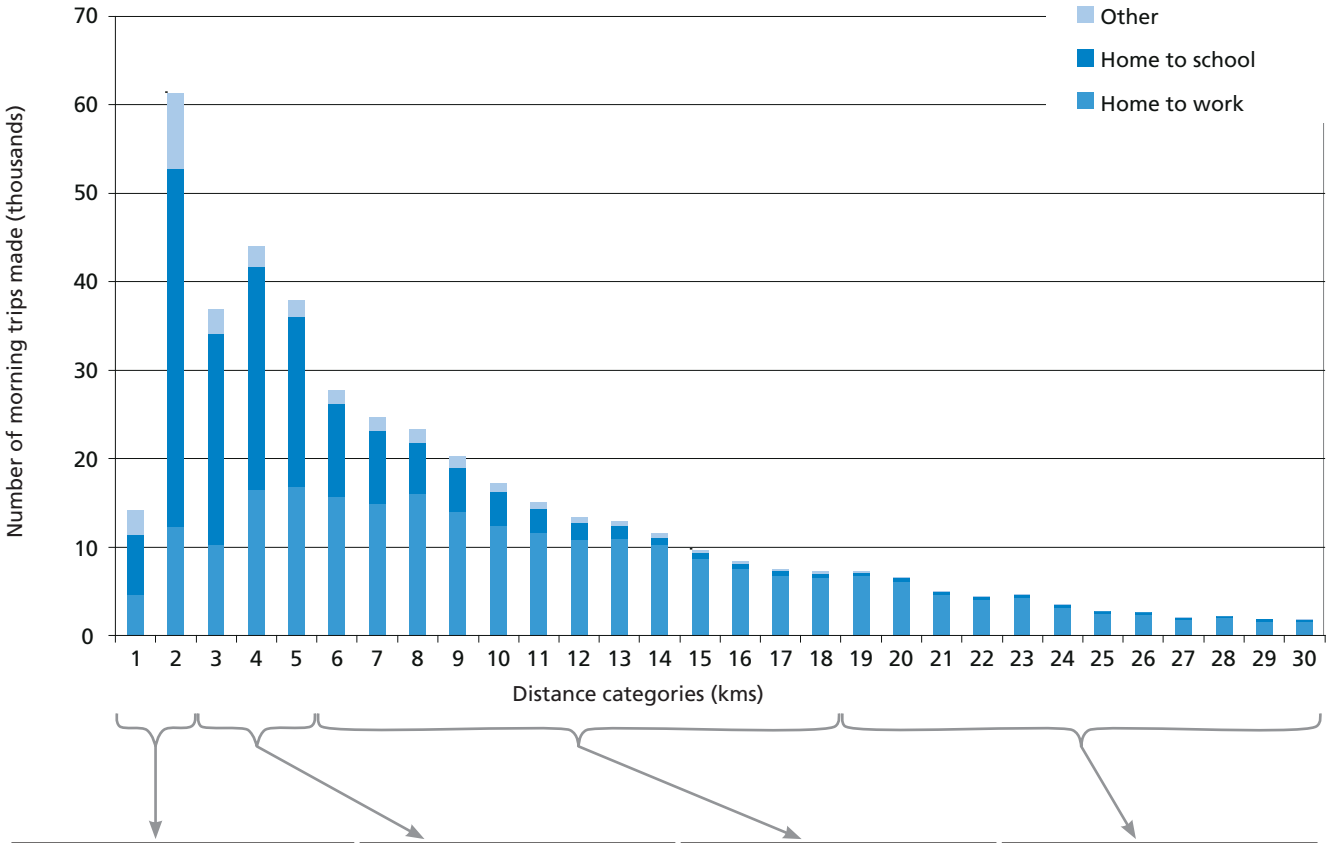
Understanding Aucklanders' travel patterns

It is expected that when the outcomes of this plan are achieved, 20,000 Aucklanders who would otherwise make their morning trip by car will voluntarily choose another form of transport, or choose to work or study from home. These people will generally be the people who currently get the least benefit from their cars; making the alternatives a little cheaper, quicker and more appealing will be enough to persuade them to make the change.

The aim of this plan is to identify who these 'behaviour changers' are and how to effectively reach them. This in turn requires a sound understanding of Aucklanders' travel patterns.

Each morning between 7am and 9am, over half a million trips (540,000 trips) are made of which just over half (53 per cent) are to work or tertiary study, and a third are trips to school, as shown in Figure 6.1. After 9am, off-peak traffic is characterised by shopping and social/leisure trips with a high proportion of trip chains – round trips which take in multiple destinations. The afternoon peak begins with the trip home from school at 3pm and continues until 6pm, by which time most people have arrived home from work.

Figure 6.1 Morning peak trips by trip purpose Auckland region 2001



Short local trips, <2km	Mid-range trips, 2-5km	Long trips, 5-18km	Very long trips, >18km
18% of all trips	25% of all trips	44% of all trips	13% of all trips
<30 minute walk <10 minutes by cycle <5 minutes by car	<30 minutes by cycle Typically 30 minutes by passenger transport 5-10 minutes by car (based on 36km/h average speed)	<30 minutes by car Can be <30 minutes by bus if priority measures in place	>30 minutes by car Suitable for trains or for buses on priority routes
Most trips to primary school Shopping/leisure trips and trips which neither start or end at home Very few trips to work	Most trips to secondary school Shopping/leisure trips/ non home based trips Some trips to work	Over half of all trips to work Some school trips Very few shopping/leisure or non home based trips	One in five trips to work Very few school trips, shopping/ leisure trips or non home based trips

Table 6.1 Purpose of morning peak trips, Auckland region 2001

The impact of past trends

One of the few constants in transport planning is people's tendency to travel for up to about 30 minutes for their main journey of the day. In 30 minutes, one can walk 2km, cycle or catch the bus for around 5km or drive an average of 18km[23].

Auckland originally grew up as a walking city, centred on the port and bounded by the ridges of Ponsonby, Grey Lynn and Parnell; a 30 minute walk (2km) away. Later, rail and tram lines enabled people to live around five km from their place of work. Town centres including Newmarket, Mt Albert and Onehunga thrived, and became destinations in their own right, each at the hub of its own 2km walkable community. To this day, 1-2km and 3-5km are very common trip distances, while very long trips – over 18km in length – are a small minority (13 per cent) of Auckland trips.

The arrival of mass car transport in the 1950s offered the opportunity for people to live much further from their work and still, in theory, make the trip in a comfortable 30 minutes. Auckland's 1955 Transport Plan set in motion a major investment in motorways[24] which linked the North Shore, Waitakere and Manukau subregions to each other and the CBD.

In the decades from 1950-2000, the clear trend was for car travel to become increasingly popular and for fewer people to use passenger transport, walking and cycling for their regular journeys. This in turn led to lower investment in passenger transport, walking and cycling networks, further discouraging use.

The housing density, street layout and mix of activities built in past decades was designed to suit the transport available at the time. The original buildings in the CBD are three and four-storeys, with retail on the ground floor and offices and apartments above, enabling people to meet most of their needs within walking distance. Along the rail corridor, narrow streets form a grid pattern and shops cluster around the main railway stations. Developments from the 1960s to the 1990s were built for car travel, with wide curved streets and many cul-de-sacs. These patterns of land use continue to influence transport choices today. Aucklanders who live in the CBD or in historic neighbourhoods are much less likely to drive to work than people in the newer suburbs, as shown in Map 6.1.

In the last three decades, the short local journeys of children walking or cycling to school have also been replaced by short car trips. The proportion of children being driven (and driving themselves) to school in urban areas doubled between 1987 and 1997[25].

By 2001, the average travel pattern across Auckland was for most trips – even very short trips – to be made by car, as shown in Figure 6.2.

There are, however some encouraging trends in recent years. Passenger transport patronage increased 15 per cent between 2001 and 2005. A major (and ongoing) investment in rail is improving trains, tracks and stations. This has roughly doubled rail patronage, which in turn has justified more frequent services. In 2005, late night and Sunday train services were re-introduced, having been cut over 40 years ago.

Map 6.1 Car driver journeys as a proportion of all journeys to work, Auckland region 2001

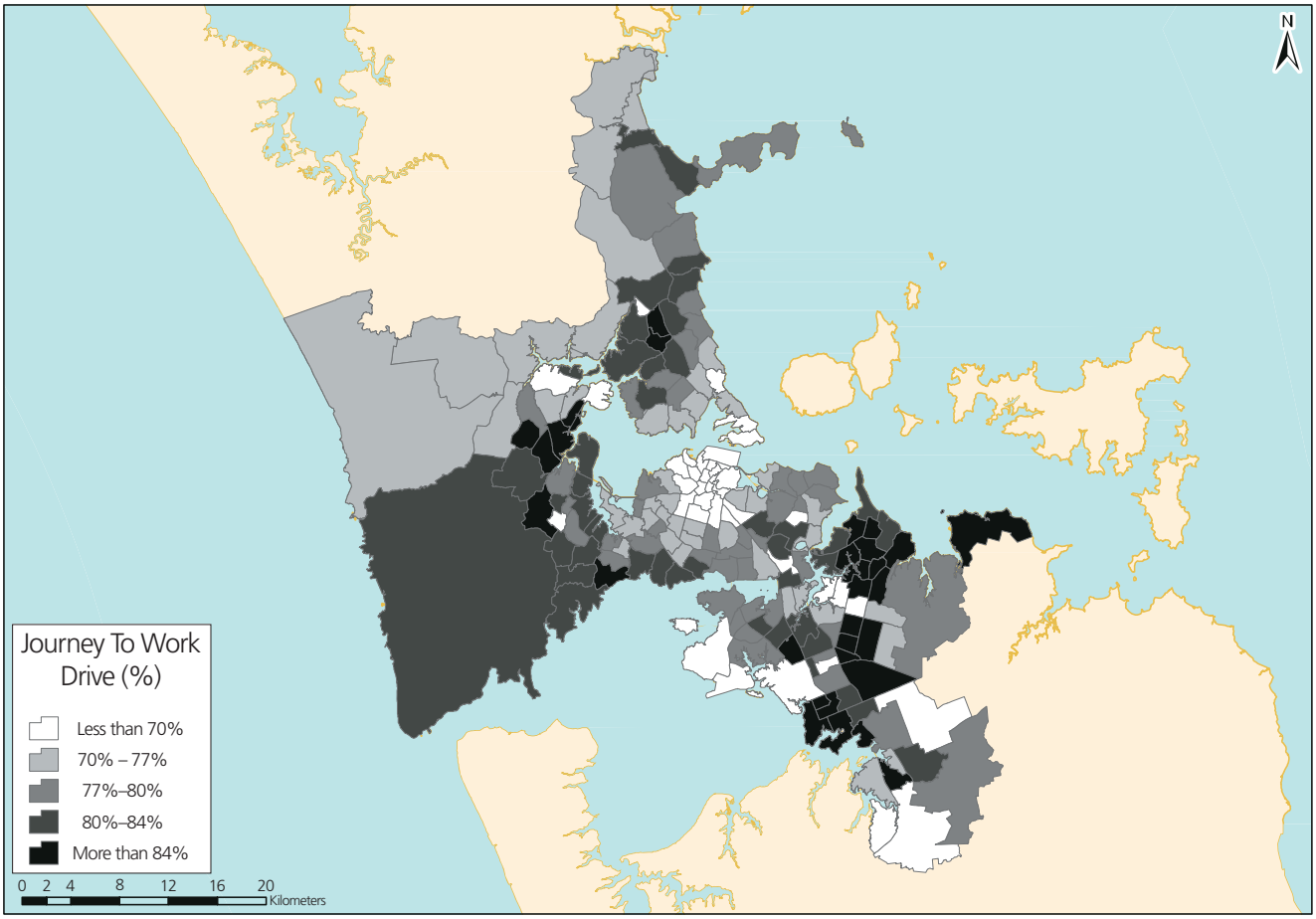
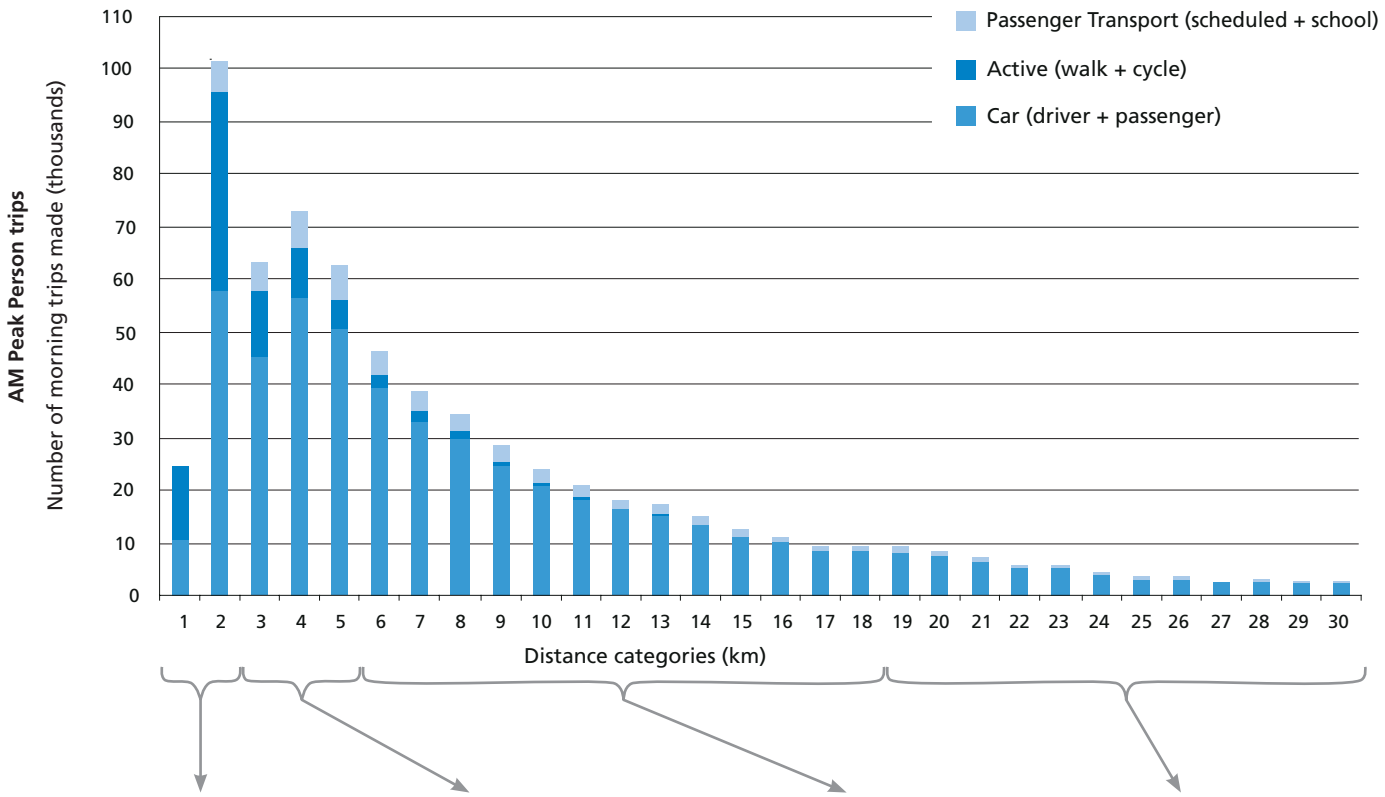


Figure 6.2 Morning peak trips by means of travel, Auckland region 2001



Short local trips: <2km	Mid-range trips: 2-5km	Long trips: 5-18km	Very long trips: >18km
Over half (54%) of short local trips are by car 41% of short trips are by walking (a few by cycling) Only 5% of short trips are by passenger transport	Three quarters of mid-range trips (76%) are made by car 14% of mid-range trips are by walking/cycling 10% of mid-range trips are by passenger transport	Almost all long trips (87%) are made by car Very few long trips (3%) are by walking/cycling 10% of long trips are by passenger transport	Almost all very long trips (89%) are made by car 11% of very long trips are by passenger transport
Trends	Trends	Trends	Trends
Clear evidence that parents now drive children short distances to school[26] Likely that shopping trips and trip chains are now made by car due to changes in the design and location of shopping areas	Clear evidence of a dramatic decrease in cycling, especially to school[27] Passenger transport in most areas is slower and less reliable than car travel, but where effective priority measures are in place patronage has soared	Passenger transport patronage increasing now, following decades of decline[28]	Very long trips to work are becoming more common as living on the urban fringe becomes a popular lifestyle choice[29] Rail and the northern busway are just beginning to provide a reliable and fast service for a small proportion of very long trips[30]
Impact	Impact	Impact	Impact
More short trips by car clog local roads and increase traffic danger, noise and air pollution Walking and cycling become less safe and less pleasant	Many mid-range trips are made on urban motorways[31], causing disproportionate congestion impacts	Long trips by motorway are becoming slower, however across most of Auckland passenger transport is slower still	Tremendous political pressure to improve provision for very long vehicle trips; however such improvements encourage people to live even further out on the urban fringe

Table 6.2 Key trends in Auckland transport by trip type

The overall strategy for transport in Auckland

By 2016, significant improvements are planned for passenger transport, roading, and walking and cycling infrastructure[32]. Rail and the Northern Busway will provide an alternative to car travel for long trips on the main urban corridors. Buses will provide a fast and reliable alternative to car travel for trips between town centres and on key strategic routes.

Table 6.3 RLTS and ARTA strategies by trip type

Short local trips, <2km	Mid-range trips, 2-5km	Long trips, 5-18km	Very long trips, >18km
Increase walking by: > Investing in road safety improvements, targeted at the journey to school > Improving the walking environment in town centres	Increase passenger transport and cycling by: > Linking town centres with better bus, train and ferry services > Providing more school buses > Investing in the Regional Cycle Network	Maintain car travel speeds, and increase passenger transport patronage on key links, by: > Significantly increasing investment in traffic management and safety on arterial roads > Providing a Quality Transit Network* where buses have priority over general traffic, enabling quicker and more reliable passenger transport trips > Increasing investment in school bus services > Investing in a regional network of cycleways	Improve car travel on specific links, and increase passenger transport patronage in the main urban corridors, by: > Constructing new urban motorway links > Providing fast and frequent services on a Rapid Transit Network** (rail and the busway)

* Quality Transit Network is the high quality supplementary passenger transport network that connects the regional and district centres, and employment/activity nodes along medium-high density corridors not served by the Rapid Transit Network.

** Rapid Transit Network is the high quality, fast, high frequency service that is the back bone of the Auckland Passenger Transport Network which connects the regional centres to the Auckland CBD along high density corridors.

Source: Regional Land Transport Strategy 2005 & Auckland Passenger Transport Network Plan 2006-2016.

Who are the 'Behaviour Changers'?

Auckland's Regional Land Transport Strategy represents a move away from the attempt to build our way out of congestion, and focuses more on providing choices – with the greatest investment still being in roading, but with significant increases in passenger transport, walking and cycling investment to make these choices more appealing.

The resulting transport system, by 2016, should provide many more Aucklanders with a genuine choice for most of their common journeys.

However simply providing a choice does not mean it will be taken up. How people travel is a very personal decision, and getting more people to choose walking, cycling and passenger transport requires a focus on people, as well as infrastructure.

Based on this analysis, the following groups of people are most likely to choose not to use their cars:

People making short trips:

> primary school children, and

> people who live in or within walking distance of the CBD, or other major centres of employment, tertiary studies or mixed use town centres.

The strategy is to work with schools and communities to plan ways to make walking and cycling safer and more pleasant in their local neighbourhood.

People making mid-range trips:

> secondary school students, and

> people who work or study in the CBD or in town centres and live within 2-5km.

Again the strategy is to work with schools, and also tertiary institutes, as well as key employers in town centres. Improving bus services is an essential element of the programme for mid-range trips.

People making long trips:

> people living within reach of the Rapid Transit Network (the rail line and the Northern Busway), and

> employees or students at workplaces which actively encourage telework, ridesharing and passenger transport.

Workplaces will make these changes voluntarily if they see a business benefit in doing so. The strategy is, therefore, to work closely with tertiary institutes and large employers to truly understand the opportunities to improve transport options, even for those making long trips.

By targeting programmes to the most likely behaviour changers, the RLTS goal to reduce morning peak travel by 20,000 vehicles becomes achievable.

7. WALKING ACTION PLAN

By 2016, the Auckland region will be more 'walk-friendly'. Clear priorities will be set, road by road, for all road users and the most important roads for walking will be made safer and more pleasant. Urban designers and transport planners will have worked together to improve walkability in at least 18 town centres/intensifying areas across the region.

Walking[33] is the second most common way to travel, accounting for almost 13 per cent of all journeys in the Auckland region. Walking is also an essential part of most non-walk journeys; every passenger transport trip and many car trips begin and end with a walk. Currently, Auckland has the reputation of being one of the worst cities in the world for walking[34]. If walking was more attractive, the entire transport system would be better integrated, because walking is the essential link between the transport network and the destination.

As a result of implementing the Sustainable Transport Plan, it is expected that pedestrians will have pleasant, safe and direct access for a wide variety of common short journeys. Walking will be actively encouraged through Travel Plans in schools, workplaces and Neighbourhood Accessibility Plans. Pedestrian injury rates should have declined through the implementation of well-planned engineering, education and enforcement programmes. As a result, it is expected that more people will walk more often, streets will be livelier and more pleasant, and communities will be stronger and safer.

Objectives and outcomes

The Regional Land Transport Strategy recognises the importance of walking, and sets four policy outcomes for walking:

> the region's communities are walkable (safe, direct and pleasant for pedestrians, with a variety of destinations within walking distance),

> walking is a natural choice for short journeys in and around local communities,

> walking is on the increase and pedestrian injury rates have declined, and

> more walking increases community cohesion and safety.

The RLTS also guides investment in walking infrastructure towards town centres and schools, which are the focus of Travel Plans and Neighbourhood Accessibility Plans. In this way, Travel Plans and walking investment can be integrated and mutually reinforcing. Through a Travel Plan, communities can be meaningfully involved in the specification of walking improvements and regular school and workplace surveys can track numbers of people walking to major destinations. Investment in walking infrastructure will reinforce the goals of local Travel Plans and help to provide better travel choices.

The quantitative targets for increased walking are included within the targets for School and Workplace Travel Plans and for Neighbourhood Accessibility Plans. This is a pragmatic step, given the very significant difficulties inherent in counting footfall and in relating changes in footfall to infrastructure improvements[35]. However the RLTS does set a specific target that walking improvements will be undertaken in 18 town centres/intensifying areas, and predicts as an expected outcome that 15.5 per cent of morning peak trips will be made by walking or cycling.

The Walking Action Plan sets out the additional activities needed to support walking as a transport choice, and needs to be read in context with the School Travel Plans and Neighbourhood Accessibility Plans sections.

Planning for walking

This Action Plan has been developed by the Regional Walking and Cycling Group which is convened by ARTA, and includes all of the Auckland region's local councils, Transit NZ, and other stakeholders including the NZ Police, the Accident Compensation Corporation, Land Transport NZ, Walk Auckland, Cycle Action Auckland, Sport and Recreation Council (SPARC) and the Health Sponsorship Council. This group has an ongoing role to co-ordinate the implementation of the Action Plan. The Plan has three key priorities:

> increase walk trips to school, and make walking to school safer,

> increase walk trips to town centres, and make town centres safe and pleasant places to walk, and

> increase community involvement in walking issues.

The first two items are covered in the School Travel Plan and Neighbourhood Accessibility Plan sections of this Sustainable Transport Plan.

Roles and responsibilities

Local council

Local councils own and manage almost all of the walking infrastructure in the region, including footpaths, pedestrian crossing facilities, signage, and walkways on parks and along the coast. They have a significant and ongoing role to maintain and improve the current walking network and to respond to community wishes for local walking investments.

Within each local council, a wide range of staff have roles which are important for walking including transport planners, urban designers, engineers, parks and recreation staff, parking officers, travel planners, safety co-ordinators and customer service teams.

Local councils also have established programmes to improve town centres. Most town centre projects aim to achieve multiple objectives, with walkability improvements being part of the overall town centre plan. The Sustainable Transport Plan seeks to increase the focus on walking in town centres, align town centre improvement programmes with travel planning and passenger transport improvements, and to make it easier for local councils to access funding from the National Land Transport Programme for projects which will increase walking in priority town centres. The process for identifying priority town centres is set out in the Neighbourhood Accessibility Plans section.

Local councils will:

> maintain and improve the walking network and respond to local community requests, and

> improve town centres through urban design and planning processes.

To give effect to the RLTS, local councils are also strongly encouraged to:

> give priority to walking investments in significant town centres as defined in this Plan, and include walkability as a key deciding factor in the design of town centre improvements, and

> adopt best practice guidelines for the planning and design of pedestrian facilities, and

> support significant infrastructure investment by aligning with Travel Plans and/or developing an effective marketing and promotion component.

ARTA

ARTA's statutory role is to plan, fund and develop an integrated, safe, responsive and sustainable land transport system. This requires a strong involvement in walking. ARTA is also required to give effect to the RLTS, and to monitor progress towards the RLTS targets.

The RLTS recognises the need for increased investment in walking but also sets priorities for this investment, around schools and town centres. In this way, early investment will be targeted to places where people currently walk, and where increases in walking can be achieved relatively easily, and monitored accurately. This in turn will set a strong foundation for future increases in walking investment.

ARTA also plans to increase its activities in the marketing and promotion of walking, and to investigate ways to get more community involvement in walking and more action on walking issues.

ARTA will:

> convene the Regional Walking and Cycling Group and develop and monitor the Walking Action Plan,

> align its own investment programme, including School Travel Plans and Neighbourhood Accessibility Plans, with the significant town centres as defined in this plan,

> implement the Integrated Transport Assessment Guidelines to ensure that new urban developments and structure plans result in more walkable communities, and

> monitor progress towards RLTS targets for walking.

Advocacy groups

The need for strong advocacy for walking has only been recognised quite recently. Auckland's main walking advocacy group, Walk Auckland, has been active since 2000, in contrast to cycling advocacy groups which have been in place for decades. Internationally, walking advocacy is also relatively new but is nonetheless strong and well organised. Walk Auckland is affiliated to a national group, Living Streets Aotearoa, which in turn is a member of the International Federation of Pedestrians.

Walking advocacy groups have developed a clear policy agenda and made a significant contribution to the understanding of walking issues. Living Streets, in particular, has set clear criteria of what makes urban spaces walkable, and re-defined walkability as a key success factor which distinguishes successful transport networks and successful cities[36]. Much of the work to date on walkability assessments has been done by advocacy groups. This work overlaps with the work of disability advocates to make urban areas accessible and safe for a wider range of people.

Advocacy groups are well placed to:

> raise the political profile of walking issues,

> define, from a user perspective, ways of making Auckland more walkable, and

> participate in the setting of policy and priorities for walking.

Funding priorities

Local councils are strongly encouraged to increase investment in walking and to target this investment to priority town centres (as defined in section 12 of this document) where appropriate. Such projects will be allocated a high priority for funding as set out in Table 7.1.

Monitoring

The ideal measure for the Walking Action Plan is the increase in the number of walking trips. This can be measured accurately for schools and workplaces involved in Travel Plans, and should provide a reasonable sample to enable any significant overall increase in walking to be evaluated. Travel Plan surveys will also include information on perceptions of walking, and track whether infrastructure improvements highlighted in Travel Plans have been implemented and have changed perceptions.

Official statistical sources such as the Ministry of Transport Travel Survey and Census data will also be used to monitor longterm changes in walking.

Table 7.1 ARTA's approach to prioritisation of walking activities

Priority	Seriousness and urgency	Effectiveness	Efficiency*
High	> Projects to increase walking to and within high priority town centres as defined in Section 12 > Marketing projects linked to walking infrastructure improvements	> Projects consistent with the national Pedestrian Facilities Planning and Design Guide[37] (currently in draft form) and are linked to a significant marketing and/or travel planning component which includes monitoring of impact	> Kerb extensions and refuge islands on busy roads with high pedestrian numbers
Medium	> Projects to increase walking to and within medium priority town centres as defined in Section 12 > Marketing projects to promote walking and to encourage more community involvement in walking issues	> Projects consistent with the national Pedestrian Facilities Planning and Design Guide but do not include a marketing or monitoring component	> Bridges and walkways which link communities with local centres
Low	> Walking projects not linked to town centres will generally be allocated a low seriousness and urgency. It is better to apply for such projects under: > Safety projects (including minor safety works) > School Travel Plans > Integrated roading improvements	> Projects which do not comply with the national Pedestrian Facilities Planning and Design Guide	> Facilities where the investment is over $2000 for each new regular pedestrian trip

* Simplified procedures have been developed by Land Transport NZ to assess the economic efficiency of walking projects, and this procedure will need to be followed for each project. This table shows some general conclusions based on projects evaluated to date.

8. CYCLING ACTION PLAN

This cycling programme aims to achieve the Regional Land Transport Strategy (RLTS) target of increasing the number of cycle trips. Currently only around one per cent of morning peak trips in Auckland are by cycle. This Cycling Action Plan seeks to increase that by at least a further one per cent by 2016.

To increase accessibility (and therefore the numbers cycling), we need to create an urban environment conducive to cycling. This means considering cyclists in all roading projects and at all stages of urban and transport planning. The key is providing space to cycle, and minimising conflict between cyclists and other road users, through well connected, visible, on and off, road, cycle facilities. Cycling links to passenger transport need to be improved, including safe cycle lock-up at passenger transport stations and the ability to carry cycles on trains and ferries. It is also important that cycle parking, lockers and showers are provided in workplaces and schools.

To raise community and decision-maker awareness of, and support for, cycling, better information on cycling patterns and trends in Auckland is required. This includes better data on the benefits cycling can bring, attitudes to cycling and the impact of cycle schemes, such as the introduction of new cycle lanes. This information will significantly improve planning for cycling in the future.

Objectives and outcomes

The main activity that will achieve the planned increase in cycling trips will be the construction of the Regional Cycle Network. Half of the Regional Cycle Network will have been completed by 2016, which will create a safe, pleasant environment for most current cyclists and will attract more Aucklanders to cycle.

The RLTS objectives set in the cycling programme are to make cycling in the region:

> safe, direct and pleasant,

> a natural choice for short journeys, and

> more popular, thus increasing the numbers of people cycling.

Planning for cycling

Infrastructure

The RLTS specifies that half of the planned Regional Cycle Network will be completed, but does not indicate any criteria to answer the question of which half. This plan begins the process of defining the network by identifying regionally significant routes and destinations as shown in Map 8.2.

'Regionally significant' routes have been defined as existing or proposed routes that carry, or could carry, significant numbers of cyclists. They may be off-road or on-road, and should be designed or improved progressively to enhance:

> coherence,

> directness,

> attractiveness,

> safety, and

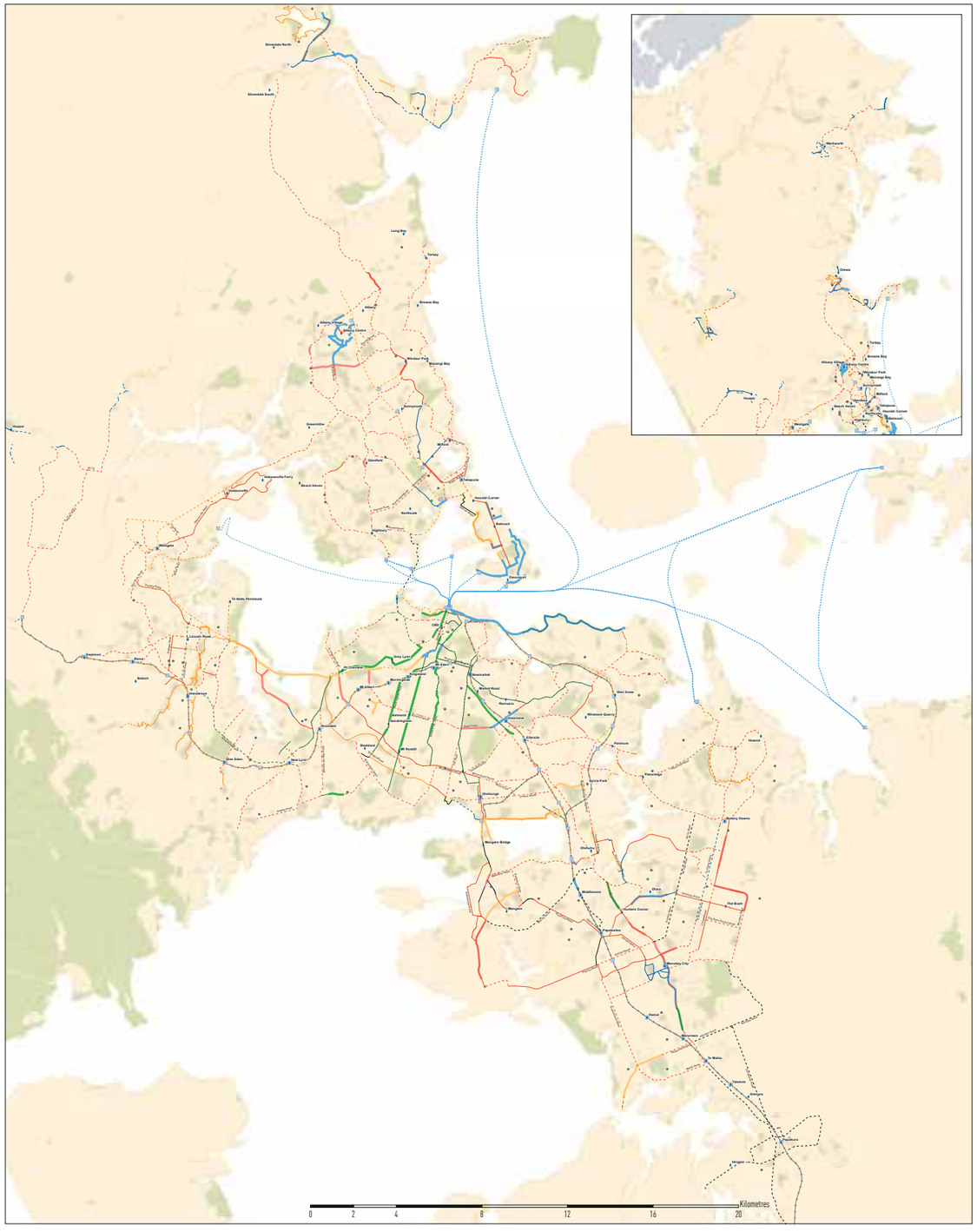
> comfort.

They may be quite short, providing linkages between significant generators of cycle traffic, or longer, to provide connectivity across the region.

Map 8.1 shows the full proposed Regional Cycle Network, based on long-term proposals in local council's Walking and Cycling strategies.

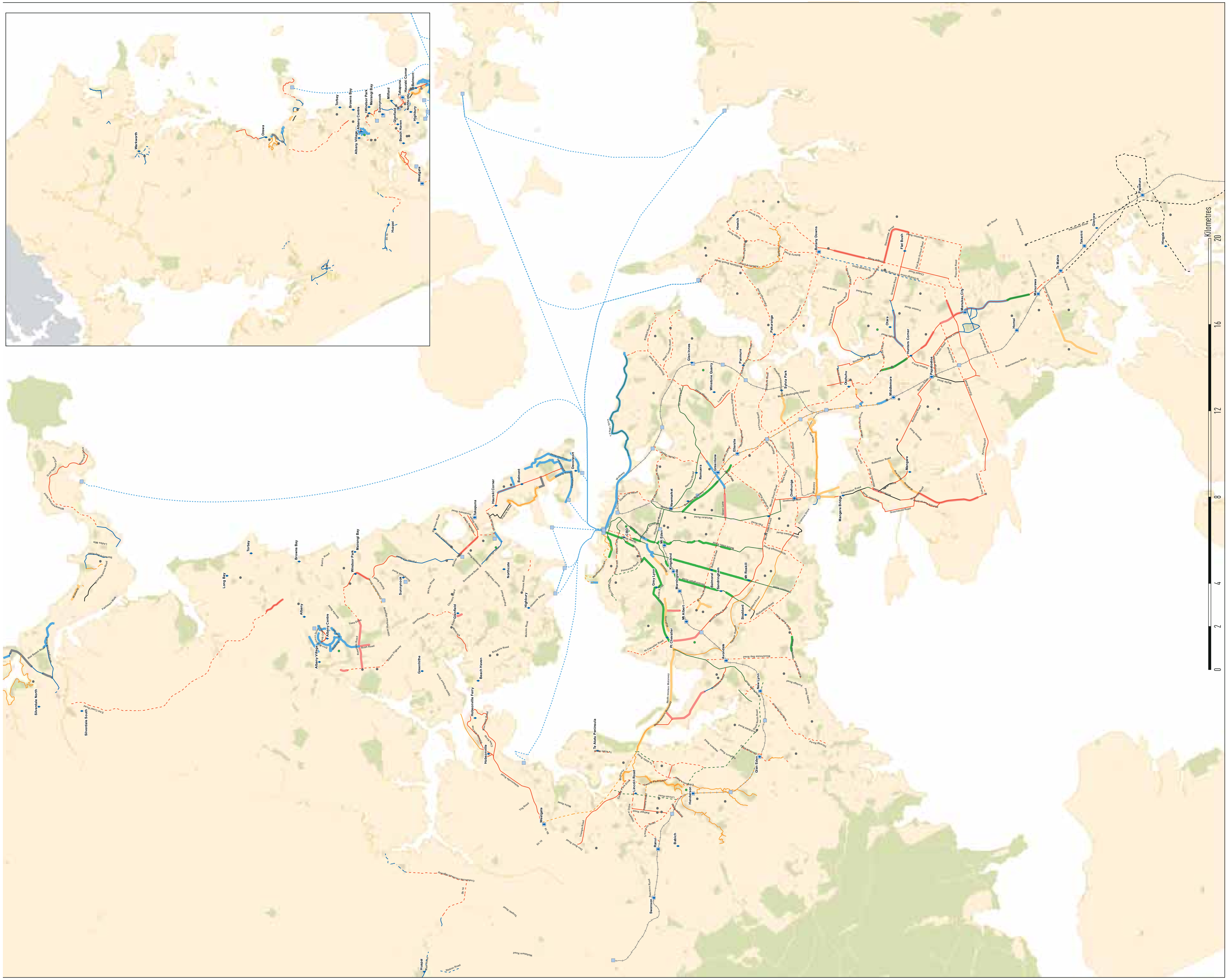
Map 8.2 shows the elements of the network which meet this definition.

Map 8.1 Full Regional Cycle Network



Route information for Franklin District Council is currently under development. Once this data is available, the regionally-significant routes for the Franklin area will be included in the map of the Regional Cycle Network.

Map 8.2 Indicative Regional Cycle Network up to 2016



Legend

- Intermediate & Secondary Schools (school roll > 500)
- Major Tertiary Education Sites
- Town Centres
- Rapid Transit Network Nodes & Ferry Terminals
- Regional Open Space
- Ferry Routes
- Railway

Current Cycle Infrastructure

- On-Road Cycle Lane
- Off-Road Sealed Path
- Shared Bus/Bike Lane
- Shared Footpath
- Unknown / Other

Proposed Cycle Infrastructure (2006-2009)

- On-Road Cycle Lane
- Off-Road Sealed Path
- Shared Bus/Bike Lane
- Shared Footpath
- Unknown / Other

Indicative Cycle Infrastructure (2009-2016)

- On-Road Cycle Lane
- Off-Road Sealed Path
- Shared Bus/Bike Lane
- Shared Footpath
- Unknown / Other

Route information for Franklin District Council is currently under development. Once this data is available, the regionally-significant routes for the Franklin area will be included in the map of the Regional Cycle Network.

Local councils and Transit NZ will be encouraged to target available funding to the regionally significant cycle routes, and to linking the significant destinations to these routes.

All roading projects will also be considered as cycling (and walking) projects and the appropriate infrastructure provision for cyclists should be included.

While the clear emphasis of the Cycle Action Plan is on improving infrastructure, this needs to be supported by education and encouragement, and linked to the provision of end-of-trip facilities.

Improve end-of-trip facilities

To enable more people to choose to cycle, their destinations need to have cycle-friendly policies and practices in place. Secure and accessible cycle storage facilities, showers, changing facilities, and lockers all help to make a destination cycle-friendly. The planned research projects and the Travel Plans will inform what types of end-of-trip facilities would attract new cyclists.

Guidelines for cycle-friendly workplaces are already available, and will be distributed and promoted as part of School and Workplace Travel Plans. The promotion and networking of 'Bike User Groups', or BUGs, is a further way that better end-of-trip facilities can be developed. ARTA will play a facilitating role in the development of BUGs through Travel Plans.

Intermodal travel

The ability to carry bicycles on passenger transport is another crucial element. Being able to cycle one way and come back later on passenger transport increases travel choices considerably, allowing for changes in weather, or simply providing flexibility for individual's daily plans. Overseas experience shows that integrating cycling with passenger transport increases the number of cyclists and the number of cycle trips[38]. ARTA plans to work with the relevant bodies to provide secure cycle lockers which are easy and cheap to use, at major bus or train stations.

At present, however, across the Auckland region we have a mixed approach to integration between cycling and passenger transport. Ferry users can bring cycles at no charge. The rail system will carry cycles at an additional cost of $1, provided there is capacity – which means that the ability to take your cycle, particularly during peak periods, is uncertain. Bus operators currently do not carry bicycles as the carriage of cycles on the outside of buses is not allowed and none of the bus fleet is currently designed to carry bicycles inside buses.

Primary research

A core task of the next few years is to develop a better understanding of the 'next one per cent of cyclists', that is, defining the group of people who are the most likely to shift their choice of transport mode to cycling. The available research on this group of people is limited, although there is currently some information collected that will assist, including segmentation research projects and the census. While this will go some way to providing a better understanding of the likely future cyclists, primary research will be necessary to provide a clear description of this group and their habits.

Further research is anticipated once the implementation of the cycle network and related facilities is underway.

Cycling education

The National Bike Wise Programme is developing Best Practice Guidelines for Cycle Training. Once these guidelines are in place, ARTA will develop a plan of action for moving forward with cycle training in the Auckland region, and begin implementation of that plan.

Regional monitoring standards

At present, cycle count monitoring is carried out inconsistently across the region using different methodologies.

To ensure effective demonstration of the impacts different developments have on increasing numbers of cycle trips, a regionally consistent approach is essential, to ensure accurate comparisons and appropriate funding of effective programmes. The use of one consistent methodology across the region will become a requirement for funding approval from 2007 onwards.

Promoting cycling

Bike Wise Bike Week takes place each year in February/March, and is organised nationally by the HSC (Health Sponsorship Council). The traditional 'Bike to Work Day' was re-positioned as 'Go By Bike Day' for the first time in 2006 (to ensure greater inclusion). All of the agencies involved in cycling make a contribution to the Bike Wise Bike Week, which is an important focus for cycling activity.

Educational safety campaigns such as Share the Road campaign are also significant, and there is potential to develop appropriate and integrated local and regional campaigns along these lines.

Roles and responsibilities

Local council

Local councils own and manage local roads, where most cycling occurs. Most councils have also provided some specialised infrastructure for cycling, both on and off-road, but these facilities do not yet link to form a coherent network.

Many local councils now employ specialist cycling officers, who have a crucial role in improving provision for cycling and ensuring that their local area benefits from regional initiatives.

Local councils will:

> maintain the current cycle network,

> consider the needs of cyclists in all new roading projects and in significant planning decisions,

> complete cycling projects which are already well underway, and

> continue promoting safe cycling.

To give effect to the RLTS, local councils are also strongly encouraged to:

> develop a staged programme to construct the identified regionally significant cycle routes, and link the significant destinations to these routes,

> adopt the national best practice guidelines for the design of cycle facilities

> link significant infrastructure improvements to an effective marketing and promotion campaign, and

> promote a consistent approach to cycle signage.

Transit NZ

Transit NZ is required to consider the needs of all road users, including cyclists, within each major roading project. A cycleway alongside each motorway is not, however, the only way to satisfy this requirement. Cyclists have different needs from vehicles and the optimum road alignment may not create the optimum cycleway. ARTA encourages Transit NZ to continue to work with local councils to ensure there are links that make sense for cyclists. This includes, but is not limited to:

> ensuring that any link that has been severed during the process of new or upgraded works is reinstated to current standards, and

> ensuring that those cycle links that appear in the local council's cycle strategy are incorporated into their projects.

ONTRACK

ONTRACK owns and manages the rail tracks in Auckland and will be involved with cycling infrastructure as it interacts with the rail network.

Advocacy groups

Auckland has a strong cycling advocacy network, which has made a significant contribution to the development of this Action Plan and its predecessor, the Regional Cycling Strategy. Cycle Action Auckland is affiliated with the national Cycling Advocates Network, which in turn is part of Bike NZ.

Cycling advocacy groups are well placed to:

> raise the political profile of cycling issues,

> participate in the setting of policy and priorities for cycling, and

> promote cycling and organise cycling events.

ARTA

ARTA's statutory role, to plan, fund and develop an integrated, safe, responsive and sustainable land transport system, requires a strong involvement in cycling. ARTA is also required to give effect to the Regional Land Transport Strategy, and to monitor progress towards the RLTS targets.

ARTA will:

> convene the Regional Walking and Cycling Group, and develop and monitor the Cycling Action Plan,

> develop and distribute cycle maps,

> contribute to the marketing and promotion of cycling,

> implement the Integrated Transport Assessment Guidelines, to ensure that new urban developments and structure plans result in more cycling-focused communities,

> develop a methodology for promoting cycling in intermediate and secondary schools, and promote this as a tool through the School Travel Plan programme,

> encourage workplaces to become 'cycle friendly' through the Workplace Travel Plan programme,

> develop a regionally consistent methodology for monitoring cycling, and collect data on cycling on the Regional Cycle Network and to significant destinations,

> develop a methodology for tracking and reporting progress on constructing and maintaining the planned Regional Cycle Network, and

> develop a Regional Cycle Parking Plan.

Funding priorities

Local councils are strongly encouraged to increase investment in cycling and to target this investment to the regionally significant routes, and to linking key destinations with these routes. Such projects will be allocated a high priority for funding as set out in Table 8.1.

Monitoring

The core measure for the programme is the number of cycling trips. The Regional Cycle Monitoring Plan details a consistent methodology to evaluate the number of cyclists on regionally significant routes, and to gauge the success of infrastructure improvements. The degree to which the planned cycle network is implemented is also an important measure.

Travel Plans at identified key destinations will also provide useful information on cyclist numbers, perceptions of cycling safety, and barriers to cycling.

Table 8.1 ARTA's approach to prioritisation of cycling activities

Priority	Seriousness and Urgency	Effectiveness	Efficiency**
High	> Construction of a regionally significant cycle route* > Construction of a facility which links a key destination with a regionally significant cycle route > Marketing and promotion of cycling linked to a cycling infrastructure project	> Facilities which are consistent with the national Cycle Network and Route Planning Guide (or differ only in minor or unavoidable details) and are linked to a significant marketing and/ or travel planning component and include a plan for monitoring that is consistent with the Regional Cycle Monitoring Plan	
Medium	> Cycling infrastructure projects that are included in the cycling plan of the relevant local authority, but not identified as regionally significant > Marketing and promotion of cycling	> Projects which are consistent with the national Cycle Planning and Design Guide (or differ only in minor or unavoidable details) and include a plan for monitoring which is consistent with the Regional Cycle Monitoring Plan, but do not include a marketing component	
Low	Cycling projects not identified in a local or regional plan. It is better to apply for such projects under: > Safety projects (including minor safety works) > School Travel Plans > Integrated roading improvements	> Projects which are not consistent with the national Cycle Planning and Design Guide > Projects which do not include a plan for monitoring, consistent with the regional monitoring programme for cycling.	

*These routes and destinations are shown on Map 8.2.
**Simplified procedures have been developed by Land Transport NZ to assess the economic efficiency of cycling projects, and this procedure will need to be followed for each project.

9. SCHOOL TRAVEL PLANS AND WALKING SCHOOL BUSES

Two successful programmes form the basis of the Auckland region's schools programme–School Travel Plans and the Walking School Bus.

A School Travel Plan is a set of practical actions to reduce car trips to school and to make walking, cycling and/or catching passenger transport to school safer, more convenient, and more appealing to students and their parents.

A School Travel Plan is a long term partnership between the school, the community, the local council, and ARTA. It is developed collaboratively, with all partners taking responsibility for implementation. A typical School Travel Plan will set out a combination of environment, engineering, enforcement, education and encouragement actions.

The most popular encouragement tool at primary school level is a Walking School Bus. A Walking School Bus can either be established independently of a School Travel Plan or can be a key action highlighted in a School Travel Plan.

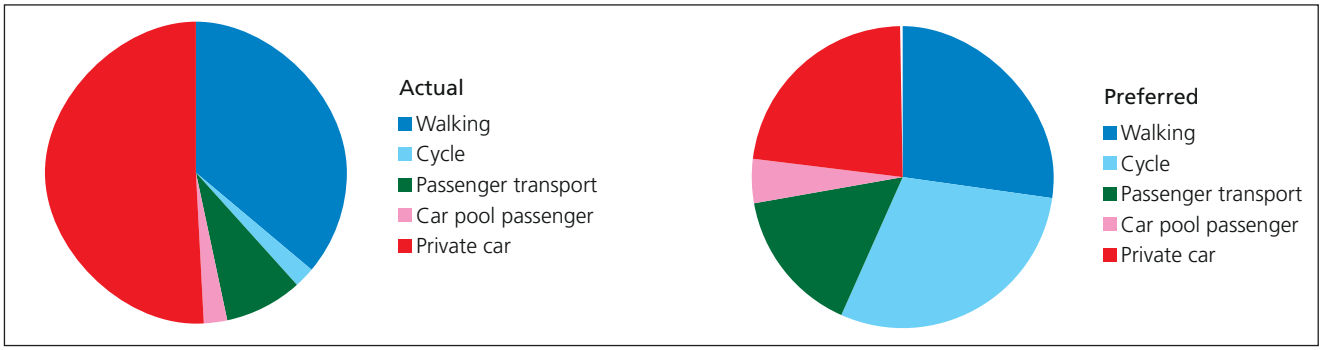
A Walking School Bus provides a safe way for children to get to primary school, supervised by parent 'drivers' who walk with groups of children to and from school in an organised fashion. The concept has proven successful in providing an alternative to car travel, which is appropriate and safe for children from the day they start school.

By November 2006 there were over 200 Walking School Buses operating in 91 schools across the Auckland region. Over 3,800 children walk to and from school on a Walking School Bus.

How students travel to school

Every morning, over 250,000 children travel to Auckland schools. Currently around half of these trips are made by car, yet fewer than 22 percent of primary students prefer to travel by car, as shown in Figure 9.1. In the past 20 years, the percentage of children being driven to school has doubled.

Figure 9.1 How primary students travel to school and how they would prefer to travel



Source: ARTA Travelwise Surveys 2005-2006

Short car trips to school add to traffic congestion, parking hassles, air pollution, and the risk of crashes. Meanwhile many Auckland children do not get enough exercise, increasing the risk of health problems. Children and parents miss valuable opportunities to meet friends and to get to know their local community.

In the first few years of school, children are very clear in their preferences – they want to walk, cycle, catch passenger transport or car pool to school. However at this age most children travel to school by car, a choice which is made by their parents. Older children have become familiar with car use and are reluctant to use other options[39]. As adults, this generation may well remain convinced that the car is the only way to travel, despite the improvements being made to Auckland's walking, cycling and passenger transport networks. Working with schools is, therefore, an investment in the future transport system, with potential for significant longterm benefits.

Objectives and outcomes

The Regional Land Transport Strategy sets a goal to reduce car trips to school by 12,600 trips. This equates to 7,800 fewer car trips to primary school and 4,800 fewer car trips to intermediate and secondary schools each morning.

As of December 2006, there were 3,200 fewer children traveling by car to TravelWise schools.

Planning for school travel

The School Travel Plan programme is directly managed by ARTA, with strong co-ordination and partnership with local councils. It is governed by a steering group with representation from local councils, ARTA and Land Transport NZ.

The programme aims to reach all Auckland schools by 2014, but is voluntary on the part of the school. The RLTS goal of 12,600 fewer car trips will be achieved when 90 per cent of all Auckland students have been involved in a Travel Plan, and when car trips to school have been reduced by an average of 5.5 per cent (of the school roll) in participating schools. Walking School Buses will make a major contribution to achieving this goal in primary schools.

Stages in a School Travel Plan

The TravelWise process is set out in Figure 9.2. The stages in a School Travel Plan are:

1. Set up

An initial planning meeting is held between the school principal, coordinating teacher, a TravelWise planner from ARTA and a local council representative. All parties need to make a formal commitment to the Travel Plan process.

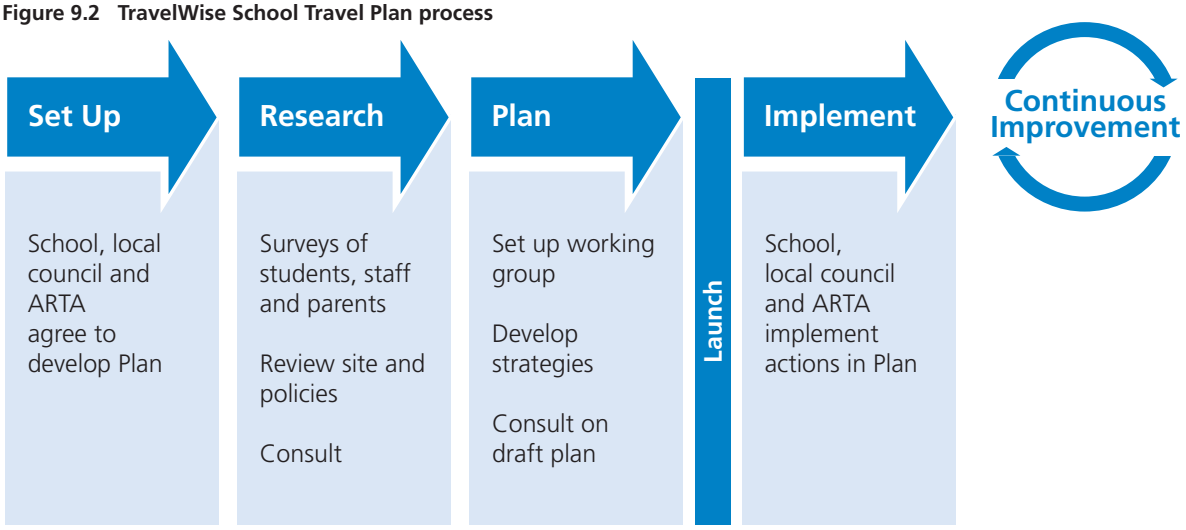
2. Research

Students, parents and teachers are surveyed about travel to and from school. A 'Planning for Real' consultation collects information from students in class time and from parents and the community, e.g. at an open evening. School travel policies are reviewed and traffic and pedestrian observations are carried out. The data is analysed and a report is prepared for the school reflecting their unique transport issues.

3. Plan

A working party, organised by the TravelWise planner, is set up to develop the Travel Plan. All the issues raised in the report are discussed and the working party comes up with strategies to address the issues. This may involve changes to the school environment, engineering, education, encouragement and enforcement actions. The draft Travel Plan is presented to the school community, including residents, for public consultation and feedback. The final plan is then written.

Figure 9.2 TravelWise School Travel Plan process



4. Implement

The Travel Plan is launched at a special school event and signed by everyone involved. The Travel Plan is implemented and monitored by ARTA, the local council and the school.

5. Continuous improvement

Regular meetings will review progress and establish new targets as required. Ongoing support is available to schools with completed School Travel Plans.

New schools

The process set out in Figure 9.2 can be applied – with some modifications – to the development of new schools. The opportunity to get it right when the school opens is a valuable one and all new schools will be given a high priority in the programme.

The Walking School Bus process

A Walking School Bus is the simplest TravelWise process, and any primary school in the Auckland region is welcome to set up a Walking School Bus at any time. School communities are still advised to follow some key steps, particularly getting the support of the school, the local council and ARTA at an early stage.

Local councils and ARTA offer the following tools to support communities in setting up a Walking School Bus:

> detailed guidelines for setting up a Walking School Bus,

> a safety audit of potential routes,

> a start-up grant to purchase equipment needed for the bus,

> safety training for Walking School Bus volunteers, and

> a small maintenance grant to established Walking School Buses as part of the annual survey process.

Roles and responsibilities

Local council

Each local council employs a Travel Plan Co-ordinator whose task it is to represent the council's interest at all levels of the programme, from the regional steering group through to individual schools. Travel Plan Co-ordinators are responsible for the safety issues which invariably arise in a School Travel Plan, and are closely involved in the design of engineering and enforcement strategies which rely on the local council for implementation.

Most local councils also employ a Walking School Bus co-ordinator (some councils combine this role with that of Travel Plan Co-ordinator) who is responsible for assisting Walking School Buses in their area and improving the safety of Walking School Bus routes.

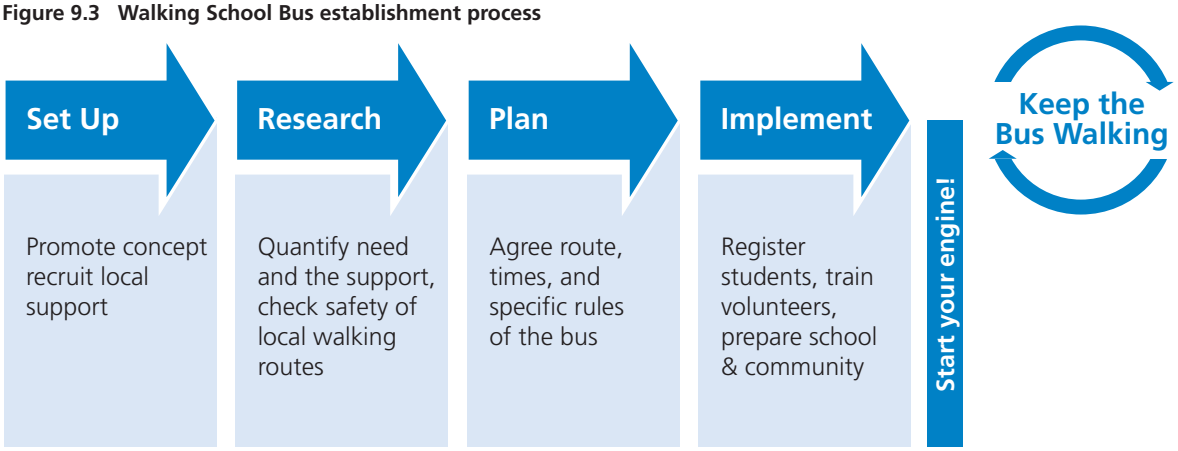
Local councils are also responsible for setting the timing of School Travel Plans. Priorities for schools are based mainly on safety but also take advantage of opportunities such as a nearby transport project, or integration with a wider Neighbourhood Accessibility project as set out in Section 12.

Local councils will:

> set priorities and timing for School Travel Plans, consistent with completing a Travel Plan for all schools by 2014, and

> assist schools in their area to develop Travel Plans and to set up Walking School Buses.

Figure 9.3 Walking School Bus establishment process



ARTA

ARTA directly employs TravelWise planners and Walking School Bus co-ordinators whose job it is to support the creation and implementation of Travel Plans and Walking School Buses throughout the region. The ARTA schools team is able to roll out and monitor a regionally consistent programme, and to develop world-class tools, systems and resources.

ARTA will:

> convene the Regional School Travel Group,

> employ TravelWise planners, who directly work with schools to create Travel Plans,

> reimburse schools for any reasonable costs incurred in developing a Travel Plan and setting up a Walking School Bus, and

> monitor the School Travel Plan and Walking School Bus programmes.

Schools and the school community

In a Travel Plan, the school acts as the hub of the local community. The school is the venue for almost all meetings and events, and the information network through which parents, students and the wider community are informed and asked for their views. School principals, staff and board members are also key participants in a Travel Plan.

Walking School Buses are more a community owned initiative, although the support of the school is a vital component of their success.

Funding is available, through ARTA, to cover the cost to schools of setting up a Walking School Bus and of developing a Travel Plan. There is, however, a clear boundary to the school's role. Parents are still responsible for their child's safety on the journey to and from school. Walking School Buses and School Travel Plans provide parents with an opportunity to work together with the school, ARTA and the local council to make children safer.

Table 9.1 ARTA's approach to prioritisation of School Travel Plan activities

Priority	Seriousness and Urgency	Effectiveness	Efficiency*
High	> The development of Travel Plans for all Auckland schools by 2014 > The development of tools to improve the programme, undertaken under the guidance of the Regional School Travel Group > Monitoring costs > The cost of infrastructure identified as a priority for School Travel Plans	> Project management, design, and monitoring costs relating to School Travel Plans which have the full agreement of the school, ARTA, and the local council > Infrastructure specified in a School Travel Plan, up to a maximum of $150,000 for a primary school and $300,000 for a secondary school	> School Travel Plans for clusters of schools on or near congested routes have a high economic efficiency
Medium			> Most School Travel Plans for intermediate and secondary schools have a medium economic efficiency
Low	Development of tools which duplicate key components of the regional TravelWise process	> School Travel Plans developed without the full agreement of any one of the following parties: – School – ARTA – Local council > Infrastructure projects to meet the needs of schools which are not developing Travel Plans. These projects are more appropriately funded as safety projects (including minor safety)	> Most School Travel Plan projects for primary schools, which involve infrastructure improvements, have a low economic efficiency

* Simplified procedures have been developed by Land Transport NZ to assess the economic efficiency of School Travel Plans, and this procedure will need to be followed for each project. This table shows some general conclusions based on projects evaluated to date.

Funding priorities

ARTA, with the support of its funders, employs TravelWise planners, and provides them with tools and support to make the process effective and efficient. ARTA will also fund the development and distribution of promotional material for schools, and reimburse schools for the costs involved in setting up a Walking School Bus and preparing a Travel Plan.

Infrastructure requirements identified as part of a School Travel Plan are the responsibility of local councils, and are subsidised through the Land Transport Programme. Simplified procedures have been developed by Land Transport NZ to assess the economic efficiency of School Travel Plan projects. Councils are encouraged to include their School Travel Plan projects within the annual 'package' funding application for the programme, which is co-ordinated by ARTA.

The standard profile for School Travel Plan activities is set out in Table 9.1.

The framework is a guide only. Applicants are encouraged to provide additional information to enable the assessment of each project on its individual merits.

Monitoring

ARTA is responsible for detailed monitoring of the programme through surveys, site audits and regular consultation with schools. ARTA will also ensure that independent research is undertaken on the School Travel and Walking School Bus programmes on a regular basis (at least annually) to confirm the results of in-house monitoring and provide an objective review of programme achievements.

Progress monitoring will be reported quarterly to the ARTA management team and Board. The annual audit of Walking School Buses and School Travel Plans will also be reported to Land Transport NZ and the local councils. All schools and other stakeholders will be informed of progress through the quarterly TravelWise Schools newsletter.

School Travel Plan monitoring

School travel is much more complex than it appears. For example, more children travel to school by car than travel home by car. One of the two key aims of the programme is to reduce car use, so it is important to understand how many parents drop their child off on the way to work (generating additional car travel in terms of kilometres travelled) and how many parents travel straight home after taking children to and from school (generating four extra car trips a day).

As part of each School Travel Plan, a detailed survey is undertaken of all students, parents and staff, to establish a clear picture of how families currently travel, as well as how they would prefer to travel and what are the barriers to walking, cycling and passenger transport.

A much quicker and simpler way to monitor how children travel to school is to use a 'roll survey'. Children are asked, in class, to indicate how they travelled to school that morning to gain a very accurate picture of how many children walk, cycle, and catch passenger transport or travel to school by car. Because this information is marked against the school roll, it can be matched with address data to estimate a reduction in kilometres travelled as well as trips.

The other key aim of the programme, safety, is even more difficult to quantify. Reducing child pedestrian and cyclist injuries is clearly the overall goal, but it will take many years to be sure of a downward trend in crashes as a result of this programme. In the meantime, the survey of parents includes questions on their perceptions of the safety of the local environment.

ARTA will undertake ongoing monitoring of School Travel Plan implementation, using a combination of detailed surveys and 'hands up' counts to measure the impact on car use. ARTA will also track improvements to infrastructure, and parents' perceptions of safety, as the most immediate measures of safety impact.

Walking School Bus monitoring

Each Walking School Bus provides information to ARTA as part of the application for start-up funding. In term four each year, Walking School Bus co-ordinators are asked to complete a survey updating the numbers of parents and children using the bus, and commenting on any issues the bus is facing.

The impact of Walking School Buses on car use and on safety is extremely difficult to monitor directly. This information will become available through the School Travel Plan surveys undertaken at primary schools which set up Walking School Buses as part of their Travel Plan.

School bus patronage

ARTA monitors patronage on all its school bus routes that serve TravelWise schools. This provides a measure of the effectiveness of bus promotion at each school.

10. WORKPLACE TRAVEL PLANS

A Workplace Travel Plan is a series of responsive, co-ordinated and planned activities providing greater travel choice to people for the journey to work, and more effective management of work-related transport. ARTA's Workplace Travel Plan programme is a voluntary one, aimed at businesses where transport and parking issues are impacting productivity and profitability.

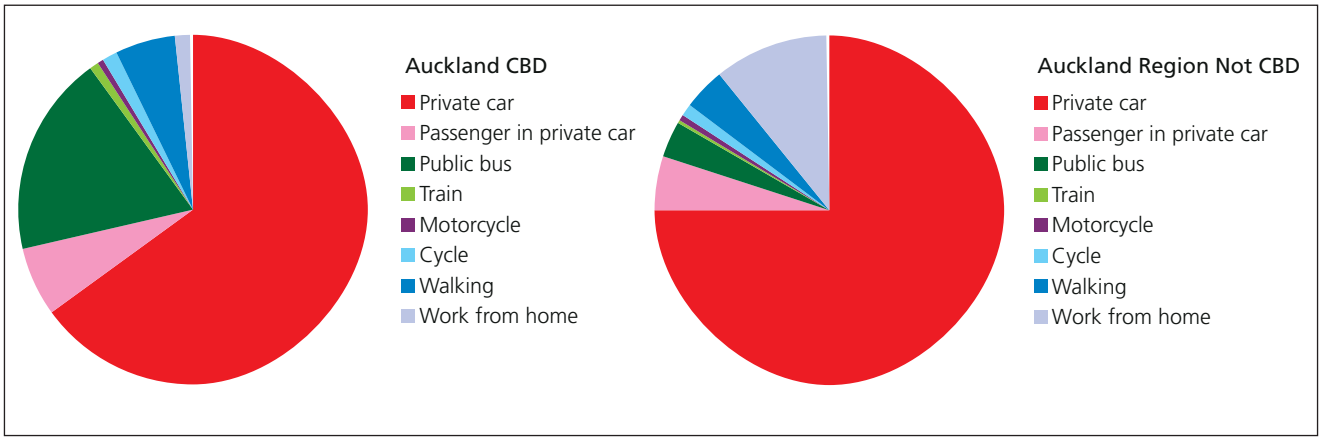
The making of a Travel Plan starts when an organisation accepts that a Travel Plan is an investment and understands that its recommendations may lead to changes to work practices that will positively benefit their business. A Travel Plan can reduce costs for a business while improving operational efficiency, staff morale and productivity.

How Aucklanders travel to work

In the 2001 Census, 77 per cent of all journeys to work were as car driver. This high average figure, however, masks some significant local variation in travel patterns as shown in Map 6.1 in Section 6.

As a general rule, people who work in the CBD are less likely to travel by car, and much more likely to use passenger transport, than those who work on the urban fringe (see Figure 10.1). The other very significant factor is provision of parking-employers who provide free parking for staff have very high levels of car use, even in a CBD location.

Figure 10.1 Travel to work, Auckland CBD and non-CBD



Source: 2001 Census

Objectives and outcomes

The 2016 target set in the Regional Land Transport Strategy for the Workplace Travel Plan programme is to achieve a reduction of 3,500 cars from the morning peak period, by working with organisations totalling 90,000 employees. It is expected that Travel Plans will vary in effectiveness, with the most effective plans achieving a 12 per cent reduction in morning peak car trips to the participating workplace.

ARTA aims to complete 30 Workplace Travel Plans per year for the next 10 years. Currently (June 2006) over 30,000 employees are involved in the programme, and around 45,000 tertiary staff and students. It is highly likely that the RLTS target for Workplace Travel Plans will be achieved in the early years of the programme. This level of uptake has been achieved because of the willingness of businesses to become involved, and because of the unique business model being used in the ARTA programme.

Planning for workplace travel

ARTA has defined a TravelWise project planning process, which is based on the internationally recognised Project Management Institute (PMI) process. The process is set out in Figure 10.2.

The process incorporates a quality management system, which is carried out at five key milestones. At each milestone, ARTA's role is to determine the integrity of the project process and outcomes.

Travel Plans and land development

The core of the TravelWise Workplace Travel Plan programme is based on voluntary decisions by organisations to develop a Travel Plan to address its employees' and customers' needs. For a Travel Plan to succeed, the process needs to actively involve users, employees, customers, suppliers and visitors, who will have the ability to implement the initiatives of a Travel Plan.

TravelWise Workplace Travel Plans are therefore not the appropriate process for a developer to use when designing the layout and facilities for a site development. It is the eventual occupiers of the developed site who will find the TravelWise process useful, not the developers.

However, decisions made throughout the development process will strongly influence the travel choices of those who live, work, or visit in the area. Guidelines for new developments are set out in chapter 13.

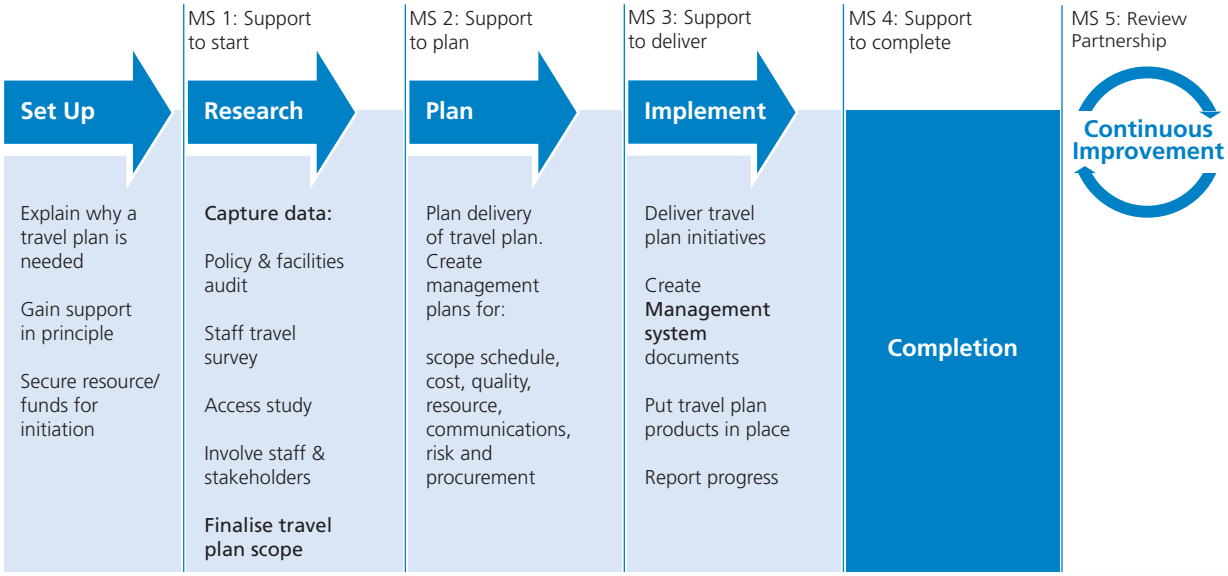
Some large organisations may occupy both roles, as a developer as well as the major employer on a site. An example is where the operator/tenant of a site is the party applying for expansion, development of parking facilities or other activity, which will generate an increase in traffic volume. In these cases elements of both the TravelWise process methodology and the Landuse Guidlines will be useful.

Travel Management Associations

Most employment in the Auckland region is in small and medium enterprises, which are not currently well catered for in the TravelWise process. For these organisations ARTA is currently researching the feasibility and success criteria for the establishment of Travel Management Associations (TMAs) in the Auckland region. If it is feasible, ARTA will develop a set of guidelines for the establishment of successful TMAs which contribute to achieving the objectives of the RLTS.

A TMA is a private member-controlled organisation that providing transport services in a particular geographical area such as a town centre, an industrial estate, new development, commercial district or mall. TMAs are usually more cost-effective than individual travel plans managed by individual businesses, as they can be far reaching in their impact not only on commuter travel patterns, but on transport services and infrastructure and, in some cases, the local neighbourhood. TMAs also allow small businesses to offer employees the benefits of demand management initiatives (such as Travel Plans) comparable to those offered by large companies.

Figure 10.2 TravelWise Workplace Travel Plan process



Roles and responsibilities

ARTA's Workplace Travel Plan programme is flexible and aims to encourage each workplace to develop its own Travel Plan which meets its individual circumstances. The Workplace Travel Plan programme covers a wide variety of employers, from one specific business to a cluster of businesses in a particular area or site working together to develop a Travel Plan.

A regionally agreed set of tools and templates will be used to ensure that all Workplace Travel Plans can be monitored on a consistent basis, and that workplaces and local councils are not duplicating effort.

This business model means the programme is flexible and can be scaled to match demand for the service. The relationship between ARTA and workplaces is an indirect one as shown in Figure 10.3.

ARTA

ARTA's main role is to define a robust process and provide a set of tools to make travel planning for workplaces as easy and cost-effective as possible. ARTA will:

> promote Workplace Travel Plans regionally,

> provide standardised surveys, tools and templates to workplaces preparing Travel Plans at no cost, subject to quality assurance at each stage of the process,

> provide tools at no cost, including passenger transport roadshows, personal journey plans, benefit calculators and ridesharing software to Auckland workplaces with TravelWise plans to help implement Travel Plans,

> provide training on the application of the TravelWise process,

> facilitate a network for knowledge-sharing and capability building, and

> monitor the Workplace Travel Plan programme.

Workplace

Any workplace in Auckland can develop a Travel Plan using ARTA tools, but each individual Travel Plan requires a project manager. The project manager could be a consultant, a member of the workplace staff, or someone from the local council. The project manager will need to have attended training in the ARTA TravelWise process.

Workplaces have the main responsibility for implementing the actions in the completed Travel Plan, and for putting in place a process of continuously improving the plan in the future.

Local council

Not all Workplace Travel Plans require the involvement of the local council. However a local council wishing to assist businesses in their local area with travel planning expertise is strongly encouraged to develop this capability.

A local council may (at its discretion):

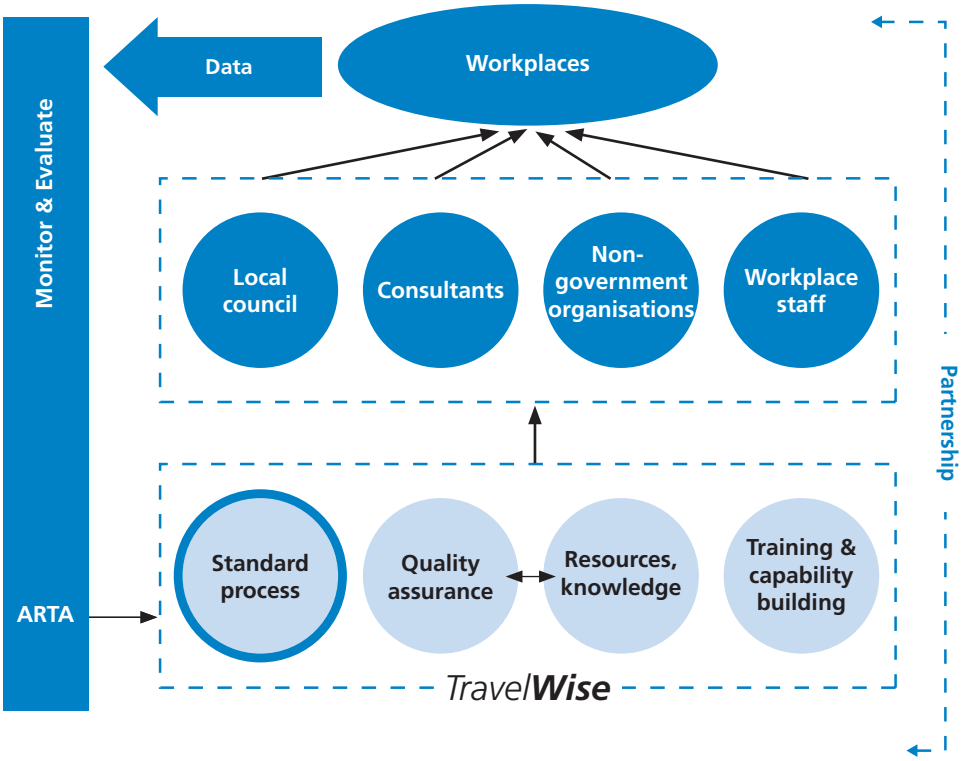
> promote Workplace Travel Plans to local employers and tertiary institutes,

> provide a project manager, thus significantly lowering the cost to a workplace of developing a Travel Plan, and

> assist with and/or subsidise the implementation of Travel Plan actions.

Local councils are encouraged to apply for a subsidy for these activities through the Land Transport Programme.

Figure 10.3 TravelWise Workplace Travel Plan programme business model



Funding priorities

ARTA will fund the development and refinement of the travel planning process for workplaces, as well as the development of tools to make the process more effective and efficient. ARTA will also fund the development and distribution of promotional material. Where appropriate, ARTA will fund tools such as ridesharing software to assist with the implementation of Travel Plans.

Each workplace will generally need to meet the cost of a project manager to develop its Travel Plan. Workplaces are encouraged to work closely with the local council.

The framework to assess applications for subsidy from the Land Transport Programme for Workplace Travel Plans is set out in Table 10.1. This subsidy is only available if the applicant is an approved organisation (ARTA, Transit NZ or a local council).

The framework is a guide only. Applicants are encouraged to provide additional information to enable the assessment of each project on its individual merits.

Monitoring

Workplaces developing Travel Plans are strongly encouraged to use ARTA's standard survey tools, comprising a standard survey (available as a paper survey and/or online), an address mapping function and a template for analysing and reporting survey results at a workplace. These tools significantly reduce the cost of undertaking a survey within a workplace, and make it possible for ARTA to measure the effectiveness of the Workplace Travel Plan programme as a whole.

Initial workplace travel surveys will collect the following information:

> current mode of travel,

> attitudes to each mode of travel, and any barriers to walking, cycling, carpooling, using passenger transport, or teleworking, and

> origins, destinations and time of travel (this data is handled confidentially and only reported in aggregate form. It is used to plan effective Travel Plan actions).

Follow-up surveys will measure any changes to travel patterns, and relate these to improvements made through the Travel Plan.

Table 10.1 ARTA's approach to prioritisation of Workplace Travel Plan activities

Priority	Seriousness and Urgency	Effectiveness	Efficiency*
High	> Activities to develop and distribute tools to improve the TravelWise process and to assist in implementing Workplace Travel Plans > Project management costs** for developing Workplace Travel Plans for a local council, an institution, or located in a priority town centre listed in Table 12.1	> The development and implementation of the TravelWise process > Quality assurance and monitoring functions undertaken by ARTA in relation to Workplace Travel Plans > Project management costs** for Workplace Travel Plans developed using the TravelWise process	> Workplace Travel Plans for large employers, especially those located in the CBD
Medium	> Project management costs** for developing Workplace Travel Plans not listed as high priority	> Project management costs** for Workplace Travel Plans where the process proposed is broadly consistent with TravelWise, particularly in the collection of monitoring data	> Workplace Travel Plans for smaller employers, particularly those not addressing parking as a priority, and not aligned with public transport improvements
Low	> Development of tools which duplicate key components of the TravelWise process	> Project management costs for developing Workplace Travel Plans through a process which is inconsistent with TravelWise, and which will not result in the collection of robust monitoring data	

* Simplified procedures have been developed by Land Transport NZ to assess the economic efficiency of Workplace Travel Plans, and this procedure will need to be followed for each project. This table shows some general conclusions based on projects evaluated to date.

** A subsidy for project management costs is only available if the applicant is an approved organisation (ARTA, Transit NZ or a local council)

11. TERTIARY TRAVEL PLANS

During semester time, some 132,600 students travel to tertiary institutions throughout the Auckland region. This puts significant pressure on roads and passenger transport services leading to a noticeable increase in journey times for all commuters. Any actions to make it easier for students and staff to travel around will also have benefits for others.

While tertiary institutions have much in common with workplaces, they have a number of characteristics that set them apart when it comes to travel planning:

> they can be a focal point for a very large number of travellers,

> the institutions themselves are often spread over a large area and can have substantial expansion and redevelopment plans,

> staff and students who attend them have distinctive travel patterns, making trips to the tertiary institutions for many different reasons e.g. work, study, sport, recreation and social events, and

> numbers of travellers fluctuate across the year during and between semesters, having a substantial overall impact on local and regional congestion.

How tertiary students travel

Understanding travel patterns (how, why, when, and where people travel from) is central to the development of any Travel Plan. ARTA recently completed the most comprehensive study ever undertaken into how tertiary students travel around the Auckland region. The study has revealed some interesting issues relating to both perceptions and the use of various modes of transport.

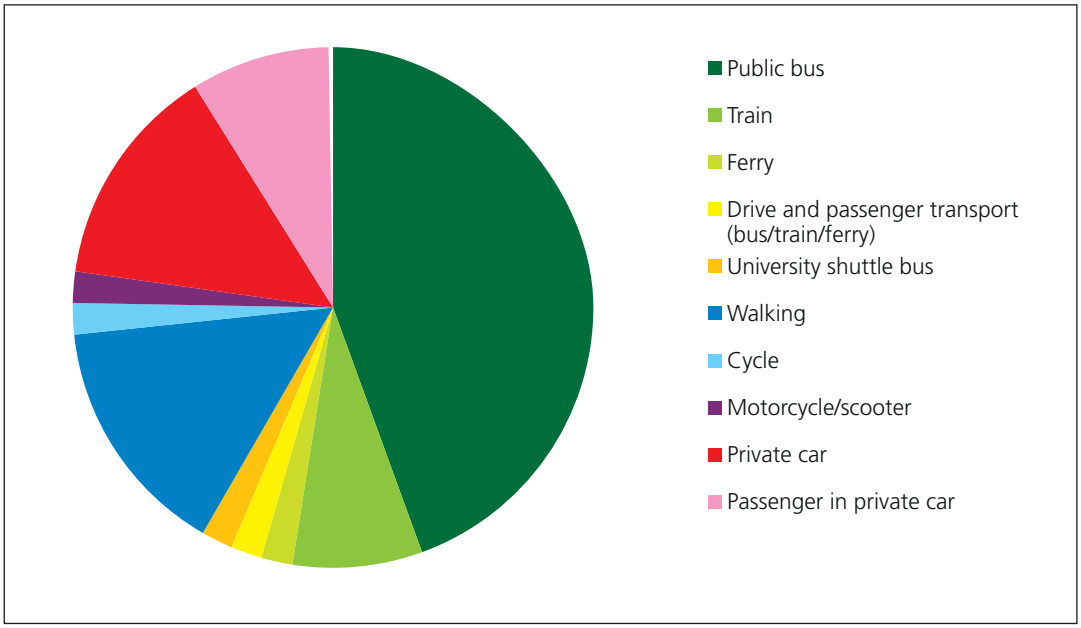
The study focused on the CBD campuses of AUT and the University of Auckland, and showed a dramatic shift in students' travel modes in recent years with fewer students driving and significantly more trips made by passenger transport and carpooling. The research suggests that this change in behaviour is largely a reaction to increases in fuel and parking costs. In addition, improvements in passenger transport services over this time have made much of this shift possible.

Within this general trend, students show a great deal of flexibility in their travel patterns, both in terms of the times they travel each day and the travel choices they make. For example, on one day they may carpool in to study and take the bus home, travel by train the next, and drive alone the day after. This could be due to course arrangements, a desire not to drive during peak times or because they have work or family commitments before or after study.

Student travel tends to be dictated by a combination of external circumstances including financial situation, course structure, and availability of passenger transport services in their local area. In addition the research suggests that many students are unaware of the extent of passenger transport services, leading to a negative perception of passenger transport that does not match the reality. This perception, combined with a longer term aspiration to own a car, is reflected in the fact that students are more likely to drive to study in the later years of their enrolment.

Overall, students, and to a lesser extent staff, show very high levels of sustainable transport use (particularly passenger transport) when compared with the rest of the commuting public. Tertiary Travel Plans will therefore need to be developed in order to maintain current sustainable travel patterns, increase the rate of change to sustainable modes and also to ensure services develop to accommodate any projected growth in student numbers.

Figure 11.1 How students travel to CBD campuses



Objectives and outcomes

Tertiary institutions are categorised as workplaces within the Regional Land Transport Strategy. As such, Tertiary Travel Plans are included in the 2016 target for the Workplace programme, to achieve a reduction of 3,500 car trips each morning peak. ARTA is on track to achieve this goal through workplace initiatives alone, without any reduction in tertiary car travel.

Tertiary students are a very significant group of travellers, and their low and declining level of car use is a recent trend which could easily be reversed. The gains made through the Workplace Travel Programme could be lost simply through a small increase in tertiary car travel. For this reason, ARTA has set the goal of promoting and assisting the completion of Travel Plans at all universities and other significant tertiary institutions in the Auckland region by 2016.

Like workplaces, Tertiary Travel Plans will vary in their effectiveness, with the most effective achieving up to a 12 per cent reduction in morning peak car trips.

Planning for tertiary travel

The general development of a Tertiary Travel Plan follows the same TravelWise process (from set-up to implementation) as that for schools and workplaces. However the characteristics of tertiary institutions means that some flexibility is required. This includes:

> a longer set-up phase with a greater number of stakeholders (including students, academic and general staff)

> a more in-depth research programme (including qualitative and quantitative elements, and a stakeholder review) with scope for student and academic involvement,

> depending on the size of the institution, there may also be a need for an audit of transportation infrastructure and facilities, and

> greater stakeholder involvement in the planning stage.

Roles and responsibilities

ARTA plays a key role in the facilitation of tertiary travel planning by providing a consistent planning process that is supported by a set of tools, templates, products and services for implementation. Through this process, Tertiary Travel Plans will be monitored on a consistent basis. This means that learning can be shared between tertiary institutions, local councils and ARTA.

ARTA

ARTA's main role is to define a robust process and provide a set of tools to make tertiary travel planning easier and as cost effective as possible. ARTA will:

> promote Tertiary TravelWise Plans through a regionally co-ordinated strategy,

> provide leadership and advice on the development of the Travel Plan and assist in co-ordinating and identifying stakeholders and project partners,

> provide at no cost standard surveys, research strategies, planning tools and templates to tertiary institutions preparing Travel Plans, subject to quality assurance at each stage of the process,

> provide products and services at no cost including passenger transport road shows/clinics, personal journey plans, benefit calculators and ridesharing software to Auckland tertiary institutions with TravelWise plans to help implement their Travel Plans, and

> monitor and evaluate specific Tertiary Travel Plans, as well as the regional programme.

Tertiary Institutions

All tertiary institutions can take part in the TravelWise programme, and access ARTA tools and assistance for its Travel Plan. However, the development of a Travel Plan requires a project manager to lead the project from start to finish. The project manager could be a dedicated staff member, consultant or contractor but will need to be someone who has attended training in the ARTA TravelWise process.

In addition to project management, and where feasible, tertiary institutions would be expected to utilise their staff and student resources and be directly involved in the research, analysis and monitoring stages of the Travel Plan.

Overall, tertiary institutions should be prepared to:

> gain management commitment,

> provide project management,

> undertake research in-house,

> encourage multi-stakeholder involvement, and

> develop a long term integration of travel planning initiatives into institution policy.

Local Council

Tertiary travellers are significant users of the road network, and Tertiary Travel Plans are likely to result in engineering recommendations which require the involvement of the local council. Council planning and development staff are therefore key stakeholders in the travel planning process and should be members on the working parties for any Travel Plan in their areas.

A local council may choose to:

> promote Tertiary Travel Plans to tertiary institutes,

> provide a project manager, thus significantly lowering the cost to a tertiary institution of developing a travel plan, and

> assist with and/or subsidise the implementation of Travel Plan actions.

Passenger Transport Operators

Linking passenger transport operators and students is a significant part of the Tertiary Travel Plan process. Passenger transport operators are a key stakeholder and should be involved in the research and planning phases of the Travel Plan. Representatives should be part of the project working group. The outcome of this process ensures operators better understand the need of student travellers and can work to improve services to tertiary destinations through such initiatives as improvements to timetables and route design.

Funding priorities

ARTA will fund the development and refinement of the travel planning process for tertiary institutions and will provide tools to make the process more effective and efficient.

Tertiary Travel Plans are large and complex projects and will require a dedicated project manager. Because tertiary institutes are not approved organisations, and are not eligible for a direct subsidy, there are two potential courses of action:

> the tertiary institute partners with an approved organisation (ARTA or the local council) to submit a funding application for 75 per cent of the costs of a project manager. Funding applications are generally due in October each year, for projects beginning in July of the following year, so this introduces a significant delay, or

> the tertiary institute meets the cost of project management.

Monitoring

ARTA's TravelWise survey template provides the basis for collecting both baseline and follow-up data. The survey tools significantly reduce the cost of research within a tertiary institution, whilst the reporting of results makes it possible for ARTA to measure the effectiveness of the Travel Plan programme as a whole.

Initial travel surveys* collect the following information:

> current mode of travel,

> attitudes to each mode of travel, and any barriers to walking, cycling and carpooling, as well as using passenger transport and teleworking, and

> origins, destinations and time of travel.

Follow-up surveys measure:

> reduction in car use achieved by an individual Tertiary Travel Plan,

> any shift in attitudes amongst students and staff, and

> key reasons for changes in travel behaviour.

This data is then aggregated at the programme level to determine the impacts of the tertiary travel programme on the number of car trips and vehicle kilometres travelled, and to identify the most effective components of the programme.

*All data is to be handled confidentially and in line with the Tertiary Institutions Ethics committees where appropriate.

12. NEIGHBOURHOOD ACCESSIBILITY PLANS

The Regional Land Transport Strategy sets the target that walking opportunities will be improved in 18 town centres by 2016. Making walking a popular transport choice will require investment in safer crossings, better footpaths, and more pleasant shortcuts and walkways. Good urban street design will help by making neighbourhoods safer and more pleasant places to walk, and providing for good passenger transport links. Good process is also important; these are local projects and need to closely involve the local community.

ARTA aims to influence walking investment to ensure that Auckland's large and fast-growing neighbourhoods, where more people walk already, have first priority. These neighbourhoods are also likely to be the most effective places to undertake Travel Plans in schools and workplaces, and to encourage cycling and more efficient car use.

The Neighbourhood Accessibility Plan approach is expected to result in a greater reduction in car trips than would be achieved if walking, cycling and travel planning projects were undertaken separately. Improving infrastructure without aligning travel behaviour change initiatives has been shown to be less effective than a combined effort[41]. The same is true for promotional based travel behaviour change initiatives that are not combined with improvements to infrastructure[42].

To date, planning for Auckland's town centres and neighbourhoods has been co-ordinated through the Regional Growth Strategy, and reflects an urban planning and design agenda. The aim has been to encourage more intensive housing development, along with shops, office and low-impact commercial development in town centres and along transport corridors. It is now recognised that a strong transport plan, which considers the needs of all road users, ensures adequate priority for pedestrians and improves accessibility by passenger transport, is a vital component of an effective plan for a town centre[43].

Within existing town centres this requires an integrated involving the local community in specifying the improvements needed. The Neighbourhood Accessibility Plan methodology provides such an approach and builds on travel plan experience and the Safer Routes programme developed by Land Transport NZ.

In new growth areas, the appropriate methodology to use is the Integrated Transport Assessment process developed by ARTA, and described in chapter 13.

Objectives and outcomes

The Regional Land Transport Strategy sets a target that 18 town centres will be made more walkable by 2016. There is also a target to achieve a three per cent average reduction in car trips made by 60,000 households, through targeted marketing initiatives.

These two targets are not explicitly linked in the RLTS, but this Sustainable Transport Plan aims to ensure that community-based marketing initiatives and walkability improvements occur in the same places, in a co-ordinated way, and that School and Workplace Travel Plans are timed (where possible) to contribute to the Neighbourhood Accessibility Plans. To achieve this, criteria are set for neighbourhoods most likely to benefit from these projects.

Planning for town centre travel

The aim of a Neighbourhood Accessibility Plan is to make walking around local areas safer and more pleasant, and to ensure that local centres are well linked to the communities they serve, and provide good passenger transport links to other centres. To achieve this, urban planning, transport planning and road safety initiatives need to be integrated into a single, effective project. This is a new and vital area of activity for both local councils and ARTA, and there are few, if any, local models of success. Ongoing co-operation and dialogue will be essential if this programme is to achieve the aims set out in the RLTS.

The current project which is closest to a Neighbourhood Accessibility Plan is the Learning Quarter project, a partnership between Auckland City, Transit NZ, ARTA, the University of Auckland, Auckland University of Technology and the Committee for Auckland[44]. This three-year project aims to make it easier to get to and around the Learning Quarter, and includes a process for integrating the many significant urban design and transport investments planned for the area. Other pilot projects include the Papatoetoe Safer Routes project and the Lincoln Rathgar TravelWise project. These pilot plans will be used to develop good practice recommendations for other Neighbourhood Accessibility Plans.

Identifying priority town centres

Town Centres form important hubs for local activities. The Auckland Regional Growth Strategy aims to focus future growth in town centres.

Seven criteria have been agreed by the Regional Walking and Cycling Group and used to prioritise the town centres where Neighbourhood Accessibility Plans are most likely to succeed.

The seven criteria are:

1. Population (in 2016, from the Auckland Strategic Planning (ASP) model)
2. Employment (in 2016, from ASP)
3. School and Tertiary Rolls (in 2016, from ASP)
4. Cars per person (2001 Census – low car ownership gives high priority)
5. PT boardings (in 2016, from the Auckland Passenger Transport (APT) model)
6. Social cost of pedestrian and cyclist crashes (2000-04, from the Land Transport NZ Crash Analysis System)
7. The three district councils in the Auckland region each plan to create a heart within their major town centre; the inclusion of these three district centres on the list of priority centres is considered essential.

To provide flexibility for local councils, this plan specifies 25 town centres as high priorities for Neighbourhood Accessibility Plans, with a further 41 town centres allocated a medium priority. The expectation is that over the next 10 years, 18 of these 25 town centres will be improved.

Table 12.1 Proposed list of high priority town centres

Priority town centres	Local council	Planned Passenger Transport service (2016)
Auckland Central Business District	Auckland City	Rapid Transit Network
Newmarket	Auckland City	Rapid Transit Network
Otahuhu	Auckland City	Rapid Transit Network
Albany	North Shore City	Rapid Transit Network
Mount Eden	Auckland City	Quality Transit Network
Greenlane	Auckland City	Rapid Transit Network
Takapuna	North Shore City	Quality Transit Network
Point Chevalier	Auckland City	Quality Transit Network
Manukau City Centre	Manukau City	Rapid Transit Network
New Lynn	Waitakere City	Rapid Transit Network
Market Road	Auckland City	Rapid Transit Network
Ellerslie	Auckland City	Rapid Transit Network
Mount Roskill	Auckland City	Quality Transit Network
Mount Wellington quarry development	Auckland City	Quality Transit Network
Remuera	Auckland City	Quality Transit Network
Lincoln Road/Henderson	Waitakere City	Rapid Transit Network
Manurewa	Manukau City	Rapid Transit Network
Grey Lynn	Auckland City	Quality Transit Network
Stoddard	Auckland City	Quality Transit Network
Onehunga	Auckland City	Quality Transit Network
Otara	Manukau City	Quality Transit Network
Avondale	Auckland City	Rapid Transit Network
Orewa	Rodney District	Quality Transit Network
Papakura	Papakura District	Rapid Transit Network
Pukekohe	Franklin District	Quality Transit Network

Note: The list of medium priority town centres is in Appendix C, along with the analysis of the full town centre list in Appendix D.

The Auckland CBD

The Learning Quarter project described in section 11 is the model for a process which ARTA plans to follow for the other Quarters in the CBD. The CBD, therefore, is not a single project but a rolling programme of linked projects. The timing of these projects will be set by Auckland City to align with its 'CBD Into the Future' programme, and there will also be significant resource implications for ARTA.

Neighbourhood Accessibility Plan process

A Neighbourhood Accessibility Plan is a community orientated project, which aims to integrate key features of the Walking and Cycling Action Plans, the School and Workplace Travel Plan processes, Safer Routes[45], and direct engagement with households on their travel issues.

The recommended process for a Neighbourhood Accessibility Plan is set out in Figure 12.1.

Each phase has a number of recommended tasks. ARTA will produce detailed guidance on good practice for each task, based on what is learned in the current pilot projects. The extent and nature of each task will also be influenced by the stakeholder group in each location.

Successful completion of the four phases (see Figure 12.1) is essential before the Neighbourhood Accessibility Plan can enter the continuous improvement phase. It is anticipated that each phase will take a year on average to complete. This suggests each project will take four years before entering the lifecycle phase.

Neighbourhood Accessibility Plans differ from current practice because they consider all of the issues and barriers that could be discouraging sustainable travel choices, and involve the local community at all stages.

Stages in a Neighbourhood Accessibility Plan

In order to meet the target of 18 Neighbourhood Accessibility Plans between 2006-16, up to six or seven projects will occur within the same year at various different stages. The process is a comprehensive one, and includes:

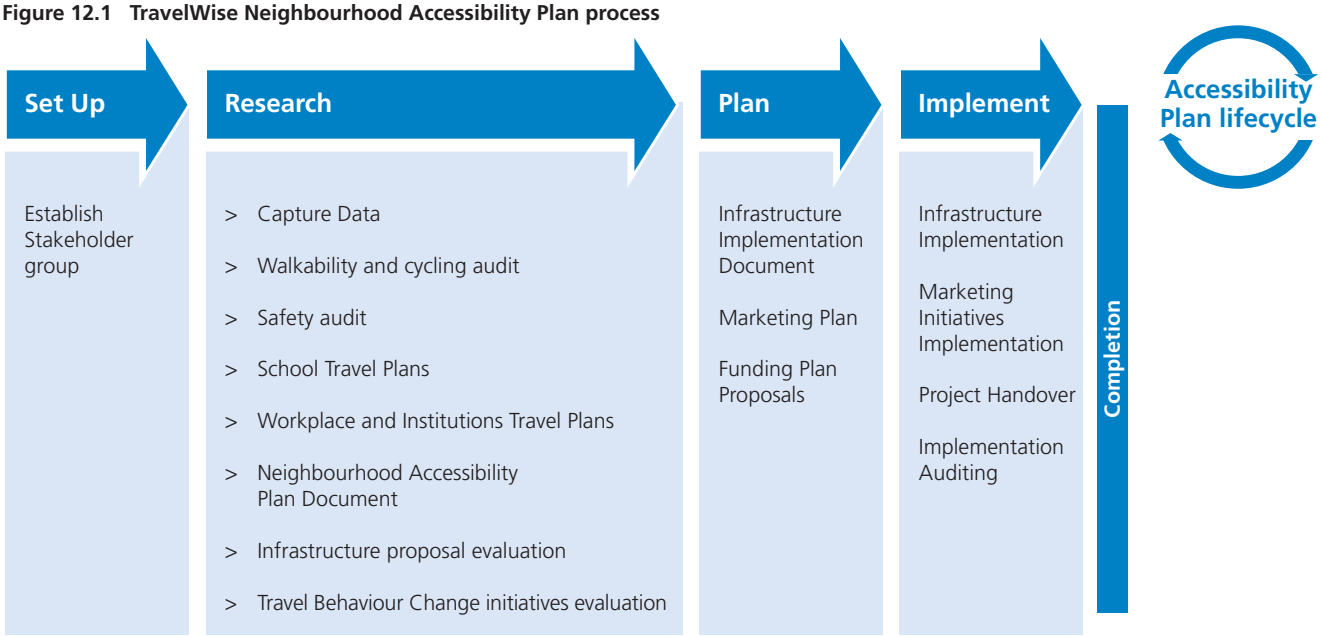
Set up

Successful implementation of a Neighbourhood Accessibility Plan will always involve the local council and ARTA, but is likely to also involve local business, health agencies interested in active communities, and environmental groups.

It is good practice to identify all of the agencies likely to be needed at the implementation phase, and to gain the formal commitment of these agencies right from the start. Equally important, local community leaders need to be involved from the start to set the direction of the programme.

The plan needs to consider the budget cycles of each agency, and to prepare a project plan which ensures that there are no long waits for funding which hold up the project.

Figure 12.1 TravelWise Neighbourhood Accessibility Plan process



Research Phase

The research phase is especially comprehensive. Early in the project, a thorough assessment is undertaken of:

> walkability, including barriers to walking and any opportunities to make walking safer, more pleasant and/or more direct,

> cycling, including any opportunities to improve cycling safety,

> passenger transport services, and any plans to improve these,

> a roading, traffic and parking study of the area,

> a disability audit, assessing the level of service of all transport modes for people with disabilities,

> surveys of residents, workers, students and visitors, and

> an opportunity for all stakeholders to participate in workshops and brainstorming to generate ideas for improving transport in the area.

Where possible, the following community inputs should also be taken into account:

> community walkability assessments,

> school Travel Plans in the location,

> workplace Travel Plans in the location, and

> other community input on transport issues.

The Research Phase concludes with a Travel Report, which details not only the issues identified but also the potential solutions. It is important to identify which solutions are likely to have wide support as these can then be used to focus the effort of the planning phase.

Planning

A Neighbourhood Accessibility Plan is likely to identify many unique solutions to local problems. It helps to group these under the five E's:

> Environment changes, considering how new developments are designed and how existing buildings, parks, rail and bus stations, and other spaces can be reconfigured,

> Engineering of the road network to make it safer for all users, and to provide direct connections particularly with passenger transport services,

> Education of drivers, pedestrians, cyclists and the whole community to make safer and more sustainable choices,

> Enforcement for those few who choose to continue to break the law, and

> Encouragement and positive feedback for everyone involved, including marketing and promotional tools.

Each task needs to be planned out in sufficient detail that it is clear who is accountable, what it will cost, and how to monitor when the task has been achieved.

Implement

Completing a Neighbourhood Accessibility Plan is a major achievement. A launch event is a good way to thank everyone involved and to generate enthusiasm for the task of implementing the Plan.

The different actions in the plan are likely to proceed to different timelines, and it is important to monitor this and ensure the partners continue to co-operate and synergise their efforts through this phase. There will be many opportunities to remind everyone involved that changes are happening in their community as a result of the Accessibility Plan.

Table 12.2 ARTA's approach to prioritisation of Neighbourhood Accessibility Plan activities

Priority	Seriousness and Urgency	Effectiveness	Efficiency*
High	> The development of Neighbourhood Accessibility Plans in locations highlighted as high priority in Table 12.1 > The development and distribution of tools to improve the Neighbourhood Accessibility Plan process > The implementation of infrastructure and marketing initiatives agreed through a Neighbourhood Accessibility Plan	> Neighbourhood Accessibility Plans which follow the process developed and trialled by Land Transport NZ > Quality assurance and monitoring functions undertaken by ARTA in relation to Neighbourhood Accessibility Plans	
Medium	> Neighbourhood Accessibility Plans for centres identified as medium priority (see Appendix C) > Supplementary projects for completed Neighbourhood Accessibility Plans	> Neighbourhood Accessibility Plans where the process is broadly consistent with the Land Transport NZ guidelines, and include the collection of monitoring data	
Low	> All areas not included in either Table 12.1 or Appendix C. Projects in these areas should be treated as safety (including minor safety) projects or combined with School Travel Plans	> Neighbourhood Accessibility Plans developed through a process inconsistent with Land Transport NZ guidelines, and will not result in the collection of robust monitoring data	

* Economic Efficiency of Neighbourhood Accessibility plans will be developed based on the Land Transport NZ's Economic Evaluation Manual.

Continuous Improvement

It is important to monitor and review progress and achievements, and to set new goals when the original goals of the Accessibility Plan have been reached.

Roles and responsibilities

This section outlines key stakeholders' current and proposed roles and response required for the Neighbourhood Accessibility Plans to be successful.

Local council

Local councils already undertake improvements to town centres and community walking environments. The process set out in Figure 12.1 is a summary of best practice in these existing projects, and in particular the process defined through Safer Routes projects in Waitakere and Manukau cities.

Local councils will set the timing for Neighbourhood Accessibility Plans, aligned with local priorities and the District Plan and Sector Plan processes.

> The process for a Neighbourhood Accessibility Plan needs to reflect best practice. Most Auckland councils have adopted the following national guidelines:
>
> – Urban Design Protocol
>
> – Crime Prevention Through Environmental Design (CPTED) Guidelines
>
> Land Transport NZ's best practice guidelines for pedestrian facilities planning and design will be available shortly and will also influence local council practice.

Local councils will be encouraged to set up stakeholder groups which have a key input to decision-making as to which of the many measures identified through these various sources will be included in the Neighbourhood Accessibility Plan. A stakeholder group would reflect the views of businesses, core infrastructure providers, residents, visitors and other groups involved in each town centre. In the recommended Neighbourhood Accessibility Plan process, this stakeholder group defines the scope of the Travel Plan project. This includes who will be involved, what environmental, engineering, education, enforcement and encouragement initiatives will be carried out, what infrastructure improvements are needed and the timing that best suits the needs of the town centre. The group is responsible for producing the Neighbourhood Accessibility Plan document, which specifies the activities and tasks for the town centre and sets out the implementation of the project.

The framework to assess applications for subsidy from the Land Transport Programme for Neighbourhood Accessibility Plans is set out in Table 12.1. This subsidy is only available if the applicant is an approved organisation (ARTA, Transit NZ or a local council).

There are aspects of the recommended process, especially in the research phase, which differ from current practice. Local councils are strongly encouraged to adopt the regional Neighbourhood Accessibility Plan guidelines, when these are developed.

It is expected that most of the implementation measures in a Neighbourhood Accessibility Plan will be the responsibility of the local council, subsidised where appropriate through Land Transport NZ's National Land Transport Programme.

ARTA

ARTA will undertake the marketing component of Neighbourhood Accessibility Plans, and influence the timing of School and Workplace Travel Plans, where possible, to form a comprehensive project within each town centre.

ARTA will:

> develop detailed guidelines on the Neighbourhood Accessibility Plan process,
>
> join the stakeholder group for each town centre (subject to resource availability) in order to ensure the adoption of learning across the various projects over the region and to integrate Neighbourhood Accessibility Plans with other transport activities, and
>
> monitor walkability improvements, mode share, and Neighbourhood Accessibility Plan impact in the high priority town centres and make these the focus of reporting achievements against the RLTS.

Monitoring

ARTA is investigating tools to measure accessibility, particularly by walking to and around priority town centres.

ARTA will also use the information gathered in School and Workplace Travel Plans, and through community involvement in the Neighbourhood Accessibility Plan, to measure the success of this programme.

ARTA will develop further monitoring processes for Neighbourhood Accessibility Plans during the 2007/08 year.

13. LAND USE GUIDELINES FOR DEVELOPMENT

The relationship between transport and land use is complex and the decisions made during significant developments and redevelopments have a lasting effect on future travel patterns.

Sprawling suburban growth on Auckland's outskirts has created demand for more and longer car trips, impacting on all parts of the transport network. In these areas it is difficult for people to walk or cycle because of the long distances between destinations, and extremely costly to provide passenger transport because of low population density.

People's quality of life depends on access to jobs, shopping, leisure facilities and services. In new growth areas this means integrating land use and transport policies to create accessible, livable communities. Better access in turn improves economic development through the ability to move more people, goods and services efficiently.

Legislative and strategic context

The **Resource Management Act** (RMA) sets the framework for national and regional policy statements, and regional and district plans, which in turn shape future land use and transport. Sustainable land use development is the key to providing for growth, managing impacts on the existing transport network, and developing new transport infrastructure.

The **Local Government (Auckland) Amendment Act 2004**[46] The LG(A)AA provides ARTA with the opportunity to consider principles and policies that it believes represent effective land use and transport integration.

The LG(A)AA requires Auckland local authorities to change the Auckland Regional Policy Statement and district planning documents to integrate land use and land transport provisions, and make those provisions consistent with the Auckland Regional Growth Strategy.

Section 40 of the LG(A)AA states how this is to be achieved including giving effect, in an integrated manner, to the growth concept in the Auckland Regional Growth Strategy, and contributing, in an integrated manner, to the matters specified in Schedule 5. The Schedule 5 matters include:

a. providing more certainty in assessing transport and urban form consents, designations or plan changes,

b. managing transport and transport infrastructure, facilitating a multi-modal transport system and integrated transport management,

c. reducing adverse effects of transport on the environment and increasing the positive interactions of transport and land use,

d. supporting compact, sustainable, urban form and land use intensification, and

e. integrating transport and land use policies to reinforce urban and rural objectives of the Auckland Regional Policy Statement, and to develop a competitive, efficient economy, high quality of life and a quality environment.

The **Regional Growth Strategy** articulates a vision for a more compact city with 70 per cent of new growth occurring within the existing metropolitan area. The aim is to concentrate growth in more intensive mixed-use centres along northern, western and southern passenger transit corridors and main arterial routes.

The **Auckland Regional Policy Statement** (RPS) includes policies to manage the effects of transport on the environment and to facilitate the development of an integrated transport network, which provides access for all.

Proposed Plan Change 6 to the RPS includes a set of strategic policies specifically on land use and transport planning integration. The RPS acknowledges that the region's transport system needs to be developed in a more sustainable manner by increasing the use of energy and space-efficient modes of transport. The development of such a system would contribute to minimising adverse environmental effects, meeting accessibility needs and improving health and safety.

Further detail of the legislative and strategic context is set out in Appendix A.

ARTA participation in the planning process

ARTA aims to participate in land use planning processes[47] to improve integration between land use and transport decision-making.

In pursuing its statutory objective and carrying out its functions, ARTA chooses to participate in the planning process in an influencing role. While ARTA does not have a specific function, power or purpose under the RMA beyond that of an affected party, under the LG(A)AA ARTA has the responsibility to plan, fund and develop the transport network. Ensuring that land use and transport planning are undertaken in an integrated and sustainable manner contributes to ARTA's achievement of its statutory purpose.

ARTA would like to ensure that integrated land use and transport planning occur at all levels, nationally, regionally, locally and with individual developments.

ARTA is supportive of development that will meet the objectives of the RGS, RPS and district plans. It is not ARTA's aim to stifle development but to influence the types of development and the way they are planned so that the outcome is land use and transport integration. It is important that development is not inward looking but aims to connect to the surrounding land uses and transport network. This enables a seamless transport network linking new land uses with a choice of routes and travel options for people, goods and services. This is important everywhere but the areas where these benefits are the greatest are within centres and corridors well served by passenger transport, and where walking and cycling provide good access to jobs, shopping, leisure and other local facilities.

The following section outlines the over-arching principles and policies that ARTA will take into consideration when assessing land use and transport planning proposals. These policies have been drawn together from the statutory and policy documents outlined in Appendix A.

When participating in the planning process, ARTA will seek to secure the following:

> inclusion of appropriate objectives, policies and rules to contribute to an integrated, safe, responsive and sustainable land transport system enabling the delivery of a world-class transport system,

> consideration of national, regional and local consequences for the transport system in planning developments and applications for resource consents,

> land use patterns to reduce the reliance on vehicles, the need to travel and total journey lengths, and

> transport decisions that provide a real choice in travel-safe, efficient and reliable, making it easier for people to access jobs, shopping and leisure facilities, and to move goods and services within the region and beyond.

Principles and themes for integrated planning

GENERAL PRINCIPLE 1

Facilitate and encourage the development and implementation of appropriate transport infrastructure.

ARTA will advocate for the following land use outcomes in relation to the above general principles.

1. Strategic transport routes, both existing and planned, are identified, and where possible, protected in the appropriate planning documents.

There is a need to identify and safeguard areas and routes, which could be critical in developing future transport infrastructure.

Decisions on land use and urban form should consider future plans and programmes for new road's infrastructure, cycleways and pedestrian links as well as passenger transport infrastructure so as to not foreclose or compromise future transport improvements or investments. For example, appropriate street layouts should be designed to accommodate future passenger transport services.

2. New proposals for development consider the trips they will generate, and are located and designed to provide for these trips and to connect in a logical way with the wider transport network. For example, office developments which will generate large numbers of commuter trips to work should be located on passenger transport corridors and/or at transport nodes.

3. High-density centres and corridors, and other significant passenger transport stops should, where possible, develop as multi-purpose (mixed use) destinations.

4. Commercial developments are best located at interchanges, terminals, and major stops and at rail stations.

5. Developments should be phased, in order to co-ordinate land release with passenger transport investment, and ensure they are well related to the existing pattern of development.

In developing plans and proposals, district councils, developers and stakeholders should ensure that land uses which are trip generators, are focused on major passenger transport nodes or on corridors served by passenger transport.

Councils should take into account the ability to change travel patterns, by improving the sustainability of existing land use through a fully integrated approach to zoning and transport improvements.

6. The design and siting of developments close to major transport corridors should be compatible with the use of the corridors.

Major corridors of transport can cause noise and air pollution as well as being visually intrusive and unsafe for some modes. Development should be designed in a way that reduces and minimises the impact caused on those living and working in the communities. Land use and transport planning integration should avoid (where possible) any future potential reverse sensitivity issues arising. This policy is not intended to constrain development close to transport corridors but to better manage and deal with any problems early in the process.

7. A passenger rail zone should be provided for in the relevant planning documents, including land and air space necessary for the development of the rail network.

Air space over station areas should be developed for high-density activities such as business, retail or community purposes where the air space adjoins similar zones. The purpose of this outcome is that firstly, it reduces the need to travel by car for places which are served by a rail service; secondly, it would assist in patronage growth; thirdly, it could assist in the cost of operating and building the station and, finally, it provides greater activity around the station area improving the perception of safety.

Commercial development should be encouraged in and above transport corridors and associated facilities to create destinations, generate passenger transport travel demand and provide additional sources of funding. Ideally commercial zoning should be applied or expanded over the station area of any rail designations, bus interchanges and ferry terminals to achieve this.

8. Developers should bear the cost of transport infrastructure necessitated by their development.

Where a developer necessitates the provision of additional transport infrastructure, including new or improved passenger transport services, developers should be required to bear the costs of these works. Contributions from developers should be based around securing improved accessibility to sites by all modes, with the emphasis on maximising access by passenger transport, walking and cycling. The details of developer requirements will depend on the individual circumstances of each site and the precise nature of the proposals.

GENERAL PRINCIPLE 2

Promote and encourage the development of a land-use form that supports passenger transport, walking and cycling and ensure land-use takes full cognisance of the transport consequences.

9. Ensure a greater level of certainty on the scale, nature, location and sequencing of developments in higher density centres.

10. Ensure that both greenfield and brownfield developments (residential and/or business) have a street layout that supports the necessary transport infrastructure to support the proposed uses.

The issue of scale, nature, location and sequencing of high-density developments is a significant issue for ARTA. The centres identified in the Regional Policy Statement (Schedule 1) should aim to have target population and employment increase for specific time periods. Structure plans and district plans should ensure effective land-use and transport integration.

The level of intensification, location and sequencing of development enables ARTA to be fully informed in targeting transport expenditure. Those involved in the designation, design and development of new land uses should provide enough detail in the form of an Integrated Transport Assessment outlining the relationship between the development and different modes of transport.

The sequencing of development can have a huge impact on when passenger transport services become viable. It is important to consider these factors when undertaking the Integrated Transport Assessment to enable ARTA to make an informed decision on when passenger transport services will be enhanced or introduced. The sequencing of high-density corridors and centres should occur simultaneously with implementation of passenger transport services improvements (bus, rail and ferry).

11. Transport routes should be designed with freight movement, pedestrians, cyclists and passenger transport in mind.
12. Where feasible, land uses and activities that rely on or make frequent use of freight facilities should be located close to freight corridors/major freight routes.
13. Policies, measures and rules should be included in district plans to provide better control on access to the region's strategic and arterial routes to enhance or protect their efficiency and safety.

The Regional Arterial Road Plan (RARP) integrates appropriate land use and transport functions along routes that service the main industrial and commercial areas, ports and freight hubs, as access to these areas is of vital importance to the economy. The freight corridors should be kept free of incompatible land uses such as residential development and co-locating industrial and commercial land uses where they have good access to freight corridors will assist with this outcome. However, other objectives must also be taken into account, in regard to the arterial design and operational management with land use intensification objectives, bus priority measures, urban design projects, and measures to encourage cycling and walking.

Where appropriate streets, should be designed as public spaces. A careful balance needs to be struck in allowing the street to perform its function and at the same time allowing a layout that is easy to walk, cycle or be served by passenger transport. Developments should be designed with traffic speed in mind. The layout of roads can decrease the speed of traffic through natural traffic calming measures. The traffic can be managed through appropriate arrangement of buildings and spaces. Environments like these help to encourage walking and cycling.

GENERAL PRINCIPLE 3

Ensure that transportation considerations have a determinant effect on urban form.

14. A comprehensive Integrated Transport Assessment should be developed as part of any proposal to extend the Metropolitan Urban Limits (MUL), structure plan (or similar) process and proposals for major trip generating activities.
15. Accessibility by all modes of transport should be a key determinant factor on urban form.
16. Potential impacts on the transport network must be avoided, remedied or mitigated.
17. Reliance on the private car should be reduced through a modal shift to walking, cycling and passenger transport.
18. Design guidelines must be developed for large transport generating uses focusing on integrating transport and land use to provide a quality environment that reduces dependence on the private car.

The location, design and development of land have a fundamental influence on travel patterns. In allocating new land uses the key aim should be to integrate with transport planning in ways that enable people to carry out their everyday activities within the local area and to choose walking, cycling, passenger transport and the car as appropriate for different journeys.

Land use allocation should support the existing passenger transport provision and provide the potential to improve it. Opportunities should be sought to maximise the railway network where available and facilitate the development of new bus or rail services, together with measures that will help to support walking and cycling.

A key output is to identify significant new transport infrastructure and services that support the integration of land use and transport planning. Consideration should be given to the phasing development with a co-ordinated programme of transport infrastructure investment. Higher density and mixed-use development should be focused on locations benefiting from high accessibility to passenger transport facilities. This assists in making better use of land and generally supporting the viability of current and future passenger transport services. Mixed-use development can also support sustainable transport by encouraging multi-purpose trips, thereby reducing the overall need to travel by car.

An Integrated Transport Assessment should be undertaken to review the potential transportation impacts of land use development proposals. An integrated transport assessment represents a significant tool in assisting the integration of land use and transport planning. The integrated transport assessment is a comprehensive review of the potential impacts of proposed land uses including passenger transport, walking and cycling, and freight movement with an agreed plan to mitigate any adverse consequences. It aims to provide information so that ARTA and other agencies can better understand how a proposed development is likely to function in transport terms. The Integrated Transport Assessment should start from the basis of considering all modes of transport and where appropriate propose a package of measures designed to promote access by walking, cycling and passenger transport, while balancing the role of the private car. Parking controls should also be encouraged to reduce private car trips and to bring about a change in travel behaviour. The availability of car parking is a significant factor in influencing travel behaviour and patterns. In urban areas it is no longer sustainable to allow unrestrained high levels of car parking. A key element of integrating land use and transport planning is to use car parking as a restraint measure to reduce the unsustainable use of the private car whilst promoting more sustainable modes of travel. Travel plans are also considered an effective tool and should be encouraged for facilitating and achieving travel behaviour change.

The availability of passenger transport should be a key element to reducing the need to travel by car. The underlying aim is to develop a high quality passenger transport system which is safe, secure and reliable with good interchanges, and matches the pattern of travel demand in order to maximise the potential usage of passenger transport.

Land uses should be designed in such a way that they support existing and proposed passenger transport services and in turn inform future investment decisions in the passenger transport network. The location of stations on rail and bus networks should minimise the need for interchange between services and modes while maximising the convenience of interchange where and when necessary.

The location of park and ride facilities should enable a seamless interchange from car to passenger transport. Sites near passenger transport corridors and interchanges should also be maximised to provide the greatest possible catchment making passenger transport more viable and inform future investment decisions in the passenger transport network. Developers should seek to maximise the provision of realistic, permeable and legible routes to bus stops, interchanges and stations from their developments.

People involved in the design and development of land should ensure that they provide quality environments, which are legible, adaptable, permeable, and have the appropriate density and mix of uses.

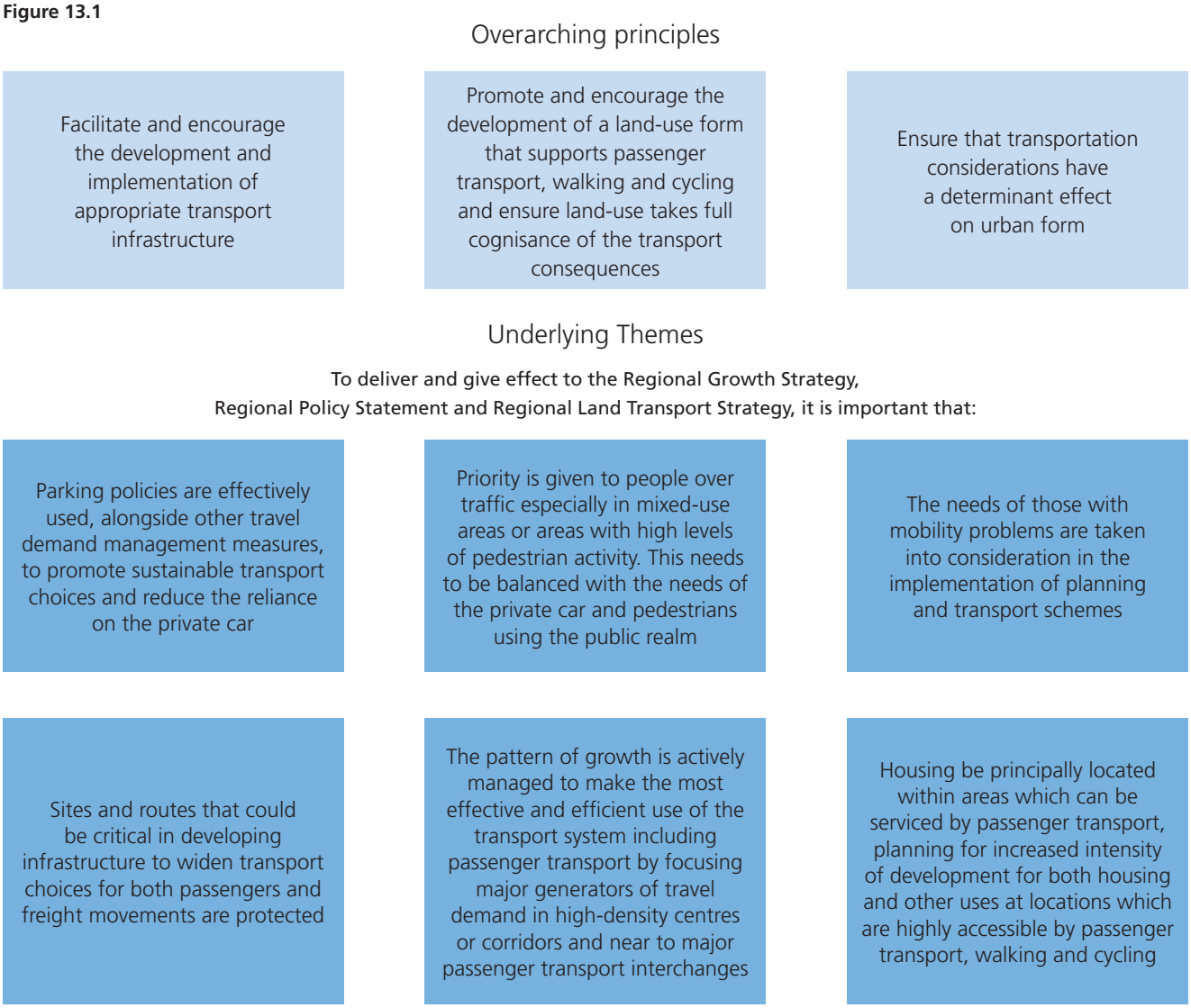
A place that is easy to get to and move through promotes accessibility and permeability by ensuring that places connect with each other externally and internally. Putting people before traffic and ensuring that the development is closely related to the passenger realm therefore provides a quality environment, which reduces the reliance on private motor vehicles.

Designers should ensure that developments are easy to understand and promote legibility by providing recognisable routes, intersections and landmarks to help people find their way around. Routes should be direct, safe and follow desired lines. The development should connect into local routes external to the development and provide adequate access and egress at pedestrian crossings and places of activity.

Land uses should be adaptable to change and promote street layouts that do not foreclose future transport investment. Places should be able to respond to changing social, economical or technological conditions. Diverse land uses provide for a choice through a mix of uses and compatible developments that work together to create places that are viable responding to local needs. These places help to reduce the need to travel.

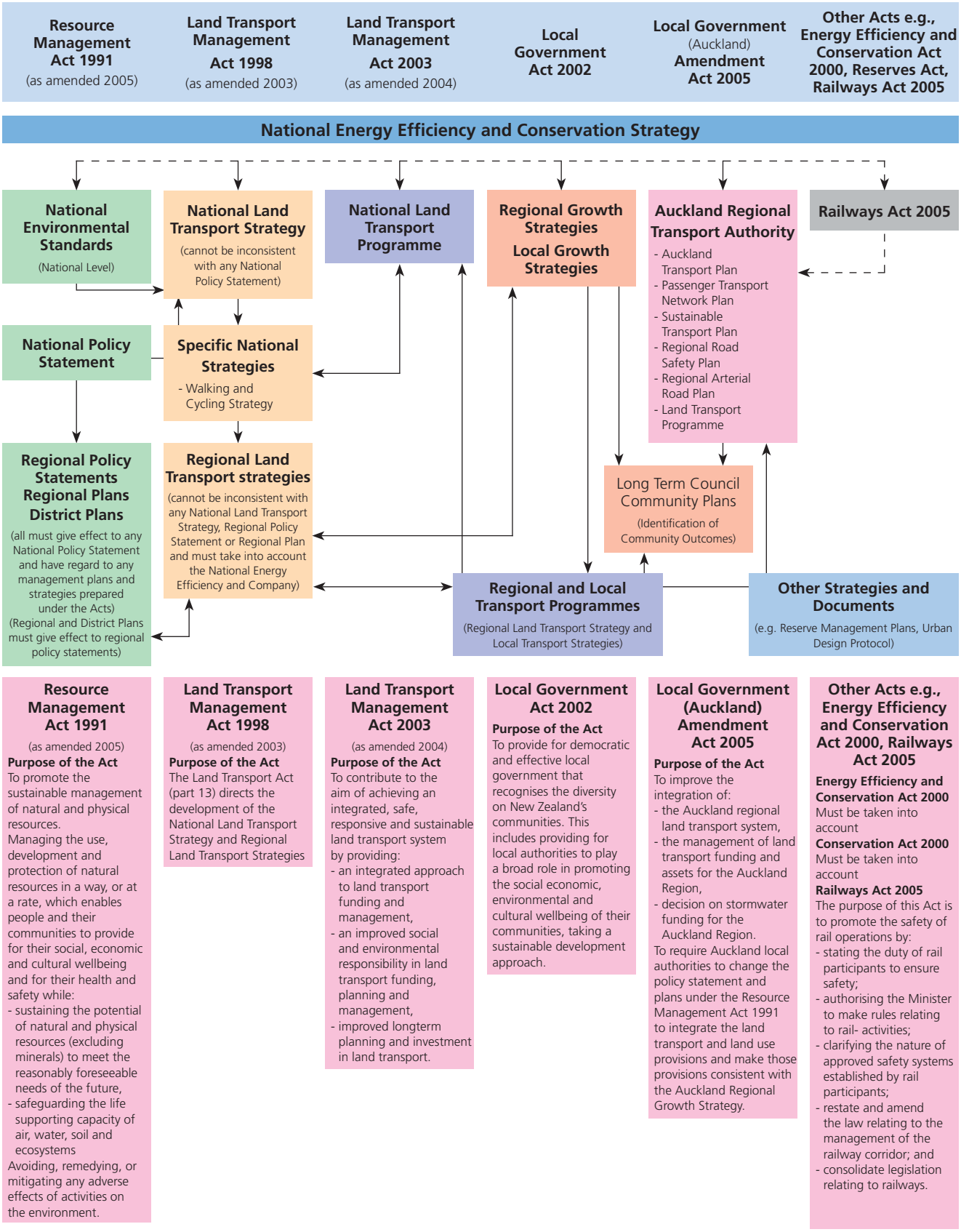
The layout of the urban structure should focus on a framework of routes and spaces that connect locally and more widely. The layout should provide uses close to each other that are well related. The density of uses has a significant influence on a place's vitality and viability. It helps to promote sustainable transport and enables an adequate critical mass to promote passenger transport services, which are viable. The resulting density from structure planning, re-zoning and other district plan mechanisms should effectively support passenger transport expenditure. The desired outcome is a network of high quality, high-density centres and corridors linked to a high quality passenger transport network thus providing choice.

Figure 13.1



APPENDICES

APPENDIX A
LEGISLATIVE AND STRATEGIC CONTEXT



APPENDIX B
BENEFIT CALCULATION

The calculations of benefits related to the Sustainable Transport Plan are drawn from the Land Transport NZ Economic Evaluation Model Volume 2 and the Travel Behaviour Change Evaluation Procedures, and they include:

Decongestion benefit

The decongestion benefit arises mainly from the travel time savings to car travellers from reduced traffic and congestion.

This is calculated using the Land Transport NZ decongestion figure of $1.273 per kilometre. The decongestion benefit applies both to peak morning and peak evening traffic, where workplace travel applies 100 per cent to morning and evening peak, school traffic is included in morning peak and 50 per cent of those are also in the evening peak, and 25 per cent of the community travel occurring in morning peak also present in the evening peak. School traffic is assumed to have trips with driver and passenger for all primary school traffic and 50 per cent of secondary school traffic. Each driver and passenger trip includes a return trip for the driver as well. For school traffic, 42 per cent of primary/intermediate and 25 per cent secondary students include a return trip for the parent. Annual traffic is calculated on the following basis:

> School: 190 days

> Work: 230 days

> Community traffic: 365 days.

Table A.1 Decongestion Benefit calculation

	Benefit value/km	Trip length (km)	Trips	Days applicable	$m per annum
Primary school	$1.273	1	16,614	190	$4.618
Secondary school	$1.273	5.9	9,000	190	$12.843
Workplace	$1.273	10	7,000	230	$20.495
Town Centres	$1.273	42% at 1.9 58% at 8.5	4,875	365	$12.975
				Total	$50.9m

Environmental benefit

This benefit indicates the benefit value of improved air and water quality. It is based on the Environmental externality cost of $0.10/km for peak traffic and $0.05/km for off-peak traffic.

Table A.2 Environmental benefit calculation

			Benefit value/ km	Trip length (km)	Trips	Days applicable	$m per annum
Schools	Peak	Primary	$0.10	1	16,614	190	$0.316
		Secondary	$0.10	5.9	9,000	190	$1.009
	Off peak	Primary	$0.05	1	5,538	190	$0.053
		Secondary	$0.05	5.9	3,000	190	$0.168
Workplaces			$0.10	10	7,000	230	$1.610
Town Centre Transport Plans	Peak		$0.10	42% at 1.9 58% at 8.5	4,875	365	$1.019
	Off Peak		$0.05	42% at 1.9 58% at 8.5	2,600	365	$0.234
						Total	$4.4m

Protecting and promoting public health

Walking

The benefits for walking are 2.5 times higher for new pedestrians. For trips diverted from private vehicles, the health benefit value to new pedestrians is shown in table A.3 below.

Table A.3 Public health benefit calculation for diverting private vehicles

		Diversion rate from cars	Trips diverted passenger	Benefit value/ km	Trip length	Days Applicable	$m per annum
Peak	Schools	39%	18,900	$0.40	1	190	$0.704
	Workplaces	9%	7,000	$0.40	1	230	$0.058
	Town Centre	42%	4,875	$0.40	1	365	$0.299
Off Peak	Schools	39%	6,300	$0.40	1	190	$0.187
	Town Centre	42%	2,600	$0.40	1	365	$0.159
						Total	$1.41m

For the purposes of estimating health benefits, it is assumed half of the additional walking trips are diverted from car trips, and half are new trips or trips diverted from passenger transport.

Cycling

The health benefits of cycling are experienced by both existing and new cyclists. This calculation assumes that the new cyclists are encouraged to cycle through the activities in the Sustainable Transport Plan and half of the existing cyclists benefit by the activities in the plan. Cycling trips are on average 3 kilometres and occur 250 days per year. Each cyclist is expected to do 2.5 cycling trips per day.

Table A.4 Public health benefit calculation for cycling

	Benefit value/km	Trip length (km)	Trips	Days Applicable	$m per annum
Existing Cyclists	$0.16	3	4,875	250	$0.585
New Cyclists	$0.16	3	4,875	250	$0.585
				Total	$1.17m

Assisting safety and personal security

Reductions in road trauma are also an important outcome of the programmes within this plan. The shift of travel modes from cars to other forms of transport has a value of $0.018 per kilometre during peak traffic and $0.029 per kilometre outside peak periods. Costs where a driver and a passenger are involved, such as school trips are counted 1.8 times the rate of car with only a driver. It is assumed that 50 per cent of secondary school trips include a driver and passenger. While crash costs for modes like walking and cycling are high, they are assumed to be zero due to the traffic calming effects of increased numbers of cyclists and pedestrians as recommended in the Travel Behaviour Change Evaluation Procedures document.

Table A.5 Accident reduction benefit calculation

			Benefit value/ km	Trip length (km)	Trips	Days applicable	$m per annum
Schools	Peak	Primary driver only	$0.018	1	4,914	190	$0.017
		Secondary driver plus passenger	$0.0324	5.9	7,200	190	$0.262
		Secondary driver only	$0.018	5.9	1,800	190	$0.036
	Off Peak	Primary driver plus passenger	$0.0522	1	3,900	190	$0.039
		Primary driver only	$0.029	1	1,638	190	$0.009
		Secondary driver plus passenger	$0.0522	5.9	2,400	190	$0.140
		Secondary driver only	$0.029	5.9	600	190	$0.02
Workplaces			$0.018	10	7,000	230	$0.087
Neighbourhood Accessibility Plans	Peak		$0.018	42% at 1.9 58% at 8.5	4,875	365	$0.096
	Off Peak		$0.029	42% at 1.9 58% at 8.5	2,600	365	$0.083
						Total	**$0.86m**

The Sustainable Transport Plan also focuses on addressing hazardous areas for pedestrians and cyclists. For the purposes of estimating benefit, it is expected that a total of $10 million will be spent on safety improvements within each year. All of these projects will have a benefit at least equal to their cost, and many will have a high benefit/cost ratio (the highest to date is a benefit/cost of 18 for the Avondale School Travel Plan infrastructure). For this calculation, an average benefit/cost ratio for safety infrastructure of 3 is assumed; this is consistent with Land Transport NZ estimates[39] and local studies.

Table A.6 Safety impediment removal benefit calculation

	Cost benefit ratio	Target Funded	$m per annum
Pedestrian safety	3	$5m	$15m
Cycling	3	$5m	$15m
		Total	**$30m**

APPENDIX C
MEDIUM PRIORITY TOWN CENTRES

These town centres are identified in Proposed Plan Change 6 to the Auckland Regional Policy Statement but not included in the High Priority List (Table 12.1).

Balmoral	Middlemore
Beachhaven	Milford
Belmont	Morningside
Birkenhead	Mt Albert
Botany	Mt Wellington
Browns Bay	Northcote
Devonport	Pakuranga
Glen Eden	Panmure
Glen Innes	Papatoetoe
Glenfield	Ranui
Hauraki	Royal Oak
Henderson	Sandringham
Homai	Sunnynook
Howick	Swanson
Huapai	Sylvia Park
Hunters Corner	Takanini
Kingsland	Te Atatu
Long Bay	Te Mahia
Mairangi	Warkworth
Mangere	Westgate
Mangere Bridge	

APPENDIX D

TOWN CENTRE ANALYSIS

Town centre	Population 2016	Education 2016	Employment 2016	Cars per person	Crashes	Passenger transport boardings
Auckland CBD	16537	46361	69346	0.28	112,750,418	7584
Newmarket	8820	3166	18244	0.59	50,595,281	4057
Otahuhu	14035	3301	6957	0.31	22,408,083	498
Albany	6995	4664	7154	0.62	8,223,115	1862
Mt Eden	7056	3440	11038	0.95	5,027,368	1189
Greenlane	11195	1656	5620	0.56	41,940,990	736
Takapuna	7386	555	11997	0.61	21,556,697	960
Point Chevalier	10676	3377	2586	0.49	22,337,759	984
Manukau City Central	2905	0	9285	0.12	33,489,514	2316
New Lynn	5870	658	6925	0.40	30,906,151	2394
Market Road	3683	4226	4928	0.69	26,441,293	864
Ellerslie	5230	862	9196	0.59	41,443,674	777
Mt Roskill	6703	4401	1655	0.41	28,238,304	622
Quarry	3338	5173	4892	0.76	4,258,996	96
Remuera	10519	3030	3137	0.62	10,832,894	486
Lincoln Rd	6671	3647	3610	0.42	16,239,557	98
Manurewa	7184	1908	2621	0.50	17,822,513	1877
Grey Lynn	13788	384	3719	0.50	4,713,719	1408
Stoddard	12774	1183	3229	0.41	23,515,502	165
Onehunga	6539	1308	5583	0.46	24,087,174	928
Otara	4783	2627	2860	0.24	38,519,650	352
Avondale	11840	977	1591	0.40	27,780,996	918
Papatoetoe	9174	2195	2032	0.48	28,356,132	448
Mt Wellington	8283	415	6731	0.41	22,177,608	332
Mangere	8777	2414	1510	0.28	20,398,248	399
Kingsland	6858	780	4230	0.71	42,799,058	854
Pakuranga	6422	3303	2547	0.56	8,161,488	629
Mangere Bridge	9220	1441	3019	0.46	11,053,906	554
Middlemore	5862	1666	4626	0.39	10,974,961	327
Glen Innes	8200	1397	1648	0.32	7,094,135	1181
Sylvia Park	2866	415	7470	0.73	40,493,722	310
Henderson	5337	1101	4584	0.47	23,226,396	448
Morningside	7730	683	4166	0.70	22,028,125	424
Birkenhead	6328	1847	2774	0.59	11,259,531	388
Huapai	6395	1204	2480	0.43	1,826,746	218
Sunnynook	5526	980	3038	0.57	11,221,277	865
Glen Eden	6547	368	2379	0.49	14,857,880	1087
Panmure	3980	862	2042	0.46	14,125,836	1464
Howick	7373	1500	2224	0.62	6,273,480	294
Papakura	2788	507	3054	0.44	12,846,423	1552
Hunters Corner	6566	15	2093	0.47	19,171,048	12

Town centre	Population 2016	Education 2016	Employment 2016	Cars per person	Crashes	Passenger transport boardings
Sandringham	7295	712	946	0.47	16,113,529	553
Royal Oak	5875	1325	1684	0.52	10,401,236	432
Mt Albert	6601	336	1487	0.47	18,821,777	713
Belmont	3717	2497	629	0.53	5,747,152	332
Ranui	7751	312	774	0.41	5,984,402	657
Te Mahia	4584	1042	1082	0.43	18,507,254	157
Glenfield	5749	977	1355	0.52	11,644,535	158
Balmoral	5177	727	1303	0.54	12,990,189	407
Devonport	4671	415	1838	0.57	3,870,962	1021
Northcote	4145	835	1024	0.41	10,085,255	244
Mairangi	5531	688	1093	0.60	4,654,383	425
Milford	4690	446	1939	0.62	11,187,230	257
Westgate	1908	523	1432	0.43	13,969,133	778
Warkworth*	4124	1204	1847	0.80	3,503,258	310
Botany	2029	0	2293	0.53	13,663,461	609
Beachhaven	5724	370	610	0.51	4,434,997	272
Browns Bay	2177	167	2130	0.51	13,374,852	341
Hauraki	4933	391	713	0.61	8,714,361	226
Takanini	3550	0	1954	0.41	6,757,483	22
Homai	4489	426	227	0.38	5,707,478	34
Orewa	3066	465	837	0.58	7,448,485	73
Long Bay	4285	65	579	0.62	2,579,466	320
Te Atatu	2364	277	568	0.48	5,453,083	86
Swanson	1113	755	373	0.77	2,835,912	412

*Estimate for education and PT Boardings

NOTES & REFERENCES

[1] The conversion of trips to km travelled is based on average trip lengths set out in the Land Transport NZ Travel Behaviour Change Evaluation Procedures and Guidelines. The details of this calculation are set out in Chapter 4 and in Appendix 2.

[2] The Ministry of Economic Development predicts two fuel price scenarios; a low scenario with oil at $60 a barrel in 2010, and a high scenario at $120 a barrel. These prices equate to price of Regular petrol at the pump of $1.50 per litre (low) and $2.27 per litre (high).

[3] 2001 data from the Auckland Regional Transport model (Auckland Regional Council).

[4] Hinckson, E and Badland, H (2006) Auckland Regional Transport Authority School Travel Plan Evaluation Report prepared by Auckland University of Technology for Auckland Regional Transport Authority.

[5] Auckland Regional Council (2005) Regional Land Transport Strategy Monitoring Report.

[6] Research Solutions (2004) The Trip to Education. Research report for Infrastructure Auckland and the Auckland Regional Council, based on a door-to-door survey of 627 families.

[7] Auckland Regional Transport (ART) model, 2001 data.

[8] Hinckson, E and Badland, H (2006) op cit.

[9] Kearns, R and Collins, D (2006) Evaluation of the Auckland Walking School Bus Programme Report prepared by University of Auckland for Auckland Regional Transport Authority.

[10] 2001 data from the Auckland Regional Transport model (Auckland Regional Council).

[11] Regional Policy Statement 4.4.1.1.

[12] ARC (2205) Safety Background Technical Paper prepared for review of the Regional Land Transport Strategy.

[13] World Health Organisation (2004) World Report on Road Traffic Injury Prevention.

[14] World Health Organisation (2004) op cit.

[15] The Transport Services Licensing Act 1989 does not allow passengers to reimburse the driver for costs, unless the driver holds a "P" licence. There is a specific exemption from this requirement for ridesharing to work.

[16] Given ARTA's objective to plan, fund and develop the Auckland regional land transport system it is reasonable that ARTA is an affected party in respect of S94 of the RMA when the application will have an impact on the transport system.

[17] This section sets out the principles that will guide ARTA's engagement with other key stakeholders involved in land use and transport planning processes. However there are a number of other documents that will also have an influence, such as ARTA's Statement of Intent and Strategic Plan. This section does not replace, or modify legislative requirements or government policy. Nothing contained in this section should be read as a commitment that public resources would be provided for any specific project.

[18] Land Transport NZ (2005) Cycle Network Planning and Design Guide, www.landtransport.govt.nz/road-user-safety/walking-and-cycling.

[19] ARTA school travel surveys include the question "When you have dropped your child off at school do you (a) go straight home; or (b) go to another location". 42per cent of primary school journeys and 25per cent of secondary journeys include two trips; that is the parents go straight home.

[20] Auckland Regional Land Transport Strategy 2005.

[21] Hosking, J (2005) The health benefits of School Travel Plans.

[22] Neuwelt, P (2005) Walking is Good for my Health, report to Auckland Regional Public Health Forum and Auckland Regional Transport Authority.

[23] The average speed of a vehicle trip in Auckland's morning peak traffic is 36km/h.

[24] Auckland is unusual among world cities in that the motorways proposed in the 1955 plan are nearly complete. The 1955 plan also included passenger transport improvements however there was an overall decline in passenger transport levels of service between 1955-1990. (Mees, P and Dodson, J (2000) The American Heresy, Half a Century of Transport Planning in Auckland).

[25] Household Travel Survey, Land Transport Safety Authority 2000.

[26] Land Transport Safety Authority (2000), Household Travel Survey.

[27] Land Transport Safety Authority (2000), Household Travel Survey.

[28] Auckland Regional Council (2005) Regional Land Transport Strategy.

[29] Auckland Regional Council (2005) Regional Land Transport Strategy.

[30] Auckland Regional Transport Authority (2006) Priorities and Programme.

[31] The average motorway trip in Auckland is 3 off-ramps (Transit NZ data).

[32] Planned improvements are summarised from the draft ARTA Passenger Transport Network Plan, the Transit NZ 10-year plan, and this Sustainable Transport Plan. There is still considerable uncertainty as to how these improvements will be funded.

[33] The terms "walking" and "pedestrians" include people using wheelchairs and other mobility aids.

[34] Tolley, Rodney [Director of Walk21] – pers comm.

[35] Ogilvie, D., Egan, M., Hamilton, V. & Petticrew, M. (2004) Promoting walking and cycling as an alternative to using cars: systematic review. British Medical Journal, 329, 763-766.

[36] Living Streets (2006) Designing Living Streets.

[37] Land Transport NZ (2205) Pedestrian Planning and Facilities Design Guide, www. landtransport.govt.nz/consultation/ped-network-plan.

[38] Hagerlin, C. (2005), A Return on Investment Analysis of Bikes on Buses Programs.

[39] Research Solutions (2004) The Trip to Education op cit.

[40] Many rural students, and some students with particular needs, are eligible for transport through the Ministry of Education. Schools have clear management responsibilities in regards to transport for this small group of Auckland students.

[41] Kayser, B (2005) Environment, physical activity and health: will greater walkability be enough? Presentation to Walk21 Conference in Zurich.

[42] O'Fallon, Davis and Bossaert (2004) The Role of Safety in School Travel Plans report to Land Transport Safety Authority.

[43] Westerman, H (1998) Cities for Tomorrow, Austroads Best Practice Guide.

[44] The Committee for Auckland is an independent body whose aims and membership are described at http://www.committeeforauckland.org.nz

[45] Safer Routes is a Land Transport NZ programme and is described at http://www.landtransport.govt.nz/road-user-safety/walking-and-cycling/safer-routes.html

[46] Section 38-43 & Schedule 5.

[47] This section sets out the principles that will guide ARTA's engagement with other key stakeholders involved in land use and transport planning processes. However there are a number of other documents that will also have an influence, such as ARTA's Statement of Intent and Strategic Plan. This section does not replace, or modify legislative requirements or government policy. Nothing contained in this section should be read as a commitment that public resources would be provided for any specific project.

ARTA'S MISSION:

"DELIVERING A WORLD-CLASS TRANSPORT SYSTEM
THAT MAKES AUCKLAND AN EVEN BETTER PLACE
TO LIVE, WORK AND PLAY"

www.maxx.co.nz

www.travelwise.org.nz