



CYCLING AND WALKING STRATEGY



Te Kaunihera o
MANUKAU
City Council

2005 - 2015

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1 Setting the Context

1.1 Introduction

It is generally well recognised that cycling and walking are important components of an integrated transport system. Currently, however, cycling and walking are largely considered recreational activities in Manukau. There has been a national commitment to develop a strategy for cycling and walking through the recognition that these modes have the potential to contribute to Government's economic, social and environmental objectives.

The purpose of this Strategy is to establish direction for the next 10 years for both cycling and walking activities in Manukau. The Strategy also seeks to redress the current transport imbalance by making cycling and walking more viable transport and recreational options in Manukau.

The Strategy will be regularly updated and will be the driving force behind the City's efforts to improve cycling and walking in the City. It will be regularly monitored and amended to ensure the needs of cyclists and pedestrians are efficiently and effectively met.

It is also recognised that delivering the Strategy will require significant effort and commitment to improve the environment and alter the community's perceptions of the benefits of cycling and walking.

1.2 Existing Strengths for Cycling and Walking in Manukau

The decline in cycling and walking is a global problem as travel patterns, transport and urban planning have become more orientated to and reliant on motor vehicles. However, the environment is right to improve and enhance the conditions for cycling and walking, thus reversing this trend. The Strategy seeks to build on a number of existing strengths, namely:

- ◆ National commitment and recognition of the contribution of cycling and walking to environmental, health and community outcomes
- ◆ Council's commitment to road safety
- ◆ Increased recognition of good urban design principles and more "liveable" communities
- ◆ Increased availability of national and regional funding for cycling and walking projects
- ◆ More integrated approach to transport and land use planning
- ◆ Manukau's relatively flat terrain, which is suitable for cycling and walking
- ◆ Many Manukau residents already walk and cycle
- ◆ Recreational and professional cycle training routes are already established in the rural areas of Clevedon, Maraetai and Whitford

The key challenge now is to build on existing strengths, and plan and promote a network that can achieve the objectives in this Strategy.

1.3 Vision

Manukau City Council has made a commitment to promoting and providing for cycling and walking in Manukau. As expressed in Tomorrow's Manukau, the vision is to:

- ◆ Provide for both cycling and walking facilities in a safe environment
- ◆ Promote and increase cycling and walking across the City

1.4 Objectives

To achieve this vision, the Cycle and Walking Strategy has five key objectives:

- ◆ Plan, develop and maintain a safe network for cycling and walking throughout the City
- ◆ Ensure the adoption of appropriate safety design standards and an ongoing maintenance programme for cycling and walking facilities
- ◆ Promote cycling and walking as viable modes of transport
- ◆ Support and develop road safety education programmes for cycling and walking
- ◆ Establish a network implementation, monitoring and evaluation plan



These objectives are expanded on in Chapters 5 to 8. For each objective there are a series of actions (see Section 8.3) that will contribute to achieving the objectives and overall outcomes of the Strategy.

1.5 Benefits of Cycling and Walking

Cycling and walking have a number of benefits, including health, environmental, community/social and economic benefits.

Figure 1.1 Cycling and Walking Benefits



Improved Health

The link between regular exercise, such as cycling and walking, and good health is widely recognised. Research indicates that regular physical activity reduces:

- ◆ Incidence of heart disease
- ◆ Disability in people with chronic obstructive respiratory disease
- ◆ High blood pressure
- ◆ Risk of strokes
- ◆ Some cancer risks
- ◆ Depression
- ◆ Type II diabetes

(Ministry of Health 2003)

Improving the Environment

Cycling and walking are non-polluting forms of travel that do not use fossil fuels and help to improve the quality of the environment.

Motor vehicles contribute to greenhouse gas emissions and poorer air quality. The majority of vehicle emissions are released when engines are started, in stop-start traffic and during short trips. Currently, a significant proportion of motor vehicle trips (around 30%) are for distances under 2km. Walking or cycling some of these trips, instead of driving, can help reduce air pollution and reduce traffic congestion and the associated costs.

Community and Social Benefits

Cycling and walking contribute to community and social benefits. They provide low cost transport solutions and are available as modes of transport to a large proportion of the population.

High pedestrian volumes also mean the streets are under natural surveillance, creating a safer environment. Walking also provides opportunities to interact with others in the community.

In addition, if more children were encouraged to walk to school through initiatives such as School Travel Plans, Walking School Buses and Safer Routes programmes, traffic congestion would be reduced around schools, and children would have sufficient exercise and have the opportunity to enhance their skills in navigating around their local neighbourhoods.

Economic Development Benefits

Replacing short car trips with walking and cycling has the potential to help local communities, as goods and services can be purchased locally without the need to drive to shops. Small businesses do better in areas that are pedestrian friendly, as people are more likely to stroll and shop for other items. Also, increased numbers of pedestrians within a neighbourhood reduce traffic. This can promote a sense of safety in the local area, which may encourage more visitors and tourists and attract new businesses and jobs.



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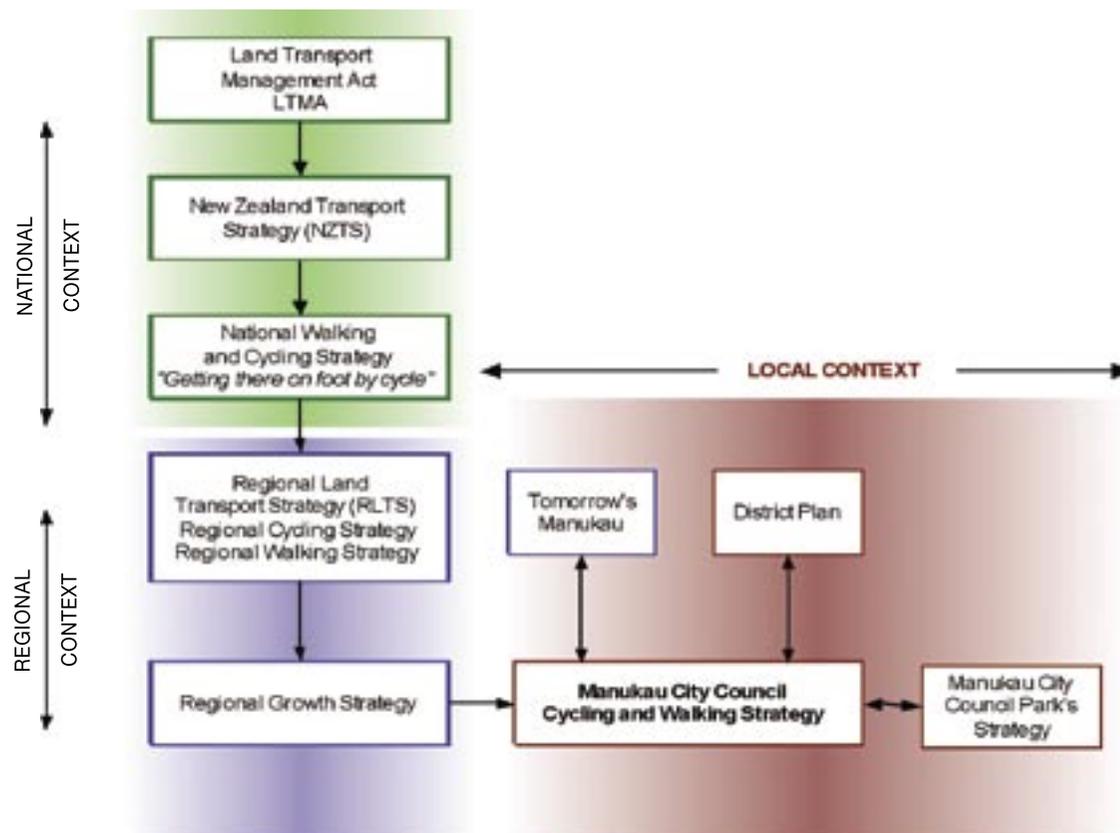
2 Planning, Policy and Funding

2.1 Introduction

Planning for cycling and walking is being undertaken within a broader context of national and regional strategies. Within the current policy context, there is strong commitment to supporting cycling and walking initiatives. The New Zealand Transport Strategy (NZTS) recognizes the potential for cycling and walking modes to contribute to the Government's economic, social and environmental objectives. This commitment has been expressed nationally through the Walking and Cycling Strategy and regionally through the Auckland Regional Land Transport Strategy (RLTS) (see Figure 2.1).

This chapter discusses the inter-relationships between Manukau's Cycling and Walking Strategy and the national and regional policies and strategies.

Figure 2.1: Relationship Between National, Regional and Local Context



2.2 National Context

New Zealand Transport Strategy (NZTS, 2002)

The New Zealand Transport Strategy contains the Government's position on transport, including broader objectives of a healthy nation and economic, social, environmental and cultural sustainability. It recognises and supports cycling and walking as an alternative and viable means of transport and also for recreational purposes. The objectives of the NZTS are:

- ◆ Assisting economic development
- ◆ Assisting safety and personal security
- ◆ Improving access and mobility
- ◆ Protecting and promoting public health
- ◆ Ensuring environmental sustainability

National Walking and Cycling Strategy (Getting there – on foot, by cycle)

"Getting there - on foot, by cycle" (February 2005), sets out a national strategy to advance walking and cycling in New Zealand.

The Strategy is integral to achieving the objectives of the NZTS and articulates the Government's vision of a "New Zealand where people from all sectors of the community walk and cycle for transport and enjoyment". The vision is supported by three goals – community environments and transport systems that support walking and cycling, more people choosing to walk and cycle, more often, and improved safety for pedestrians and cyclists. The Strategy includes a range of priorities for action.

Manukau's Cycling and Walking Strategy contributes to this Strategy and also contributes to other national strategies, such as the New Zealand Health and Safety Strategy and New Zealand Injury Prevention Strategy.

2.3 Regional Context

Auckland Regional Land Transport Strategy (RLTS) 2005 (draft)

The Auckland RLTS outlines the requirements for achieving an integrated, safe, responsive and sustainable land transport system. The vision for the draft RLTS is for a transport system that Aucklanders are proud of, where:

- ◆ People and goods are able to move when necessary
- ◆ Transport supports vibrant town centres
- ◆ Streets are also community places
- ◆ Getting around by all modes is integrated, safe and effective
- ◆ People have choices which enable them to participate in society
- ◆ The environment and human health are protected
- ◆ Transport resources are used efficiently

An essential component of this strategy is travel demand management (TDM), which aims to reduce the level of demand for travel, particularly with private vehicles, by such strategies as the promotion of walking and cycling.

The vision of more cycling in the Strategy has the following outcomes:

- ◆ Cycling is safe, direct and pleasant
- ◆ Cycling is the natural choice for short journeys
- ◆ The numbers of people cycling are increasing
- ◆ Cycling safety is continually improving
- ◆ The quality of infrastructure will be improved

A key component of this strategy is the creation of a regional cycle network and supporting intensification around growth centres. Manukau City Council's role in contributing to the regional cycle network is through the development of the city cycle network and the promotion of cycling in the identified growth centres in Manukau.



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The Strategy also advocates for increased walking as a mode of transport. The key priority areas for walking are the promotion of walking around local communities, walking access to public transport and encouraging walking as an alternative to car use.

Manukau City Council has a key role in investing in walking infrastructure improvements (footpath upgrades, more direct pedestrian links and crossings and improved pedestrian amenity), targeting high-risk areas and key pedestrian attractors in Manukau.

Auckland Regional Growth Strategy

A key opportunity for improved cycle and pedestrian access in town centres (or growth centres) is via the Auckland Regional Growth Strategy (RGS). The Strategy provides the strategic framework for the management of the region's growth to 2050. The RGS identifies the need to manage population and employment growth at selected urban areas (or growth centres), and to intensify land use activities along key transport corridors. Both high-quality public transport (bus/rail) and alternative modes of transport play a critical role in the intensification of these "growth" areas.

For the next few years, the RGS has identified three key growth centres in Manukau – Manurewa, Papatoetoe and Manukau City Centre, with a further roll-out to other areas in due course. The growth centres have identified the need for enhanced mainstreet development, and revitalised and improved pedestrian and cycle access to passenger transport.

Regional Open Space Strategy (ROSS) (draft)

The draft ROSS contains a 50-year plan for a linked open space network that connects communities and coastal, transport and ecological corridors in the region. It promotes an integrated and co-operative approach to the provision and management of open space in the region. A number of the ROSS outcomes, such as creating linkages, accessibility, recreation and leisure, and improved amenities have direct relevance to the Cycling and Walking Strategy and for advancing the vision and outcomes of the draft ROSS.



2.4 Manukau City Plans and Objectives

Tomorrow's Manukau

Tomorrow's Manukau is the 10-year strategic plan for the City. Tomorrow's Manukau expresses the following vision for transport: Manukau will be a place that is easy to get around through a transport system that provides free flowing links to all parts of Manukau and neighbouring areas. The plan's actions relevant to cycling and walking are:

- ◆ Provision of more cycle facilities and walkways
- ◆ To explore and introduce traffic demand measures to reduce congestion, which include teleworking, car-pooling, encouraging cycling and walking, parking controls and congestion pricing
- ◆ To ensure road safety standards are met when designing roads for pedestrians and cyclists
- ◆ To develop a cycling strategy for Manukau and seek Transfund (now Land Transport New Zealand) funding to introduce cycle lanes progressively throughout the City, with a focus on high-use areas in the first five years
- ◆ To support and encourage the introduction of Safe Routes to School and Travelwise to school programmes in co-operation with school boards of trustees

The majority of these actions are already under way and this Strategy is key to co-ordinating these activities and reporting on progress towards achieving the actions in Tomorrow's Manukau.

The Cycle and Walking strategy also fits within the broader health vision in Tomorrow's Manukau's, namely "healthy and economically secure" and the outcome of "fit, active and healthy people".



Manukau District Plan

The District Plan outlines the rules governing land use activities. The Plan recognizes that walking and cycling are energy efficient and sustainable modes of travel, which have not been able to meet their full potential role, as facilities for these modes are often not well integrated into the City's transportation network. The Plan also recognizes these modes offer increased opportunities for individual mobility, personal fitness and recreation, but that the level of pedestrian access in Manukau is poor, with often considerable distances between local roads and bus routes in most residential areas, while cycleway provision is only provided in limited areas. Appendix A outlines the District Plan policies and rules pertaining to improving cycling and walking in Manukau.

Manukau Park's Strategy ('Making Connections')

A key component of the network for cycling and walking is the provision of recreational cycle and walkways. 'Making Connections' is the strategic plan for Council's parks for the next 10 years and beyond. One of the Strategy's goals is to develop connections between parks to establish a network of recreational walkways, cycleways and bridle trails across the City, and to create ecological corridors to support urban wildlife.

The Cycling and Walking Strategy links with Council's Parks Strategy to develop the recreational network across the City.

Manukau Road Safety Plan

Aligned to the Road Safety to 2010 Strategy and the Auckland Regional Road Safety Strategy, the Manukau Road Safety Plan (2004- 2007) aims to improve road safety in Manukau. A key component of the Plan is a number of actions and performance measures to improve safety for cycling and walking. These measures focus on engineering, education, enforcement and encouragement (empowerment) initiatives on the key outcomes of 'transport and land use planning and management', 'safer people', 'safer roads', 'community involvement' and 'strategy co-ordination'. The Cycling and Walking Strategy links with the Road Safety Plan. The Strategies are outlined in Chapter 7.

Contributions of cycling and walking to other Council plans/strategies

Implementing Council's Cycling and Walking Strategy will also contribute to a variety of other Council strategies and plans, including:

- ◆ Strategic Plan for Passenger Transport ("Taking People Places")
- ◆ Health Policy (including Council's response to the New Zealand Health Strategy and the New Zealand Injury Prevention Strategy and Action Plan)
- ◆ Community Safety Framework
- ◆ Disability Policy and Action Plan
- ◆ Leisure and Recreation Policy and Guidelines

2.5 Funding Opportunities

Under the Local Government Act 2002, Council consults on the Annual Plan, which sets out proposed expenditure during the coming year, and the Long-Term Council Community Plan (LTCCP), outlining spending over the forthcoming years. An annual budget and programme for cycling and walking improvements and initiatives has been established and is outlined in Chapter 8.

Council and other agencies, namely Land Transport New Zealand (provision of subsidies), Auckland Regional Transport Authority (ARTA), and Energy Efficiency Conservation Authority (EECA), provide funding assistance for both cycling and walking projects. SPARC provides funding for the promotion of walking and cycling initiatives. The Community Road Safety Programme (CRSP) is funded by Land Transport New Zealand and provides funding and support for community based road safety projects, such as the 'Safer Routes' pilot project in Papatoetoe (see section 6.4).



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3 Characteristics and Trends

3.1 Introduction

Whilst car ownership and usage has increased dramatically, walking and cycling trips as main transport trips have declined and are predominantly recreational activities in Manukau.

This chapter examines the current level of cycling and walking in Manukau, injury rates, and key issues and challenges which provide the contextual background for planning cycling and walking networks and facilities in the City.

3.2 Journey to work – Cycling and Walking

The proportion of commuter trips made by cycling and walking can be measured through the national Census conducted every five years by Statistics New Zealand. The Census is currently the only source of data on the modal share of cycling and walking in Manukau as a whole. It surveys the mode of travel to work on Census day. Recreational, shopping and education-related journeys are not included.

Although the Census provides a snapshot of work trips, for this and other reasons the Census data under-estimates the true extent of cycling and walking. For example, cycling and walking support the use of other transport modes. Any travel by car involves walking to and from where the car is parked. The walking trip is also a key component of the public transport journey as passengers walk to and from transit stops. Cyclists may also use public transport for part of their trip.

Figure 3.1 shows the trends in cycling and walking to work. Between 1986 and 2001, there has been a decline in cycling and walking to work as a main transport mode for workers living in Manukau.

Figure 3.1: Trends in Cycling and Walking to work in Manukau: 1986 - 2001

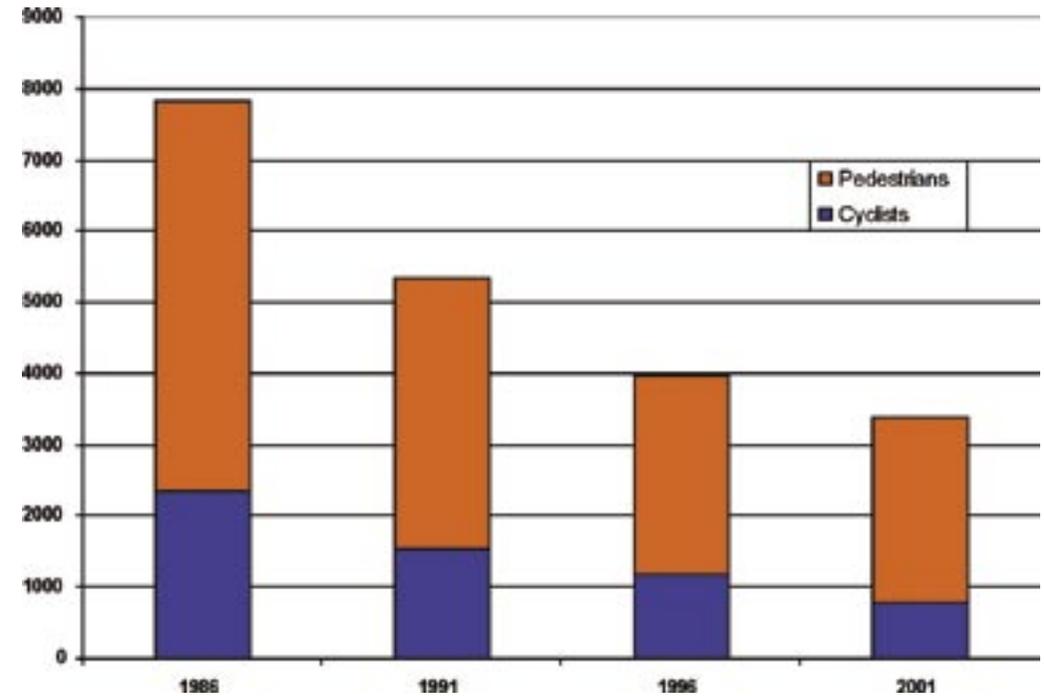
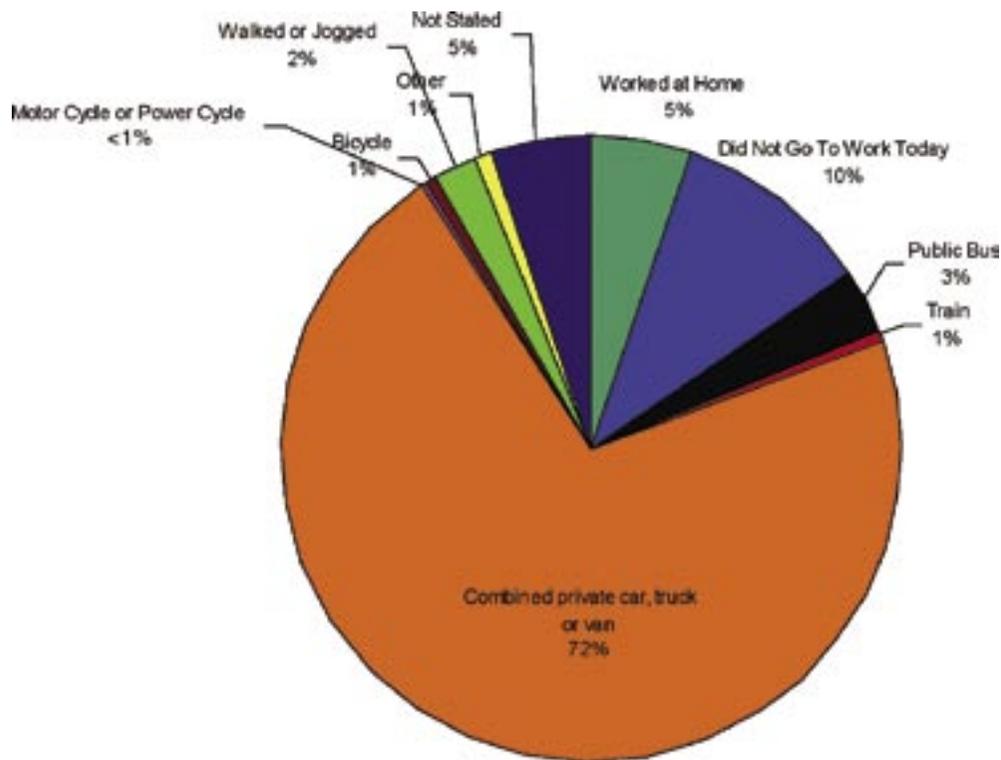


Figure 3.2 outlines the modal share for travel to work. It shows that walking and cycle journeys as main means of transport currently play a minor role in transport trips in Manukau.



Figure 3.2: Mode of Transport to work - Manukau City Residents (2001)



3.2.1 Ward-based Analysis

Ward-based commuter trips for cycling and walking are consistent with the overall city picture. Although the numbers are still extremely low, the data does suggest that Mangere and Papatoetoe residents have a slightly higher rate (0.9% and 1% respectively) of cycling trips to work compared with other wards. Papatoetoe and Otara residents appear to have a slightly higher rate (both at 3%) of walking to work than the other wards. Figure 3.3 outlines the data breakdown by ward for cycling and walking/jogging trips.

Figure 3.3 Journeys to work (cycling and walking/jogging) by Ward

Ward	Journey to Work	
	Cycled	
Mangere	Cycled	0.90%
	Walked/Jogged	2.50%
Papatoetoe	Cycled	1%
	Walked/Jogged	3%
Pakuranga	Cycled	0.60%
	Walked/Jogged	1.90%
Manurewa	Cycled	0.60%
	Walked/Jogged	2%
Otara	Cycled	0.60%
	Walked/Jogged	3%
Howick	Cycled	0.60%
	Walked/Jogged	1.60%
Clevedon	Cycled	0.30%
	Walked/Jogged	2%

Source: Census 2001



3.3 Cycle Counts

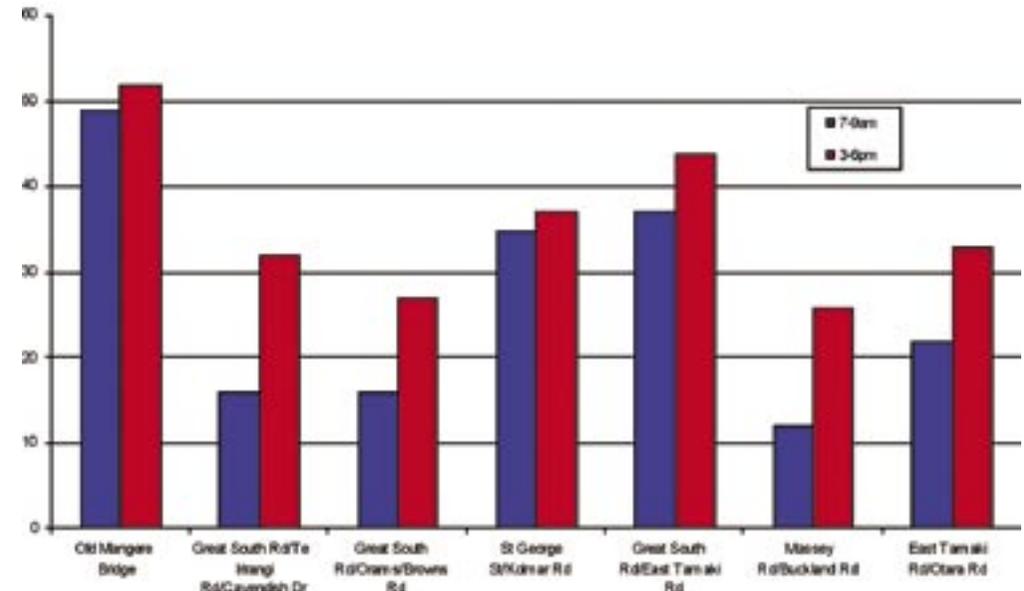
Bicycle counts have been conducted annually (since April 2004) at several key intersections on arterial routes across the City at weekday peak times. The bicycle counts provide a snapshot of the frequency of cyclists on the main arterial routes at selected locations in Manukau.

The counts were spread over a period of three days and comprise of a snapshot of a 'typical' day of bicycle movements in the morning (7-9am) and afternoon/evening (3-6pm) periods. April 2004 results indicate that the most popular cycle route was via Old Mangere Bridge – an important route for sports and recreational cyclists. Other more popular routes include St George Street/Kolmar Road (Papatoetoe) and Great South Road/East Tamaki Road – possibly linked with travel to the Manukau Institute of Technology in Otara.

Figure 3.4 Bicycle Counts, April 2004

Location	7-9am	3-6pm	Total
Old Mangere Bridge	49	52	101
Great South Rd/Te Irirangi Dr/Cavendish Dr	16	32	48
Great South Rd/Orams/Browns Rd	16	27	43
St George St/Kolmar Rd	35	37	72
Great South Rd/East Tamaki Rd	37	44	81
Massey Rd/Buckland Rd	12	26	38
East Tamaki Rd/Otara Rd	22	33	55
Total	190	257	447

Results of Bicycle Counts, April 2004



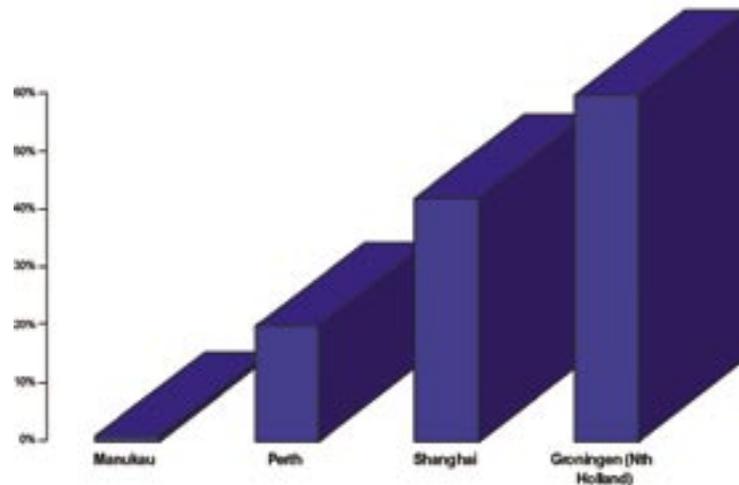
3.4 International Comparison

A comparison of Manukau with selected cities overseas shows that higher levels of cycling and walking are associated with the following factors:

- ◆ Higher population density. The population densities of European and Asian cities are generally significantly higher than those of American or Australian cities.
- ◆ Modest levels of road provision. Asian and European cities have only about 12-30% of the level of per capita road provision of that found in American and Australian cities.
- ◆ Lower overall car ownership and use.
- ◆ High levels of public transport.

To illustrate this, Figure 3.5 compares cycle journeys to work in Manukau with selected overseas cities - Perth, Shanghai and Groningen (North Holland).

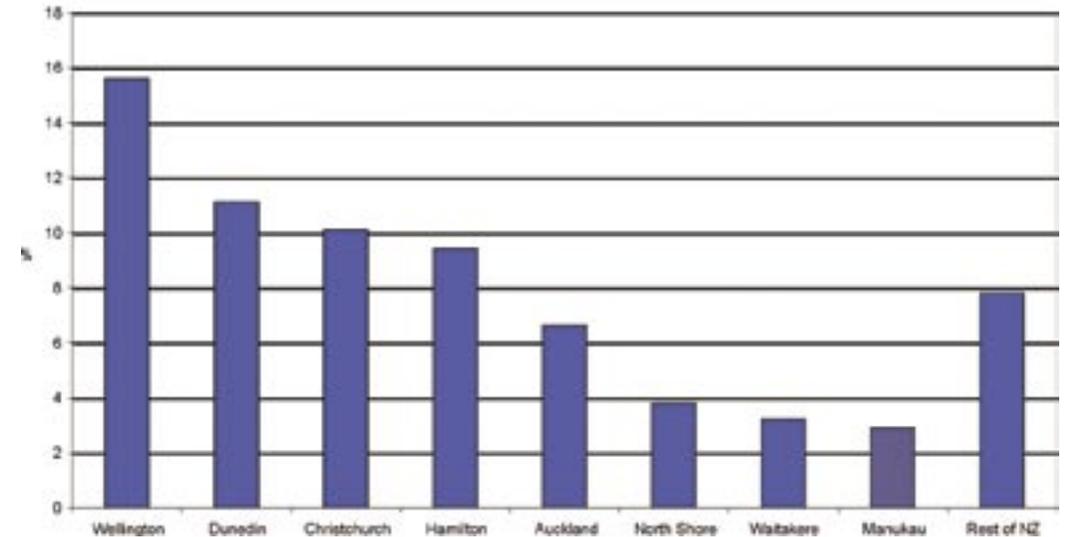
Figure 3.5 Cycle trips to work – Manukau City comparison with international cities



3.5 National Comparison

Comparing Manukau with other New Zealand cities is also useful because the general political and economic conditions are similar. Figure 3.6 compares the level of cycling and walking patterns for the journey to work on Census day in Major New Zealand cities. The data does not include the proportion of recreational cycling and walking journeys.

Figure 3.6 National comparison of the percentage of cycling and walking trips to work on Census day (March 2001)



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The following observations can be made:

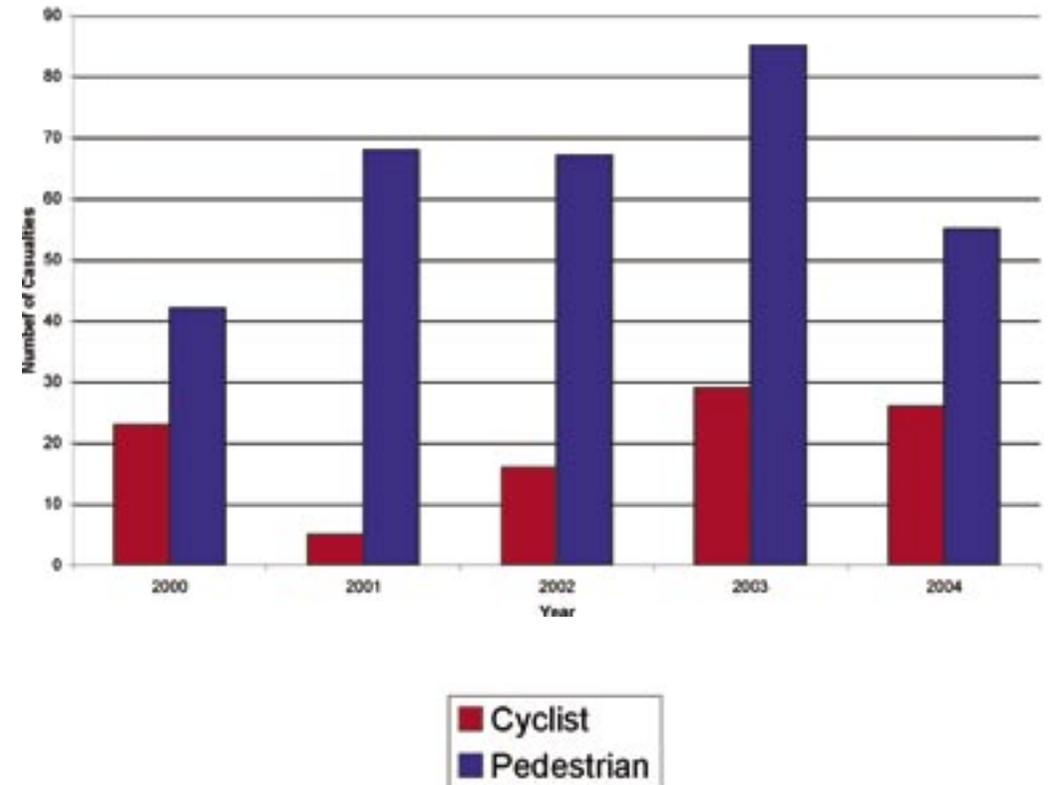
- ◆ Wellington with 15.6% of the workforce cycling and walking to work currently has the highest level of cycling and walking for any urban area in New Zealand. This can be attributed to the Wellington City's compact form, with workplaces concentrated in the CBD, and its relative proximity to residential housing.
- ◆ More provision has been made for cyclists in cities with flatter topography, such as Christchurch, Palmerston North and Hamilton.
- ◆ The distribution of employment destinations and reliance on motor vehicles has significantly affected cycling and walking patterns in New Zealand cities.

3.6 Injury rates – Cyclists and Pedestrians

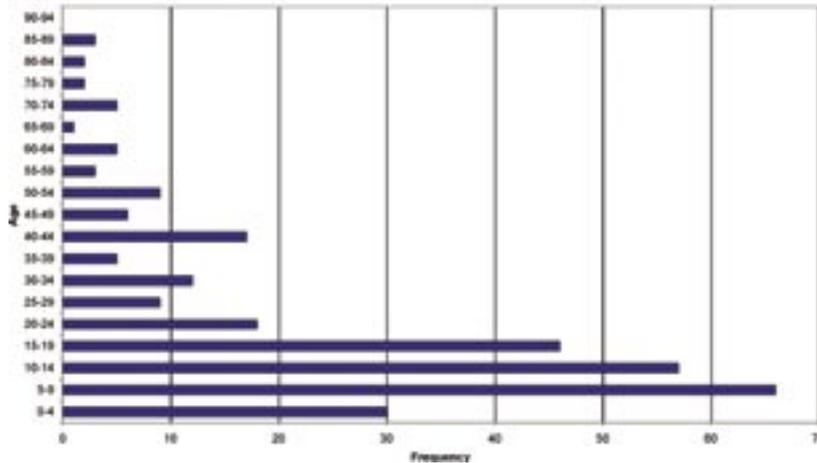
Nationally, the level of pedestrian casualties has continued its downward trend. Although pedestrian injuries have declined, Manukau pedestrian casualties are still over-represented. In particular, pedestrians in the 0-19 age group continue to be overly represented when compared with peer cities.

In the last two years (2003 and 2004), injuries to cyclists have been consistent, with an average of 28 cyclists injured each year. Younger cyclists in the 5-14 age group continue to be over-represented, compared with all of New Zealand and peer cities. It should be noted that there has been a 20-25% decline in the level of cycling in the same period and that there is a level of under-reporting, given that cycle crashes not involving motor vehicles are not recorded as crashes.

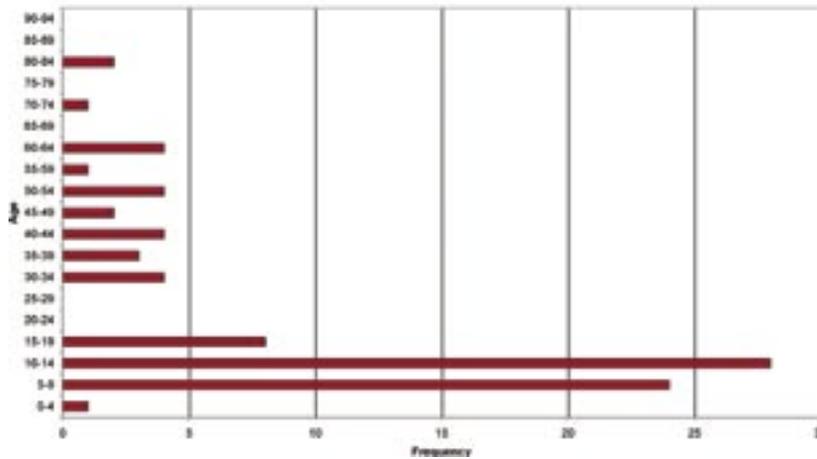
Figure 3.7 - Trend in Number of Cyclist & Pedestrian Casualties in Manukau



3.8 Age of Pedestrian Casualties (2000–2004)



3.9 Age of Cyclist Casualties (2000–2004)



Safekids (the child injury prevention service of Starship Children’s Hospital) attribute pedestrian injuries as the most common cause of injury death for children, and the leading cause of death overall for primary school children. A third of child pedestrians are injured on their way to or from school. Not all children are exposed to the same risk - children from lower socio-economic groups are at greater risk of pedestrian injury. This is partly because they tend to walk more and hence their exposure to risk increases (*Safekids Fact Sheet: Child Pedestrian Injury 0-14*).

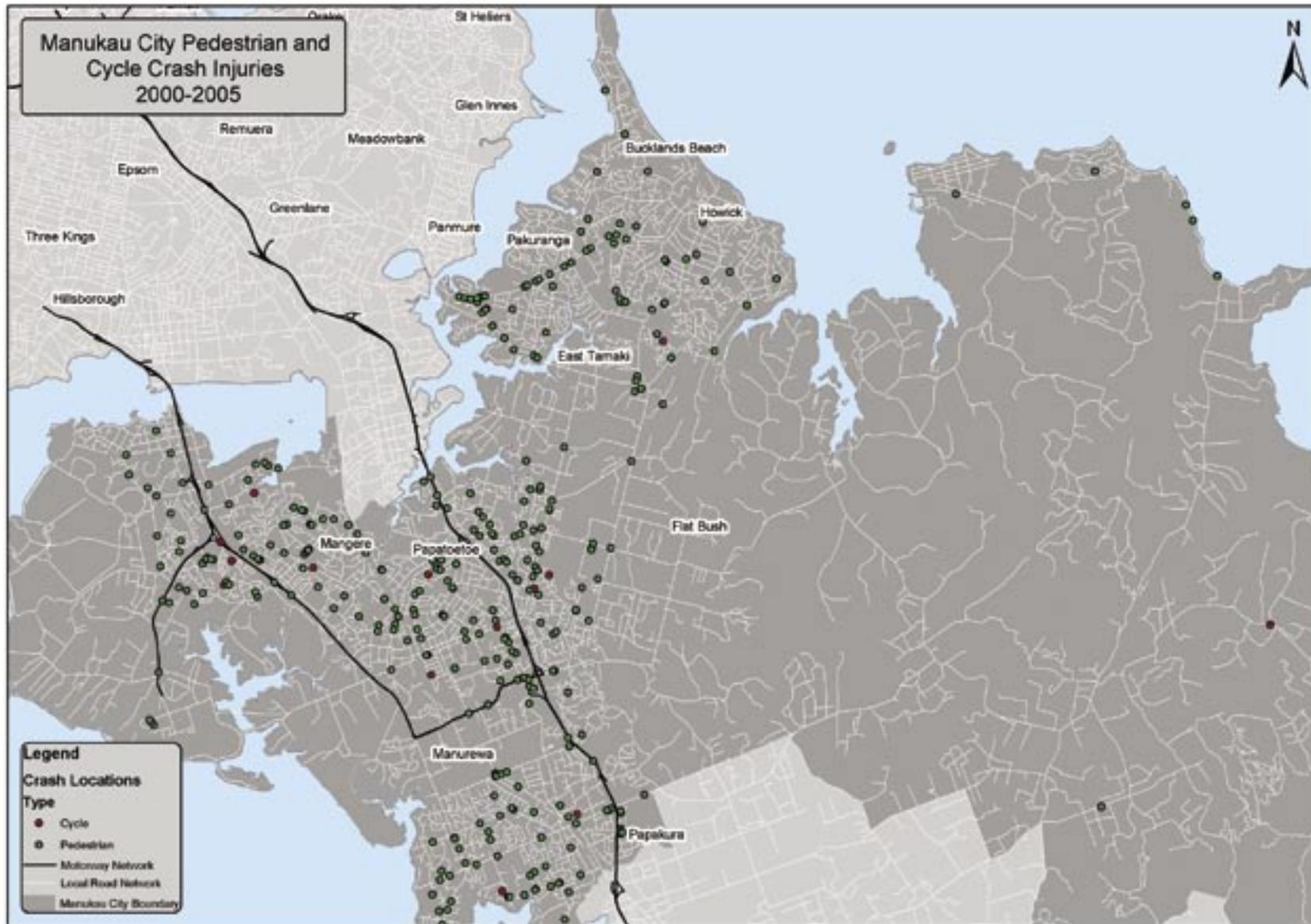
Vehicle speed is a significant factor in the severity of injuries sustained by pedestrians hit by vehicles. Reducing vehicle speeds in areas of high pedestrian activity, such as around schools and in town centres, by traffic calming and diversion, is an effective method of reducing casualty statistics. Diverting traffic away from residential streets removes faster moving vehicles from areas where there are potentially higher numbers of children.

With regard to cyclists, cyclist fatalities tend to be the result of collisions with cars. However, for child cyclist collisions approximately 70% of injuries resulting in hospitalisation do not involve a collision with a motor vehicle and often occur in non-traffic settings. These frequently involve younger children who may still be gaining bicycle skills. Adult cyclist crashes occur at different locations to child cyclist crashes. While child collisions feature more on local roads, adult collisions occur on arterial roads, with intersection crashes accounting for 63% of cyclists injured in collisions with motor vehicles. Obstructions, such as parked vehicles or opening car doors, account for 12% (LTNZ Statistics, May 2004).

Figure 3.10 shows the geographical distribution of all bicycle and pedestrian injuries in Manukau between 2000–2004. The map identifies that a significant proportion of the injuries occur on key arterials across the City, where there are high traffic volumes and higher activity areas, such as town centres and schools.



Figure 3.10 Geographical distribution of all bicycle & pedestrian injuries in Manukau City between 1998 and 2002 (LTNZ)



3.7 Key Issues and Challenges in Manukau

Several key issues affect the attractiveness of cycling and walking. Considering the following issues is essential for understanding the need for a strategy to improve conditions for cycling and walking. The key issues are outlined under the headings below.

Land Use Planning and Traffic Volume

Development in Manukau since the 1960s/1970s has been characterized by low-density suburban development that is heavily dependent on private motor vehicles. This is the result of planning processes geared towards the private motor car through the separation of home-to-work and other travel destinations. Increasing reliance on private motor vehicles (due to longer journeys) and associated traffic volume (increasing at an average rate of 3% per annum since 1990) has had a negative effect on safety and the desirability of cycling and walking.

Reduced Health

The general health of the population has become an issue because of the increase in diseases that result from sedentary lifestyles and poor diet. Sedentary jobs have become more common and the increased use of motor vehicles, machines and technology allows us to perform a greater number of tasks without physical exertion. Consequently, opportunities for physical activity have almost been eliminated from our daily working lives. This is evidenced in increased obesity levels in New Zealand. Provisional results of the 2002/03 New Zealand Health Survey show that one in five New Zealand adults is obese. The amount of time spent on physical recreational activity has also decreased over past decades.

Perception of Safety

Perceptions of safety is a critical factor for Manukau residents. In a recent report, it was noted that Manukau had the lowest perception of safety, particularly at night and in city centres when compared with other large cities in New Zealand (Quality of Life in New

Zealand's Six Largest Cities, 2003). Crime, anti-social behavior, road safety and increased traffic volumes, and driver behaviour are all contributing factors.

Public walkways are often viewed as unsafe as historically they tend to be fenced on both sides, narrow, poorly lit, are often subject to graffiti and other acts of vandalism, and are not always adequately maintained. Although the standards for new walkways were changed a number of years ago to improve matters, there is still an historical legacy issue with some walkways.

Balancing the needs of different users.

Balancing the various needs of different cycle users is a key challenge. Recreational cyclists who may choose to cycle in parks and on footpaths have very different needs from commuter cyclists who cycle to get from point A to B.

There is also a need to cater for all pedestrians, from able-bodied pedestrians, to wheelchair and mobility scooter users. Other users, such as people using pushchairs, or on roller blades and skateboards, need to be considered to ensure safe crossings, and public transport links for all users.

Urban Design

The quality of the environment is an important factor when it comes to encouraging more cycling and walking. Common design problems that can occur include uneven footpath surfacings, inadequate street lighting, inadequate sightlines and street furniture, and tree/vegetation obstructions.

Maintenance

Lack of maintenance, resulting in broken footpaths and unswept cycle lanes for example, pose a safety risk for and have a negative effect on the aim of encouraging cycling and walking. Both cycle facilities and footpaths require regular monitoring to ensure things such as broken glass, debris from car crashes, rubbish, graffiti and overgrown vegetation are managed.



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4 Planning for Cycling and Walking

4.1 Introduction

In order to plan and design effectively for cycling and walking, there are a number of considerations and design issues. This chapter discusses types of cyclists and pedestrians and good urban design principles/network elements required to effectively plan for their needs.

4.2 Types of Cyclists

It is important to recognise that cyclists' skills and trip purposes are diverse. While skill level often depends on age, other factors such as frequency of cycling and journey purpose dictate the preferred cycling facility for the journey. The following general groups of cyclists have been identified.

4.2.1 Commuter/Utility Cyclists

Commuter Cyclists

Commuter cyclists are those who generally travel to and from key destinations, such as workplaces and tertiary institutions. They generally travel medium to long distances during peak weekday periods and prefer direct, convenient and safe routes. Experienced commuter cyclists generally cycle on arterial roads due to the directness of the journey.

Commuter cyclists not only look for quality routes, but also require facilities such as secure bicycle parking facilities and shower/changing room facilities at their work or study destination.

Other Utility Cyclists

Other utility cyclists use their bicycle for other purposes, such as local shopping or social needs. The bicycle can be a popular transport mode for shorter distances in local areas, in

particular when convenient routes and short cuts are available. Secure parking facilities are also required.

4.2.2 Sports and Leisure Cyclists

On-road Cycle Training

On-road cyclists are those who train for competition or exercise, cycling long distance road circuits predominantly on the arterial road network in both urban and rural areas. They tend to cycle at an average speed of 30-40km/h and seek good road surfaces. Traffic separation is less critical than for other groups as much of the training occurs during after-work hours and on weekends.

Leisure Cycling

Leisure cycling is done for enjoyment and general exercise. This usually takes place at off-peak periods and is more localised and over shorter distances. This type of cycling is usually done on-road and off-road in parks/reserves.

Mountain biking

Mountain biking on challenging and rough cycling routes is a very popular form of leisure and is usually done after work hours and on weekends. Mountain bike routes are generally off-road in recreational parks and reserves.

4.2.3 Inexperienced Cyclists

School children and Inexperienced Adult Cyclists

Inexperienced cyclists tend to take some time to develop cycle skills, and they tend to cycle on footpaths and recreational grounds. They usually make short trips, such as to schools, work and local shops. Once they have gained confidence, these cyclists tend to mix with the general traffic, although young school children may take a little longer to do this than adult inexperienced cyclists. The New Zealand Police recommend 10-years old as the minimum age for children to be cycling alone on the road.



4.3 Types of Pedestrians

Arguably, everyone is a pedestrian at one point or another – even transferring from their car to walk to shops or to work. However, walking trips can be defined in four different ways, namely:

- ◆ 'Access mode' or functional walking where walking is used for most or all of the journey, i.e. walking to work, shops and school
- ◆ 'Access sub-mode' - walking to support a journey by another mode e.g. in combination with the use of public transport or car use
- ◆ 'Circulation/exchange' - carrying out a range of activities on foot in public spaces, e.g. shopping with friends, chatting to neighbours
- ◆ 'Recreation/Leisure' - walking for leisure/exercise purposes around the streets or parks/reserves

4.4 Vulnerable Pedestrians

The groups that are over-represented in pedestrian injury statistics, and which require specific consideration and the use of design standards when planning the network are:

Primary School children

Safekids list a number of key factors that identify why primary school children are at risk of injury, namely:

- ◆ Children are unable to judge speed and distance as well as adults.
- ◆ Children are physically small and it is difficult for them to see and be seen by motorists.
- ◆ Children have peripheral vision that is not yet fully developed making them less likely to notice a car in their side vision.
- ◆ Children have greater difficulty working out where sounds are coming from.
- ◆ Children generally think about one thing at a time and can easily be distracted.
- ◆ Children may freeze when finding themselves in danger.

Source: Safekids Fact Sheet: Child Pedestrian Injury 0-14

Parents understandably have concerns about their children on their way to and from school. This is apparent in the significant rise in children being driven to school. In the Auckland region alone, travel trips for educational purposes comprise approximately 40% of all trips. Walking school buses, school travel plans and safer routes to school programmes aim to improve the safety and level of walking and cycling to school.

Elderly

People aged 60 and over are also over-represented in injury statistics. Their increased risk stems from a number of factors, such as decline in their vision, hearing, mobility and cognitive functioning. Behavioural factors, too, seem to play a part in their injury statistics, especially when they cross the road.

People with disabilities

It is estimated that approximately 20% of the population has some form of disability, and approximately 3% of the total adult population is blind or vision-impaired (2001 Disability Snapshot, Statistics NZ). Despite the proportion of people with disabilities, planning and design of the urban environment has often taken place without full consideration of the physical barriers for people with disabilities. For example, vision-impaired people require continuous paths, safe crossing points, and freedom from obstructions such as signage, vegetation and street furniture. Specific design standards for people with disabilities are discussed in section 4.7.

4.5 Design Principles

Good urban design assists by maximising safety and encouraging use. Currently, some roading designs are potentially hazardous and unattractive for cyclists and pedestrians.

The following are ten factors for creating walking and cycling friendly cities. These are discussed in more detail on the next page.



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- ◆ Concentrate in centres
- ◆ Mix uses in centres
- ◆ Align centres with corridors
- ◆ Link public transport with land-use strategies
- ◆ Connect streets
- ◆ Improve pedestrian access
- ◆ Improve cycle access
- ◆ Manage parking supply
- ◆ Improve road management
- ◆ Implement good urban design

Source: ILUT Guidelines for Improving Transport Choice

Density

Increased density in cities is a critical element for creating a walking and cycling friendly city as it brings key destinations closer together; facilitating walking and cycling, and supporting public transport.

Mixed Land Use Patterns

Mixed land use patterns assist by bringing retail areas, workplaces and housing closer together, making them more accessible for cycling and walking, thereby reducing car use. Dispersed trip destinations create longer trips and the need for vehicle use for the journey.

There are also safety benefits with higher density developments and mixed use resulting in more natural day and night-time surveillance for cycling and walking.

Integration with Public Transport

The location of high-density, mixed land use town centres around key transport inter-changes, e.g. rail stations, is a key part of enhancing walking and cycling catchments as these modes often form part of the public transport journey. Therefore, planning effective walking and cycling catchments is an important tool in the promotion of public transport use.

Areas around bus stops and rail stations should be examined to identify any obstacles

for pedestrians. This could include a lack of safe crossing points, poor footpaths or kerb ramps, or an unsafe or unpleasant waiting environment.

The catchment area of public transport services can also be greatly enhanced by providing safer cycle routes, secure bicycle parking and key passenger transport interchanges.

Well-designed Street Layout and Direct Connections

A well designed street layout that connects to key trip attractors is an important component. Local street networks are required with many junctions and options with well-connected routes to public transport facilities and other key trip attractors.

For cycling, some flexibility can be expected where a better cycling environment is provided on a minor deviation from the most direct route. A careful balance must be found between providing a direct route and one that is also free of delays or safety concerns.

Good Urban Design and Safety

A safe and attractive environment encourages more people to cycle and walk. Consideration of the treatments in relation to each road function must be factored in. However it is generally considered that every street should be a walking and cycling street.

The following design factors need to be considered: street lighting, avoiding 'dead spaces' (e.g. blank walls and large driveways), including safe crossing points for pedestrians and well-designed intersections with the cyclist in mind. Narrow and dark areas should be avoided, and facilities should be regularly maintained free from debris, graffiti, rubbish and overgrown vegetation.

There are also safety benefits with higher density developments and mixed use, as these result in more natural day and night-time surveillance for cycling and walking.

End-of-trip Facilities

Cyclists need to know that their bike is safe from theft while unattended. This can be achieved by providing bike racks and lockers in areas that are well lit, in view of the public



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and protected from the weather. Showers and change rooms should be encouraged at workplaces to support commuter and recreational walking, running and cycling.

4.6 Cycling and Walking and Growth Centres

Planning principles can be applied to the enhancement of cycling and walking through the Regional Growth Strategy (RGS). As mentioned in Chapter 1, the Regional Growth Strategy provides the strategic framework for the growth of the region over the next 50 years. The RGS focuses on the intensification of selected urban areas (called growth centres) and along key transport corridors. High-quality passenger transport and the promotion of walking and cycling plays a critical role in the promotion of intensive land use.

The first growth centres that Manukau City Council has identified are Manurewa, Hunters Corner and Old Papatoetoe, Manukau City Centre and Flat Bush.

Cycling and walking activities will be enhanced in these nodes by a number of planning principles, including close proximity to the rail corridor, improved integration with rail stations, wide range of mixed uses, including community facilities and residential accommodation, compact pedestrian-friendly town centres, and revitalized town centres, including improved lighting, seating, planting and paving.

The combination of passenger transport with connected streets and pedestrian links should significantly increase the attractiveness of and access to public transport services, and create more walking and cycling friendly environments.

Flat Bush

Manukau City Council has identified 1,730 hectares of land in Flat Bush for residential and commercial development. Planning of the town centre is already underway and will continue for the next 3-5 years, while development of the area should be substantially complete within 10-15 years. The population of Flat Bush is expected to reach 40,000.

With regard to transport networks, the Flat Bush development aims “to achieve a safe, efficient, well- connected and integrated transport system within and beyond the Flat Bush area that provides a choice of travel modes, including pedestrian, cycling, public transport and motor vehicles”

The network of cycling and walking routes for Flat Bush is detailed in the map (Figure 4.1) on this page. The network will enable direct connections between planned workplaces, town centres and residential areas. It also allows for direct connections between Flat Bush and the planned Barry Curtis Park and hence, enhanced opportunities for recreational walking and cycling.

Figure 4.1: Flatbush Cycleways and Walkways Master Plan



4.7 Design Standards

There are a number of technical guidelines and manuals for designing cycling and pedestrian facilities. It is important not just to look at specific engineering design guidelines as they do not always ensure a good solution. Best practice theory should also be applied, irrespective of the general design standards that apply.

Manukau City Council uses the following cycle and pedestrian design standards:

- ◆ Austroads Part 14, Bicycle, Guide to Traffic Engineering Practice, 1999
- ◆ Austroads Part 13, Pedestrians, Guide to Traffic Engineering Practice, 1999
- ◆ New Zealand Cycle Design Guide, 2004 (to be used in conjunction with Austroads Part 14)
- ◆ Manuals of Traffic Signs and Marking, Part 1 and 2, Transit New Zealand (MOTSAM)
- ◆ Manukau City Council Engineering Quality Standards and MANARC
- ◆ LTSA RTS 14 Guidelines for facilities for blind and visually impaired pedestrians (2003)
- ◆ Manukau City Council Public Lighting Standard (2003)
- ◆ Cycle Route Network Planning Guide (Land Transport New Zealand)
- ◆ Pedestrian Planning & Design Guide (Land Transport New Zealand)

Guidelines and standards alone do not ensure safe solutions for cyclists and pedestrians. Consideration will also need to be given to site-specific factors, such as existing road width constraints for cycle paths and parking requirements. Facilities will also have to be audited and regularly maintained for cyclist and pedestrian needs.

There is also a need to co-ordinate the activities of utility companies in the City to ensure that cesspits, manholes and similar obstacles are designed, located and monitored so as not to present a safety risk for cyclists and pedestrians.

4.8 Asset Maintenance and Safety Audits

In order to ensure that facilities for cycling and walking are maintained to an adequate standard, it is necessary to conduct regular safety audits and maintenance checks. Cycle safety and “walkability” audits will ensure facilities meet the needs of pedestrians and cyclists during the day and at night. Audits must also take into account appropriate and up-to-date design standards for all user groups – pedestrians, cyclists and people with disabilities.

Regular maintenance programmes ensure that routes are kept free from hazards and debris. Even if facilities are built to a high standard, they require regular maintenance to continue to be attractive to pedestrians and cyclists. Some of the hazards that need to be addressed include the following:

- ◆ Accumulation of debris, such as broken glass and stones, particularly at intersections
- ◆ Deterioration of road markings
- ◆ Overhanging/overgrown vegetation and weeds
- ◆ Rubbish and graffiti
- ◆ Potholes or broken seal
- ◆ Broken footpaths
- ◆ Reduced/out of order street lighting and traffic signals



5 Planning the Cycle and Walking Network

Objective 1: Plan, develop and maintain a safe network for cycling and walking throughout the City.

Objective 2: Ensure the adoption of appropriate safety design standards and an ongoing maintenance programme for cycling and walking facilities.

5.1 Introduction

The planned network for cycling and walking is the key component of this Strategy. The road network must be planned with due regard to cycling and walking to provide for existing and encourage additional users.

5.2 Existing Cycle Facilities

Currently there are very few dedicated bicycle facilities in Manukau. Traffic signs, road markings and plaques are used to identify cycle lanes and cycle paths. The existing facilities are found on:

- ◆ Great South Road (shared cycle/bus and shared cycle/pedestrian facility)
- ◆ Weymouth Road (shared cycle/pedestrian facility)
- ◆ George Bolt Memorial Drive (use of shoulder as a cycle lane)
- ◆ Te Irirangi Drive (shared cycle/pedestrian facility on one section and marked cycle lane at the Great South Road end)
- ◆ Cycle lead-in lanes at some key intersections
- ◆ Puhinui Road west of State Highway 20 (use of shoulder as a cycle lane).
- ◆ Shared cycle/bus lanes across the city

Cycling is also permitted in all Council's parks and reserves.

5.3 The Planned Cycle Network

One of the principle concerns for cyclists is that the bicycle network is safe, comfortable and connected. As discussed in Chapter 4, cyclists move around the public domain in various ways, largely depending on the trip purpose and rider characteristics. For example, children may use local roads and parks, and cycle at low speeds, while commuter adults tend to take the fastest, most direct route available.

Attention to cycling facilities should therefore not be confined to improvements to one or two routes or links, as trip origins and destinations are diverse. All streets must be planned with due consideration for cyclists as well as the function, traffic volume and width of the street itself.

The proposed network is divided into three key areas:

5.3.1 Strategic Citywide Cycle Network

The function of the strategic cycle network is primarily to meet the needs of longer distance cyclists who want to cycle from one part of the City to the other for commuter or training purposes. Moreover, sections of the network will also service those wanting to make shorter local trips, such as to schools, tertiary institutes (MIT) or to local town centres which are also served by these routes. In addition, routes from Auckland International Airport service the needs of cycle tourists cycling between the Airport and Auckland City or heading south out of Auckland. The rural cycle route network offers considerable benefits for existing and potential recreational and sports cyclists and cycle tourists.

The proposed strategic cycle network will be predominantly along key arterial routes connecting key destinations across Manukau. The proposed cycle network was considered taking into account places of residence, places where people work, recreational parks/reserves, rail stations, town centres, schools and tertiary institutions and linking to key regional cycle networks.

The strategic network forms the 'skeleton' or network of cycle routes, with the Great South Road Route providing the main north-south backbone of the cycle route network through the centre of the City. From the provision of a strategic network, local and recreational cycle routes can develop. (See Figure 5.1 on page 22 – Existing and Proposed Strategic Cycle Network)



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Specifically, the following routes have been identified as key strategic cycle routes:

• Mangere Bridge - Auckland International Airport route	• Great South Road (GSR route)
• Highland Park – Botany Downs route	• Papatoetoe–Otarā–East Tamaki (POET Route)
• Mangere – Papatoetoe – Manukau City Centre	• Favona – James Fletcher Road (Mangere-Otahuhu route)
• Ormiston – Sandstone – Whitford – Maraetai route	• Flat Bush routes (as per Flat Bush Cycle and Walking Strategy)
• Twilight Road route (Clevedon)	• Pakuranga Road
• Waiouru – Otahuhu to East Tamaki route	• Bucklands Beach Road
• Ti Rakau Drive ³	• Weymouth Road
• Roscommon – Nesdale – Liverpool – Cavendish route	• SH 20 – SH 1 connection and associated Manukau City Centre cycleways
• Te Irirangi Drive – Cavendish Drive	

Owing to the funding and time involved in completing these projects, the programme of works has been prioritized over a period of five years (see section 8.2). Where possible, within the timeframe these cycle route improvements will be incorporated as part of wider roading improvements (e.g. shared pedestrian/cycle path as part of the Waiouru–Otahuhu–East Tamaki roading project) and bus priority studies. However, where this is not possible, independent investigations will be done to identify the feasibility, costs and benefits of implementing these links. Funding assistance will be sought from regional and national transport funding authorities for these cycle route improvements.

The type of facilities will include: on-road marked cycle lanes, road widening, shared off-road cycle/pedestrian facilities, cycle/bus lanes, treatments at intersections, parking restrictions and signposting of key routes.

³Cycle facilities will be incorporated as part of the Eastern Corridor Studies.

5.3.2 Local Cycle Network

At a local level, cycle networks can be developed for those cycling to local destinations, such as schools, shops, nodal developments and in/around the local community. The type of facilities will include traffic calming and quieter streets, on-road marked cycle lanes, shared pedestrian/cycle paths, paths and facilities connecting parks and reserves.

Local cycle network improvements will be conducted as part of Safer Route programmes, school travel plan programmes, town and growth centre strategies, and planned roading and road safety programmes.

5.3.3 Recreational Cycling including Parks/Reserves Cycle Network

The parks/reserves network offers enormous potential for providing recreational cycling and, in some instances, provide an alternative for commuters. Currently, Council permits cycling in all its parks and reserves, however, historically the network has been planned predominantly for walking.

The parks future network is expected to comprise of suitable off-road paths with a surface and gradient suitable for cycling. These cycle facilities may be in the form of separate cycle facilities or shared cycle/pedestrian paths. Wherever paths are shared with pedestrians, it is important there is enough safe width for both cyclists and pedestrians.

Responsibility for cycle routes in parks and reserves lies with the Council's Parks Department. The Transportation Department is responsible for cycle ways on or adjacent to the road network.

The Manukau Parks Strategy (Making Connections) has identified a number of parks (existing, planned or potential) for specific cycle facilities, including:

- ◆ Flat Bush
- ◆ Barry Curtis Park
- ◆ Otuaatua Stonefields Historic Reserve



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- ◆ Puhinui Reserve
- ◆ Totara Park
- ◆ Beachlands to Maraetai
- ◆ Beachlands to Pine Harbour
- ◆ Porterfield (between Hansen and Clifton Roads)
- ◆ Totara Pak
- ◆ Lloyd Elsmore Park – adventure bike trail (in conjunction with the Rotary Club)

It is essential there is effective co-ordination between the Transportation and Parks departments to ensure the parks/reserves cycle network is well-integrated with on-road cycle access, including consistency of signage, choice of routes, entrance and exit points, and links.

There will be opportunities in the future to undertake joint projects including on-off road links and integrated cycle and walking projects.

Rural Roads

In addition to the parks/reserves network, there are opportunities to cater for recreational cyclists on the City's rural road network, which is already popular amongst cyclists (e.g. the Maraetai – Clevedon route provides a complete cycle route for many cyclists).

The following measures (where practical) will be implemented on rural roads that form part of the cycle route network:

- ◆ Whenever sections of rural roads are resealed, or upgraded, driveways will be sealed to the road reserve boundary in order to minimize the risk of metal and other debris being carried onto the road. This debris can be hazardous for cyclists. It can be slippery or uncomfortable to ride over, or force cyclists to ride out into the traffic lane to cycle around it, possibly into the path of following vehicles.
- ◆ Whenever shape correction or safety improvements works occur, the section will be upgraded to a consistent, desirable seal width, including a sealed shoulder of at least 1.5m (e.g. Whitford Roding Study).

- ◆ The desirable cross section to accommodate the appropriate cycle facility will be provided at all new bridges or culverts installed on these roads where practicable.
- ◆ Where possible, visibility improvements will be incorporated into upgrading projects to include sight lines around corners.
- ◆ Any thresholds designed to calm traffic entering any built-up areas shall be of a cycle-friendly design that does not create hazardous pinch points for cyclists.
- ◆ Raised pavement markers and slippery thermoplastic paint will not be placed on the carriageway in positions where cyclists ride.

Some of the above measures also provide considerable benefit to other road users.

5.4 Existing Pedestrian Facilities

The infrastructure for pedestrians in the City typically comprises:

- ◆ Footpaths
- ◆ Pedestrian crossing facilities, e.g. pedestrian refuges, signalized crossings
- ◆ Walkways and trails
- ◆ Shared bicycle/pedestrian facilities

In general, improvements to footpaths have been excluded from this Strategy, except those associated with town centre strategies, improvements to public transport, road safety and safer routes programmes, and the specific requirement for the maintenance of footpaths.

5.5 The Planned Pedestrian Network

Pedestrians use every part of the public domain through a network comprising footpaths, public open space, walkways and tracks and paths.



Although there is an adequate network of footpaths, sometimes the elements of good walking environments are absent from the network. The key strategy for the pedestrian network is to focus on pedestrian access and safety improvements targeting high-risk areas and key pedestrian attractors with medium to high pedestrian activity.

The key priority areas have been identified as:

- ◆ Key business zones (1 and 2) – including town centres, nodal developments and workplaces
- ◆ Schools and tertiary institutions
- ◆ Rest homes
- ◆ Passenger transport stops and interchanges
- ◆ Lower socio-economic areas
- ◆ Connections with parks/reserves and recreational routes

The pedestrian network improvements will focus on a 1km pedestrian radius surrounding the key priorities. Where possible, these improvements can be completed as part of other roading and town centre improvements, such as nodal development plans, town centre upgrades, safer routes programmes and other road safety improvements. However, where this is not possible, independent investigation studies will be done to identify the feasibility, costs and benefits of implementing these links.

A wide range of improvements to these areas will be considered, including:

- ◆ Improved street amenity (street lighting, paving, planting)
- ◆ Traffic calming
- ◆ Safe crossing facilities
- ◆ Improved walkway linkages to key destinations, e.g. to public transport, town centres
- ◆ Footpath widening
- ◆ Changes to land use planning (as part of nodal development plans)

These areas will be prioritized and a five-year work programme developed for pedestrian improvements.

Recreational Routes – Parks/Reserves

Currently, there are a number of existing and planned walkways through Manukau's parks and reserves.

Walking as a recreational activity is expected to increase given the increasing popularity of walking as a recreational pastime and form of exercise. Currently, there are a number of existing and planned walkways through Manukau's parks and reserves.

Specifically, the following walkways (existing, planned or potential) have been identified (as per the Manukau Parks Strategy – see Figure 5.2 on page 26: Manukau City – Parks Overview):

- ◆ Manukau Harbour – Mangere Bridge to Wattle Downs
- ◆ Tamaki Estuary – Middlemore to Musick Point
- ◆ Tamaki Strait – Musick Point to Maraetai
- ◆ Portage Crossings
- ◆ Puhinui Stream
- ◆ Otara Creek
- ◆ Pakuranga Stream
- ◆ Mellons Bay Walkway
- ◆ Mangemangeroa Catchment – Mangemangeroa/Turanga/Waikopua Streams
- ◆ Papakura Stream
- ◆ Te Araroa – the National Walking Trail
- ◆ Flat Bush
- ◆ Barry Curtis Park

The Transportation Department will be responsible for ensuring safe access to the walkway parks network from the road environment through local network improvements, such as safe crossing points and traffic calming measures. Co-ordination between the Transportation and Parks departments is necessary to fully implement the parks/reserves network.



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5.6 Integration with Public Transport

Virtually every public transport trip involves some degree of walking and has the potential for improved integration with cycling. Without adequate pedestrian access to transit stations and stops, the viability of public transport reduces significantly. Access to public transit requires direct links to bus stops, ferry terminals and railway stations that are safe to use throughout the day.

Manukau's Passenger Transport Plan identifies a number of principles for consideration, namely:

- ◆ The proximity to public transport access, including bus stops, stations and the route to the public transport locations (footpath facilities and environment)
- ◆ The location of the bus stop/station should be carefully chosen so it is easily accessible and convenient
- ◆ Safe crossing points should be considered when siting bus stop and stations
- ◆ A comfortable, safe environment should be considered for both cyclists and pedestrians at bus stops and stations, including secure cycle parking facilities at stations and bus shelters for passengers. Lighting, use of open space, careful design of structures and landscaping should also be considered when designing these facilities.

Currently, significant investment has been made to improve rail station facilities and rail services. Alongside these improvements, Council is investing in improvements to enhance the integration of cycling and walking with rail journeys. For example, a new bridge at Papatoetoe Rail Station provides enhanced walking and cycling access to the station platform. 'Work and live' residential developments will also be encouraged on the opposite site of Shirley Road (Papatoetoe) to increase the potential for intermodal train travel. In addition, cycle parking facilities have been provided for within the upgrade of all the rail stations in the Auckland region. Council will continue to incorporate bicycle facilities and improved cycle/pedestrian access to all rail station upgrades and growth centre improvements.

There are also opportunities for improved bicycle-train travel. Trains in the Auckland region currently allow bicycles on board. In the peak hours, there may be an additional charge of \$1 per bicycle. Ferry services operating between Half Moon Bay and Auckland CBD and Waiheke Island currently allow bicycles on board at no additional charge.

A reduction in charges for bikes, better connections for pedestrians and cyclists to rapid passenger transport interchanges, and the provision of end-point facilities for cyclists may assist in increased inter-modal travel.

5.7 Cycle Parking

The risk of bicycle theft is a disincentive to some potential cyclists who are either afraid to leave their bikes in public places, or don't want to be bothered with inconvenient or elaborate measures to try to ensure security. Control of bicycle theft is a Police issue. However, the provision of plentiful, convenient, well-designed and appropriately located facilities can help deter bicycle theft. Council plans to investigate opportunities to install bicycle facilities at key destinations and Council-owned facilities (libraries, recreation centres) in Manukau.



Cycling parking facilities – Denmark



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6 Promotion

Objective 3: Promote cycling and walking as viable modes of transport.

6.1 Introduction

Although people are aware of the benefits of cycling and walking, few people actively cycle or walk as a transport option. Investment in cycle facilities will result in some increase in cycling and walking. However, there will be more significant increases through more active promotion of the benefits of cycling and walking.

A number of agencies are involved in the promotion of walking and cycling, including EECA, SPARC, Bikewise – Health Sponsorship Council, Auckland Regional Council, Cycle Advocates Network, mountain bike and cycle clubs, other councils, and employers. Manukau City Council has participated in and organised a number of promotional activities to promote walking and cycling. This chapter discusses the range of initiatives that Council will support to promote cycling and walking.

6.2 Promotion of Infrastructure

The Council supports the promotion of new and improved infrastructure as an important component of encouraging walking and cycling. A communication plan will be developed to incorporate a range of mechanisms for promotion. It is envisaged that the communication plan for any major new infrastructure will be undertaken in two phases. Phase 1 will be a launch following completion of the infrastructure, and phase 2 will involve on-going communication to encourage use. A range of communication avenues will be identified, including signage, brochures, posters, Council's website, Council's Call Centre



and printed media. The Council's Call Centre will also be an avenue for the public to report any maintenance issues.

6.3 Bicycle User Groups (BUGs)

Bicycle User Groups (BUGs) operate successfully internationally and nationally. They are a group of cyclists who want to improve the provisions for cycling in their respective organizations.

Some activities may include improved and convenient cycle parking and additional facilities, such as showers and lockers, improved cycle routes and general awareness raising of the benefits of cycling. Manukau City Council is keen to support the development of a BUG group as a support network for cyclists in Manukau.



Inner-Sydney BUG breakfast meeting at Darling Harbour (Sydney)



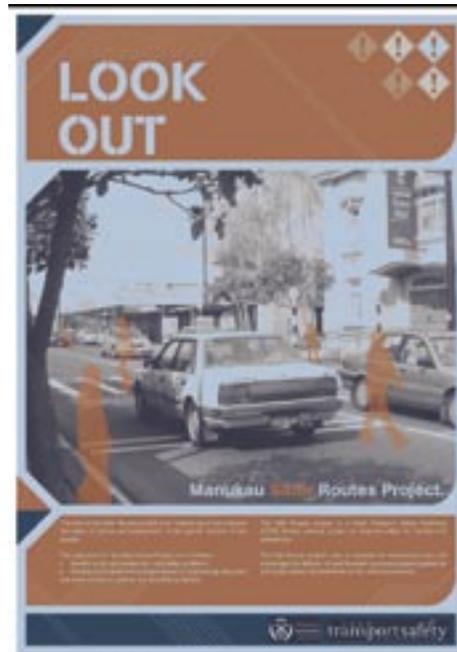
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6.4 Safer Routes Programme

One of the key priorities for action under the Government's Safety to 2010 Strategy is to improve safety for pedestrians and cyclists. This includes developing and piloting the Safer Routes project in targeted geographical areas. The Safer Routes project is a Land Transport New Zealand funded national project to improve safety for cyclists and pedestrians.

The primary aim of the Safer Routes project is to reduce injury and improve the safety of cyclists and pedestrians in areas where they are at high risk of injury or death. Papatoetoe has been selected as one area to pilot this project in Manukau.

The project seeks outcomes in three specific areas, namely education, enforcement (with the support of the New Zealand Police) and engineering (physical changes to the cycle and pedestrian environment). These will create an environment and climate of less risk to cyclists and pedestrians in the targeted geographical area. Land Transport New Zealand has funded the project costs, with Manukau City Council funding the engineering improvements. The project was initiated in May 2004 and is a two-year pilot programme. Following the outcomes of the project in Papatoetoe, roll-out to other areas of the City will be considered.



6.5 Travel Demand Management (TDM)

The encouragement of walking and cycling is an essential component to contributing to

travel demand management. Travel demand management aims to reduce car trips and encourage more people to walk, cycle, use public transport, rideshare, and work and live locally. A key component of the Travel Demand Management Strategy for Auckland is the promotion of school and workplace travel plans.

6.5.1 School Travel Plans

It is well recognised that approximately half of New Zealand primary school children are driven to and from school. It is also identified that approximately 40% of peak-time car related journeys in the Auckland Region are education related, which has resulted in increased traffic congestion and other health and safety implications.

To help combat these issues, school travel plans have been implemented in many developed countries, including the United Kingdom, Canada and Australia. School travel plans have a similar focus to the Safer Routes projects, in that the process relies on support from the school community, community boards and the Council. The difference being that Safer Routes projects are targeted to the whole community. School Travel Plans focus on school journeys and encourage alternatives to car travel, reducing traffic at the school gate, and pedestrian and cyclist safety.

Some of the actions include:

- ◆ Establishing walking school buses
- ◆ Improving the safety of pedestrian crossings
- ◆ Safe cycle routes and facilities
- ◆ Traffic calming measures
- ◆ Road safety training
- ◆ Parking restrictions
- ◆ Promotional activities that encourage car pooling, walking and cycling.

The Auckland Regional Transport Authority (ARTA) in conjunction with the local authorities are rolling out school travel plans across the Auckland Region. The plan expands on the successful Travelwise to School programme established by North Shore City Council.



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6.5.2 Workplace Travel Plans

Workplace Travel Plans are ways that business can encourage reduced individual car travel for commuter and business journeys. Some initiatives include:

- ◆ Car pooling schemes
- ◆ Provision of cycle facilities
- ◆ Improved passenger transport services
- ◆ Flexible working practices
- ◆ Car parking schemes

ARTA, in conjunction with local authorities, will develop a strategy to roll out workplace travel plans across the region.

6.6 Promotion Campaigns

Through the Regional Land Transport Strategy, ARTA, local authorities and cycle advocates will promote the importance of cycling and a bicycle culture. Campaigns such as “share the road” and the development of a regional cycling network map will assist with the promotion of the cycle network.

The Council will also continue to support other local, regional and national initiatives to promote cycling and walking, such as groups that wish to encourage cycling and walking, and any new initiatives that meet the priority areas in this Strategy. These may include national “Bikewise Week” promotions, fun runs/walks and cycle events.



Critical Mass – Inner Sydney

Promoting cycling and walking through environmental or health promotion outcomes may also be considered as alternative funding streams.

There are also opportunities to develop Manukau’s tourism opportunities through the promotion of a range of cycling (and multisport) events, the establishment of desirable routes, such as heritage or scenic trails, well defined cycle training routes and tourism routes along key scenic routes. Manukau is the entry point (via Auckland International Airport) for many cycle tourists touring around New Zealand and there are opportunities to enhance the facilities for these cyclists.



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7 Road Safety Engineering and Education

Objective 4: Support and develop road safety education programmes for walking and cycling.

7.1 Introduction

Road safety education and training for both children and adults is an essential element for the promotion of walking and cycling. For example, learner cyclists, whether they are children or adults, portray different riding behaviours from experienced cyclists. Skilled cyclists can manoeuvre in traffic and ride defensively, and know the potential accident traps, whereas learner cyclists may be more erratic and unpredictable. This chapter outlines road safety actions to which the Cycling and Walking Strategy will link.

7.2 Road Safety Programmes

The primary responsibility for road safety education rests with Land Transport New Zealand and the Police, and is targeted around the major contributing factors to crashes. Cyclist safety can be improved through better education, of motorists and cyclists alike. The responsibility for road user education, as it pertains to cyclist and pedestrian safety, lies with a number of different agencies. The Police, Land Transport New Zealand, Safekids, and the Accident Compensation Corporation are all involved with road safety. At the national level, Kidsafe Week has highlighted key child road safety issues, including pedestrian and cycle safety. Land Transport New Zealand's RoadSense programme delivers road safety messages as part of the school curriculum.

There are a number of strategic issues and actions that have been identified in the Road Safety Plan 2004-2007 (December 2003) to which the Cycling and Walking Strategy will link, namely:

Transport and Land Use Planning and Management

- ◆ Identify and publicise "Safe Cycle and Walking Routes"

Safer People

- ◆ Support the implementation of collaborative pedestrian safety programmes, such as "Safer Routes" and "Walking School Buses" in high-risk communities.
- ◆ Increase the awareness of parents and caregivers as to their responsibilities regarding children on the road. Enhance further the use of school crossing patrol facilities through publicity and poster type campaigns.
- ◆ Support cycle safety programmes that reinforce the importance of wearing cycle helmets and being visible, and which promote safe bicycles and safe cycling behaviour.
- ◆ Carry out public education and awareness raising campaigns targeting driver behaviour in relation to pedestrians and cyclists, incorporating publicity, enforcement and education.

Safer Roads

- ◆ Establish programmes for "Black Spot", Route and Mass Action crash reduction investigations and place particular emphasis on wet road crash locations, pedestrians and cyclists.
- ◆ Ensure safety audits are done on all new roading and mainstreet design projects, and that all feasible recommended improvements are incorporated into the final design.
- ◆ Review pedestrian crossings and other key crossing points throughout the City to determine whether appropriate standards and warrants are met, and identify a programme of works to provide the pedestrian facility appropriate for each site.



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8 Monitoring and Action Planning

Objective 5: Establish a network implementation, monitoring and evaluation plan.

8.1 Monitoring

The strategy identifies a range of actions (listed in Section 8.3) to improve cycling and walking in Manukau. The actions will be reported annually to assess progress towards achieving the objectives of the Strategy.

Monitoring is a critical part of the Strategy and its contribution to achieving the economic, social and environmental outcomes for cycling and walking. As indicated in Chapter 1, there are significant benefits of cycling and walking, and their contribution to health, environmental, community, social and economic outcomes.

The Strategy has identified the following priority areas for monitoring:

- ◆ Progress made towards implementing the cycle and walking network
- ◆ Identifying the level of cycling and walking
- ◆ The level of injury rates for cyclists and walkers
- ◆ Citizen's perception of cycling and walking in Manukau

A number of performance indicators have been identified to measure the monitoring priorities. A range of surveys are currently in place and will be developed to measure the performance indicators. Outlined here are the range of performance indicators and mechanisms for monitoring them:

What is to be monitored	How?
Progress made towards implementing cycle/walking network % completion of the strategic cycle network % completion of the walking network improvements	- Annual progress report
% increased proportions of cycling and walking	- Usage surveys pre and post implementation of major cycling and walking infrastructural improvements - Increase in cycling and walking for the journey to work (Census 2006) - Utilisation of any regional or national travel survey data.
Reduction in injury rates for cyclists and pedestrians	- Land Transport New Zealand data
Citizen's perception regarding cycling and walking in Manukau	- Survey

8.2 Action Planning

The Council's Transportation Department will take the lead role in the implementation of the cycle and pedestrian network. The Parks Department will have a key role in planning networks in and between Council's parks and reserves. As noted, where possible works will be undertaken within planned roading, bus priority, growth centre development plans, town centre upgrades and other projects that deliver immediate benefits or which can be readily constructed as part of a wider project.



Where this is not possible independent investigations will be undertaken. New footpaths, footpath maintenance and cycleway maintenance will be included under the roading project and maintenance budget.

A dedicated annual budget of \$250,000 has been included in the LTCCP (including Land Transport New Zealand's subsidy) for cycling and walking. A grant from Infrastructure Auckland (now ARTA) was received in the sum of \$4.1 million (over five years) to fund a significant proportion of the strategic cycle network. It is planned that the budget will be used for design (scheme design, validation, consultation) and infrastructure (physical works, lane construction, facilities and signage).

The key priority is the completion of the Strategic Cycle Network for the purposes of meeting the needs of longer distance commuter and sports' cyclists, and those wanting to use part of the network to make shorter local trips, such as to schools, tertiary institutes and to local town centres. Four key strategic routes have been identified, namely:

- ◆ Great South Road
- ◆ Papatoetoe-Otara-East Tamaki (POET)
- ◆ Auckland International Airport to Mangere Bridge
- ◆ Mangere to Papatoetoe

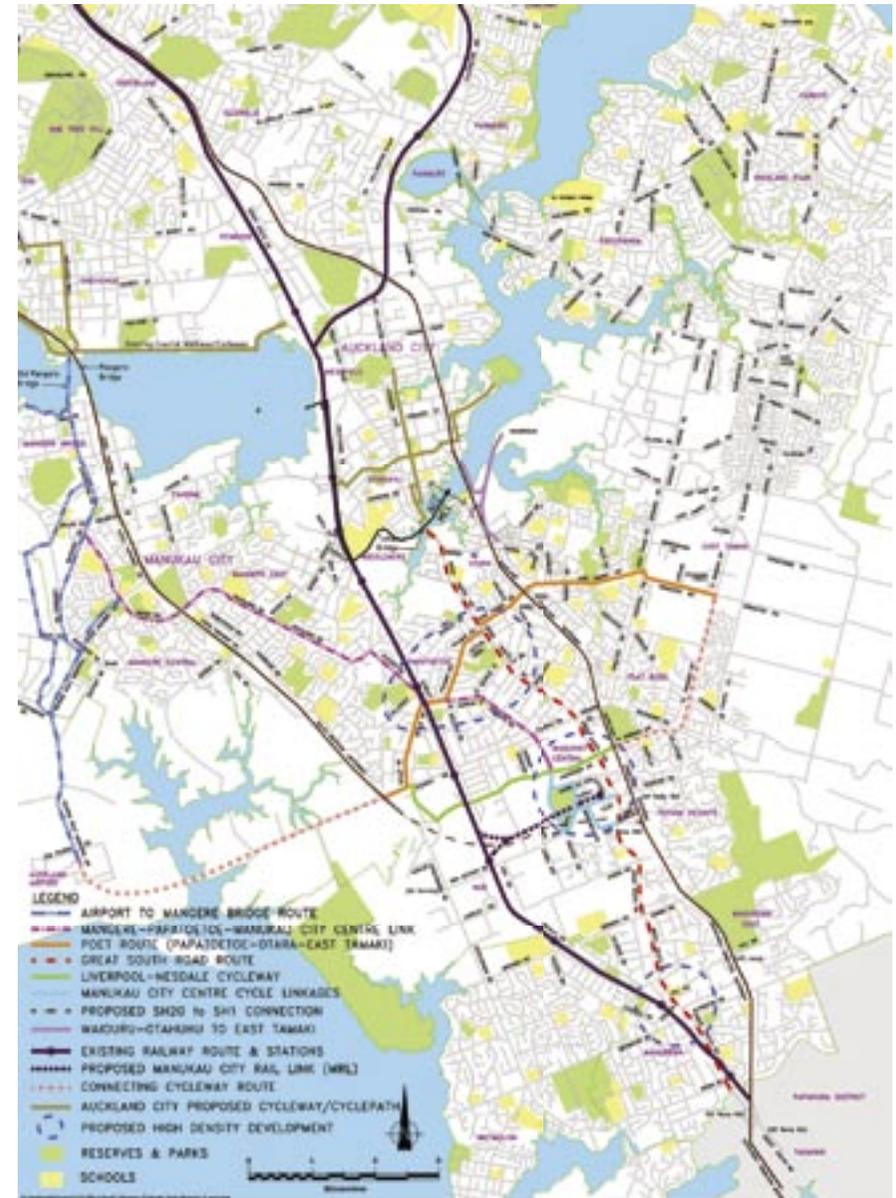
In addition, cycle routes have also been proposed as part of wider roading studies and improvements. These routes form part of the strategic cycle route network and strengthen the cycleway connections across the City.

These include cycle lanes for:

- ◆ the planned upgrade to four lanes of Nesdale Avenue, Liverpool Street and Cavendish Drive
- ◆ Wiri Station Road, Lambie Drive and Ronwood Avenue, including the proposed Lambie Drive motorway bridge
- ◆ A shared pedestrian/cycleway off-road path is also planned as part of the Waiouru-Otahuhu to East Tamaki Route

This map shows the proposed five-year cycle network. The cycle route programme is staged over five years and the plan's proposed budget is identified in Appendix B.

Manukau Strategic Cycle Network – 5 Year Proposed Programme



8.3 Action Plan

The following table summarises the objectives and actions for the Cycling and Walking Strategy:

Objectives	Actions	Timeframe
<p>Objective 1: Planning the Cycle and Walking Network</p> <ul style="list-style-type: none"> ◆ Plan, develop and maintain a safe network for cycling and walking throughout the City 	<ul style="list-style-type: none"> ◆ Complete the strategic cycle network by 2014. ◆ Incorporate cycle lanes into bus priority plans along key arterials across the City. ◆ Develop a five-year pedestrian safety network programme, identifying improvements at key pedestrian destinations. ◆ Include planned improvements for walking and cycling in all nodal development and town centre strategies. ◆ In accordance with the Parks Strategy, enhance the opportunities for recreational cycling and walking specifically: <ul style="list-style-type: none"> – Improve existing recreational cycle paths and walking routes (as identified). – Develop additional recreational cycle and walking facilities (as identified). – Ensure all parks cycle and walking routes are fully integrated with on-road routes, including consistency in signage, common access points (entrance / exit) and that all routes offer a variety of options for all pedestrians and cyclists using the area. ◆ Include appropriate cycle and pedestrian facilities, in all greenfield developments, alongside new roads, road upgrades and land redevelopments. ◆ Improve integration for multi-modal travel, i.e. combined cycle/walking and public transport initiatives. ◆ Develop Safer Routes and Travel Plan projects in Manukau through infrastructural improvements and support. ◆ Develop a programme to provide cycle parking at key destinations and Council-owned facilities in conjunction with the completion of the strategic cycle network. 	<p>Stage 1 – by 2008 Stage 2 – by 2014 Ongoing 2005 – 2009</p> <p>2005-2008 – Papatoetoe, Manurewa, Manukau City Centre</p> <p>As per the Parks Strategy</p> <p>Ongoing</p> <p>Ongoing 2004/5–2005/6 – Papatoetoe Safer Routes 2005 > Travel Plans 2005/2006</p>
<p>Objective 2: Urban Design and Safety</p> <ul style="list-style-type: none"> ◆ Ensure the adoption of appropriate safety design standards and an ongoing maintenance programme for cycling and walking facilities 	<ul style="list-style-type: none"> ◆ Each year, review the City's pavement reseal, shape correction, safety improvements and other road works programmes, and, where possible, make provision for cyclists and pedestrians in these works. ◆ On a five-yearly basis, conduct an audit of existing pedestrian crossings to assess the suitability and safety of facilities. ◆ Develop and adopt appropriate engineering quality standards for new cycling and walking facilities. ◆ Undertake safety audits that comment on any cyclist and pedestrian safety issues on all proposed major town centre upgrades, road improvements at the feasibility, scheme assessment, design, construction and post construction stages to ensure that adequate safe space is provided for 	<p>Annually</p> <p>2004/2005</p> <p>2004/2005 Ongoing</p>

Objectives	Actions	Timeframe
	<p>cyclists and pedestrians.</p> <ul style="list-style-type: none"> ◆ Establish minimum performance standards for road sweeping of roads identified as part of the cycle route network. ◆ Include monitoring of cycle and pedestrian facilities in network inspections by establishing minimum standards and providing training. 	<p>2005/2006</p> <p>2005/2006*</p>
<p>Objective 3: Promotion</p> <ul style="list-style-type: none"> ◆ Promote cycling and walking as a viable mode of transport 	<ul style="list-style-type: none"> ◆ Maintain active involvement in any regional forums for cycling and walking. ◆ Work with other local authorities to ensure co-ordination of a regional network of cycle facilities, including the development of consistent signage, etc. ◆ Attend regional forums which contribute to the development of best practice measures and regional coordination (e.g. Regional Travel Plan programme). ◆ Facilitate the establishment and operation of a Bicycle User Group (BUG) for Manukau cyclists. 	<p>Ongoing</p> <p>Ongoing</p> <p>Ongoing</p> <p>2005/2006</p>
<p>Objective 4: Road Safety Education</p> <ul style="list-style-type: none"> ◆ Support and develop road safety education programmes for walking and cycling 	<ul style="list-style-type: none"> ◆ Develop promotional campaigns upon completion of any significant walking and cycle improvements. ◆ Support other organisations in the promotion of walking and cycling. ◆ Support national and regional events for promotion of walking and cycling (e.g. National Bike Week), including events primarily focused on health or environmental outcomes where cycling and walking can be promoted. 	<p>Ongoing</p> <p>Ongoing</p> <p>Ongoing</p>
<p>Objective 5: Implementation and Monitoring</p> <ul style="list-style-type: none"> ◆ Establish a network implementation, monitoring and evaluation plan 	<ul style="list-style-type: none"> ◆ Establish a five-year cycling and walking network implementation plan, and include it in the Annual Plan process. ◆ Report annually progress towards achieving the objectives in the Strategy. ◆ Review the Cycling and Walking Strategy after five years and set a new funding and implementation plan for the following five years. ◆ Develop an annual survey programme to assess trends in cycle usage across Manukau City. 	<p>2004/2005</p> <p>Annual 2009/2010</p> <p>2007/2008</p> <p>Annual</p>

Appendix A

District Plan Objectives

The District Plan contains the following references to cycling and walking:

Chapter 8: Transportation

Resource Management Issue 8.2.7 - Walking and Cycling are Sustainable Modes of Transportation Which Have Not Been Fully Provided For or Encouraged in Manukau City - Walking and cycling are energy efficient and sustainable modes of travel which have not been able to meet their potential role as facilities for these modes are often not well integrated into the transportation network of the City. These modes offer increased opportunities for individual mobility, personal fitness and recreation. Generally, however, the level of pedestrian access within Manukau City is poor, with often considerable distances between local roads and bus routes in most residential areas, while cycleway provision is only provided in limited areas.

- Objective 8.3.1 - To minimise or mitigate any adverse effects on the environment arising from the development, maintenance and use of the transportation system.
- Objective 8.3.2 - To maximise energy efficiency within the transportation network and encourage the use of energy efficient modes of transport.
- Objective 8.3.3 - To co-ordinate land use and transportation planning and decision making so as to achieve a transport system that provides for the safe, efficient and convenient movement of people and goods.
- Method contained in 8.4.1 - Require a high standard of pedestrian access to collector and primary roads.
- Policy 8.4.2 and Method contained in 8.4.2 - The continued transportation network should:
 - achieve acceptable levels of accessibility, mobility, safety and convenience for the community;
 - provide convenient and safe road and cycle/footpath linkages to activity centres and local facilities;
 - have clear physical distinctions between the primary and secondary road network, based on function, traffic volumes, vehicle speeds, public space and environmental amenity.
 - Classifying and zoning of roads in the network according to function.
- Policy 8.4.2 - The development of new or existing urban areas should give regard to:
 - the provision of safe and convenient pedestrian and cyclist access to community facilities, places of work and shopping areas;
 - facilitating improved cyclist and pedestrian linkages within neighbourhoods; and
 - the provision of cycleways in the construction or reconstruction of primary network roads

- Methods 8.4.2 -
 - To ensure the provision of footpaths on access, collector and primary streets.
 - To provide a direct network of cycle routes within the local street network, and to promote the use of such streets for cycling.
 - Transportation Strategy 8.5.5 Sustainable Modes - A strategy within the District Plan is to provide an efficient movement network to pedestrians and cyclists, particularly when serving pedestrian-intensive origin and destination points. This will include the development of new urban areas so that subdivision layouts are more responsive to pedestrian and cyclist needs and maximise safety for these sustainable modes of travel.
 - Implementation - Rule 8.6.1.4 - Cycle and Pedestrian Movement - In order to improve the transport network, the District Plan contains a number of provisions relating to the needs of pedestrians and cyclists. This includes assessment criteria relating to the way the transport network is laid out and developed (refer Chapter 9 - Land Modification and Subdivision). Within that chapter there are also rules relating to the provision of footpaths, cycle facilities, and accessways. Other assessment criteria within this chapter and the Business Areas Chapter address development as to impact on pedestrian amenity and convenience.
 - Description and Explanation of Zones - Secondary Primary Road - These roads are typically low speed traffic environments, which provide for comparatively safe cycle and pedestrian activity.

Chapter 9 - Land Modification, Development and Subdivision

This chapter provides the rules for the design of cycleways and walkways, and assessment criteria relating to cycleways and walkways.

Chapter 13 - Residential Areas

- Issue 13.2.3 - The siting and design of buildings and other structures affects the level of pedestrian and vehicular safety and a sense of personal safety in the residential environment.
- Objective 13.3.4 - To ensure that development in residential areas contributes to people's sense of personal safety, and maintains and enhances pedestrian and vehicular safety.
- Policy 13.4.4 - Buildings and structures in residential areas should be designed and/or sited in such a way as to avoid, remedy or mitigate adverse effects on personal, pedestrian and vehicular safety.

Chapter 14 - Business Areas

- The Business Area chapter of the District Plan has a section entitled 'Pedestrian Safety and Amenity' which is aimed at ensuring that integrated business centres are designed for pedestrian access in recognition of the pedestrian orientated nature of these activities. This chapter contains assessment criteria specifically relating to vehicle and pedestrian access.

Chapter 16 - Future Development Areas

- Many of the Structure Plans contained within this section of the plan have provision for pedestrian and cycle facilities.

Appendix B: Cycle Network Implementation Plan Proposed Budget 2004/05 – 2008/09

Details	Total Cost	Estimated cost	2004/05				2005/06				2006/07				2007/08				2008/09			
			Total	IA	LTNZ	MCC	Total	IA	LTNZ	MCC	Total	IA	LTNZ	MCC	Total	IA	LTNZ	MCC	Total	IA	LTNZ	MCC
Other: Cycle & Walking Strategy																						
Cycle & Walking Strategy (design & printed)		6,046	6,046	0	3,204	2,842																
Professional services - C & W Strategy (Starburst Ltd)		1,000	1,000	0	530	470																
Cycle & walking courts - C & W Strategy		2,900	2,900	0	1,537	1,363																
Total Cost	15,000	9,946	9,946	0	5,271	4,675																
Great South Road																						
Papakura Stream to Browns Rd	29,200		29,200	22,484	3,559	3,157																
Redoubt Rd to Browns Rd	650,000	355,460	650,000	500,500	79,235	70,265																
St George St to Redoubt Rd	134,300	407	134,300	103,411	16,371	14,518																
Shirley Rd to Tu/ St George St	38,400						38,400	29,568	4,661	4,151												
Tamaki River Bridge to Shirley Rd	78,500						78,500	60,445	9,569	8,486												
Total Cost	930,400		813,500	626,395	99,186	87,939	116,900	90,013	14,250	12,837	0	0	0	0	0	0	0	0	0	0	0	0
POET																						
Puhinui Road and Wylie Rd	15,000						15,000	11,550	1,829	1,622												
St George Street - Wylie to Kolmar	15,000						15,000	11,550	1,829	1,622												
Kolmar Road	74,600						74,600	57,442	9,094	8,064												
East Tamaki Road	450,000	323,005	450,000	346,500	54,855	48,645																
Ormiston Road	62,500						62,500	48,125	7,619	6,756												
Te Iirangi Drive	0	21,400																				
Total Cost	817,100		450,000	346,500	54,855	48,645	167,100	128,667	20,389	18,064	0	0	0	0	0	0	0	0	0	0	0	0
Airport to Mangere Bridge																						
Route A:																						
George Bolt Drive	201,300							201,300	155,001	24,538	21,761											
Kirkbride Road	58,600						58,600	45,122	7,143	6,335												
McKenzie Road	50,000		50,000	38,500	6,095	5,405																
Coronation Road	35,000		35,000	26,950	4,267	3,784																
Route B:																						
Mont-Ascot-Greenwood-Creamery-Mountain Rd	0										0	0	0									
Route C:																						
Bader Drive	15,000		15,000	11,550	1,829	1,622																
Total Cost	359,900		100,000	77,000	12,190	10,610	0	0	0	0	259,900	200,123	31,682	28,095	0	0	0	0	0	0	0	0
Mangere - Papatotote - Manukau City Centre																						
Bader Drive	48,500						48,500	37,345	5,912	5,243												
Buckland Rd	157,100						157,100	120,967	19,150	16,983												
Portage Road and Station Rd	75,500						75,500	58,135	9,203	8,162												
Total Cost	281,100		0	0	0	0	281,100	216,447	34,266	30,387	0	0	0	0	0	0	0	0	0	0	0	0
Cavendish - Liverpool - Roscommon																						
Puhinui and Roscommon Rds	40,000						40,000	30,800	4,876	4,324												
Liverpool and Nesdale Ave	307,300						153,650	118,311	18,730	16,610	153,650	118,311	18,730	16,610								
Cavendish Dr - Lambie to GSR	426,000														226,000	174,020	27,549	24,431	200,000	154,000	24,380	21,620
Total Cost	773,300		0	0	0	0	193,650	148,111	23,606	20,934	153,650	118,311	18,730	16,610	226,000	174,020	27,549	24,431	200,000	154,000	24,380	21,620
Walouru - Otahuhu to East Tamaki																						
Cycleway	1,000,000		200,000	154,000	24,380	21,620	800,000	616,000	97,520	86,480												
Manukau City Centre Cycleways																						
Wiri Station Road - GSR to Lambie Drive	182,900						129,000	99,330	15,725	13,945	53,900	41,503	6,570	5,827								
Wiri Station Road extension	93,800										93,800	72,226	11,434	10,140								
Lambie Drive - WSR to Rowwood Ave	479,000						248,000	190,960	30,231	26,809					115,500	88,935	14,079	12,486	115,500	88,935	14,079	12,486
Lambie Drive - Rowwood to Cavendish	82,500														82,500	63,525	10,057	8,918				
Barrowcliffe Bridge and link road	432,000														207,000	159,390	25,233	22,377	225,000	173,250	27,428	24,323
Bridge footpath widening	121,000										121,000	93,170	14,750	13,089								
Total Cost	1,391,200		0	0	0	0	377,000	280,290	45,966	40,754	268,700	206,899	32,755	29,046	322,500	248,325	39,313	34,862	423,000	325,710	51,564	46,728
Total Cycleway Costs	5,353,000		1,363,500	1,048,895	166,211	147,394	1,335,750	1,028,528	162,828	144,395	1,482,250	1,141,333	180,886	160,231	548,500	422,345	66,862	59,293	623,000	479,710	75,944	67,348
IA Share	4,121,810			1,048,895				1,028,528				1,141,333				422,345				479,710		



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