


NORTH SHORE CITY






North Shore City Cycling Strategy 2009

July 2009

North Shore City Council
For more information, please contact:
North Shore City Council
1 The Strand, Private Bag 93500,
Takapuna, North Shore City
Ph: (09) 486 8400 or fax: (09) 486 8500

Or view our website: **www.northshorecity.govt.nz**

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Executive Summary

Vision

The Council's overall vision for cycling is:

"To provide a safe, convenient and enjoyable cycling environment that meets the needs of cyclists and encourages cycling as a mode of transport and as a means of recreation."

Goals

The vision is underpinned by five goals:

- *To increase the number of people cycling*
- *To increase the number of students cycling to school*
- *To improve safety for cyclists*
- *To improve convenience for cyclists*
- *To improve enjoyment in cycling*

Introduction

The ***Cycling Strategy*** for North Shore City is a complete strategy aimed at meeting the demands and safety needs of cyclists on the North Shore. It reinforces the existing Council policy to increase the number of cyclists. In particular, cycling is seen as a sensible alternative mode of transport to the car for local journeys and also as excellent exercise and recreation. Moreover, it recognizes the Council's duty to provide a safe cycling environment for those people already cycling.

This ***Cycling Strategy*** sets out the vision, goals and strategies for cycling. The plan focuses on providing and upgrading the cycling facilities on the North Shore. Additional components such as education and promotion are also addressed.

Benefits

The most important benefits of cycling are environmental and health benefits. Cycling is a sustainable and energy efficient mode of transport that contributes to reducing traffic congestion and air, noise and water pollution. Regular cycling increases fitness which reduces heart diseases, obesity and cholesterol levels.

Policy Framework

The Council has already committed itself to provide for cycling in a safe and convenient manner and to increase the number of people cycling in the City Plan, City Blueprint and District Plan. Cycling has been given impetus at a regional level through the Regional Land Transport Strategy and Auckland Regional Transport Authority's Sustainable Transport Plan. Cycling has also clearly been recognised as an important transport mode in the New Zealand Transport Strategy. This ***Cycling Strategy*** is linked to the North Shore City Transport Strategy.

Vision

The Council's overall vision for cycling is:

"To provide a safe, convenient and enjoyable cycling environment that meets the needs of cyclists and encourages cycling as a mode of transport and as a means of recreation."

Goals and Strategies

The vision is underpinned by five goals:

- *To increase the number of people cycling*
- *To increase the number of students cycling to school*
- *To improve safety for cyclists*
- *To improve convenience for cyclists*
- *To improve enjoyment in cycling*

The goals will be achieved by the implementation of seven strategies which are described in further detail below.

Strategy 1 - Develop safe, convenient and quality cycle networks and supporting facilities to meet cyclists' needs

The provision of safe, convenient facilities for cyclists is paramount

in encouraging people to change their travel behaviour. People must feel safe and know they can get to their destination easily. This strategy provides for the development of the cycle network (strategic and local) through cycle specific projects and other road improvements, and supporting facilities such as parking, learn to ride facilities, hand rails and integration with public transport.

Strategy 2 - Apply best practice cycle design guides to cycle networks and to cycle facilities

Ensuring that the appropriate cycle facilities are located in the correct location and to the required guidelines and standards (safety and otherwise) will create a vibrant, well-used cycling environment on the North Shore. This strategy provides best practice solutions for cycle facility type, design and location, incorporating Austroads documents and guides from New Zealand Transport Agency and it's predecessors: Transit NZ, Transfund and the Land Transport Safety Authority. It also provides a comprehensive process for delivering the best solution on a case by case basis, recognising that each situation is different. Best practice design guides also apply to urban design and safety guides and Land Transport Rules. This chapter also outlines enforcement in terms of ensuring appropriate behaviour from motorists and cyclists.

Strategy 3 - Maintain cycle infrastructure to a high standard

Once facilities are in place it is important to ensure that they are kept up to standard and updated where and when necessary. This strategy outlines the cycle facility maintenance plan. Another important facet of maintenance is monitoring and evaluation – ensuring that the facility or programme is achieving the goals of this ***Cycling Strategy***. North Shore City is following the lead of the Regional Cycle Monitoring Plan in its monitoring and evaluation programme.

Strategy 4 – Support education and training programmes that improve cycle safety

North Shore City Council is dedicated to protecting its citizens and improving road safety. This strategy provides for the ongoing expansion of the Council's cycle safety programme, which includes education sessions delivered in schools and workplaces as well as other community initiatives. Driver awareness and education is addressed through active support of regional and national campaigns. Current programmes include:

- 'Bike It' the North Shore City schools' bike programme
- Kids Bike Day
- 'Share the Road' campaign
- Adult beginner bike sessions

Strategy 5 – Support programmes promoting cycling

In order to maximise the number of people using the cycle facilities provided around the city, a programme is required for promoting cycling as a safe and efficient way to get around. This strategy provides for the ongoing implementation and development of programmes such as the TravelWise school programme and the workplace travel plan programme, which are important channels for promoting safe cycling to people travelling to school and their place of work. The Council will also continue to promote cycling through cycling events, community based programmes, neighbourhood accessibility plans, personalised journey plans and by supporting promotional activities initiated by other organisations.

Strategy 6 – Improve the coordination of efforts amongst groups affecting cycling

The provision of cycle facilities and programmes is progressed by many different parts of North Shore City Council. This strategy seeks to develop processes and structures to maximise the efficiency of these different parts of Council and ensure the successful delivery of this plan. The main driver for coordination will be a cycle steering group made up of relevant Council officers. This group will monitor the implementation of this document and report back to other Council departments and external organisations and groups.

Strategies

1. Develop safe, convenient and quality cycle networks and supporting facilities to meet cyclists' needs
2. Apply best practice cycle design guides to cycle networks and to cycle facilities
3. Maintain cycle infrastructure to a high standard
4. Support education and training programmes that improve cycle safety
5. Support programmes promoting cycling
6. Improve the coordination of efforts amongst groups affecting cycling
7. Ensure that where possible, adequate resources are available to implement the Cycling Strategy

Strategy 7 - Ensure that where possible, adequate resources are available to implement the *Cycling Strategy*

Resources are required to action the strategies outlined above. This strategy puts in place the processes required to ensure that, where possible, this funding is available from all obtainable sources – in particular from the New Zealand Transport Agency and North Shore City Council itself.

The ***Cycling Strategy*** will be given effect through the Cycling Strategy Implementation Plan. This Implementation Plan will be developed once the ***Cycling Strategy*** is completed, and will have a three year timeframe. The Cycling Strategy Implementation Plan will be reviewed annually. The ***Cycling Strategy*** itself will be reviewed every five years.

Results of Consultation

The draft North Shore City ***Cycling Strategy*** went out for consultation between 16 February and 16 March 2009. A total of 124 submissions were received during the consultation period, including submissions from

- Accident Compensation Commission
- Auckland Regional Transport Authority
- Auckland Regional Public Health Service
- Cycle Action Auckland (CAA)
- Cycle Lanes Action Review Association (CLARA)
- Devonport Community Board
- NZ Transport Agency
- Auckland City Council
- Takapuna Business Association.

The responses received indicated that the majority of respondents supported the ***Cycling Strategy***.

The major issues raised by the community are:

- The need for stronger goals and targets
- The need for a stronger focus on improved safety
- Commitment to installation of Harbour Bridge cycleway
- Better driver education for motorists encountering cyclists
- Stop spending money on this strategy and cycle facilities
- Install more cycle lanes
- Increase expenditure on facilities for cyclists.

No substantive changes have been made to the ***Cycling Strategy*** as a result of this consultation as most of these issues are either already addressed in the ***Cycling Strategy*** or are better placed in the Cycling Strategy Implementation Plan that will give effect to this document. A number of sections of the ***Cycling Strategy*** have been reviewed, and minor additions and amendments have been undertaken to bring the document in line with the feedback from the community.


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1. Introduction

1.1 Background

In 1993 a network of cycle routes was identified for North Shore City. This network was subsequently specified in the District Plan. In recognition of safety and the needs of cyclists, and to promote cycling as an alternative means of transport, the Council initiated the development of the 2003 North Shore City Strategic Cycle Plan to provide guidance on the implementation of the network and promotion of cycling in the community.

The 2003 Strategic Cycle Plan was developed to address the commitments made in existing Council policy (District Plan, City Blueprint and the Strategic Plan) and the requirements of the New Zealand Transport Strategy and the Auckland Regional Land Transport Strategy.

The 2003 Plan aimed to meet the demands and safety needs of cyclists on the North Shore. It addressed the Council's duty to provide a safe cycling environment for those already cycling and supported the Council's goal to increase the number of commuters and school children cycling as an alternative mode of transport. Much of the plan focused on providing and upgrading cycling facilities on the North Shore. The 2003 Plan was not restricted to catering for cyclists using the road network. It also recognised the importance of off-road cycle paths for commuting, neighbourhood cycling and for recreation. Some of these are, or could be, located within the city's parks and reserves or connected with facilities managed by the Auckland Regional Council and (at the time) Transit New Zealand.

The 2003 Plan set a framework for implementing the Council's cycle strategies and guiding further planning to achieve the City's vision for cycling on the North Shore. This process included integration of cycling infrastructure improvements with the Transport Strategy, Road Safety Strategy, Parks Plan and North Shore City Plan, and providing the basis for nominating cycling infrastructure projects in the Annual Plan.

1.2 The 2008 Review

During the processing of cycle lane projects or road projects containing cycle facilities, a number of issues involving the types of cycle facility provided and reallocation of road space brought about the realisation that the North Shore City Strategic Cycle Plan 2003 required review. In February 2008 the Infrastructure and Environment Committee of North Shore City Council resolved that a review should be undertaken. This committee of elected Councillors is responsible for the strategy, planning, and implementation of Council's roading and cycle related works.

The revised ***Cycling Strategy*** should address the following:

- The methodology whereby the decision for off-road or on-road cycle facilities is arrived at be set out with clear guidance and associated standards that must be followed
- How safety is evaluated and ensured through design
- Value for money: cost benefit ratio and consequent funding implications
- Any legal or strategic obligations

As the review progressed it became clear that a new integrated approach to the provision of cycle facilities is required. There is a need to challenge current thinking in terms of road design and commit to road layouts quite different to the status quo. The engineering of cycle facilities is a relatively new discipline in New Zealand and there are opportunities for North Shore City to deliver innovative solutions. This document is as a result of the review requested. The 2003 Strategic Cycle Plan has been updated to bring it in line with current national and council policy, to address the issues raised by the Committee and the community, and to reflect recent trends in cycling behaviour and technology. The major differences between this document and the 2003 version are:

- Reformatting and reorganising to address each strategy individually
- Updating cycling policy, infrastructure design, safety guides and general information to ensure consistency with regional and national documentation
- Inclusion of process maps to guide decision making for cycle facility type and location

The ***Cycling Strategy*** will be reviewed every five years from the completion of this version.

The ***Cycling Strategy*** will be given effect through the Cycling Strategy Implementation Plan. This Implementation Plan will be developed once the ***Cycling Strategy*** is completed, and will have a three year timeframe.

1.3 Progress to Date: Cycling Infrastructure

Since the adoption of the 2003 Plan, significant progress has been made towards providing comprehensive cycle facilities around North Shore City, and encouraging people to cycle. This progress can be represented in **Table 1** below and **Figure 1** overleaf:

Type	Location	Pre 2003 km	Post 2003 km	Total km
On-road cycle lanes (one way, and usually on both sides of the road carriageway)	Various	7.5	17.5	25
Off-road cycle paths (two way and are both in road reserve and across parks)	Various	13	11	24
Transit lanes, wide enough for sharing with cyclists (4.2m)	Constellation Drive	n/a	2	2

Table 1: Existing North Shore Cycle and Transit Lanes (rounded to nearest 0.5km)

In addition to cycle lanes the following facilities and programmes have been completed:

- **Hand rails and cycle parking facilities:** Hand rails have been installed at 45 intersections around the city, and cycle parking facilities located at the busway stations, ferry terminals and in town centres.
- **Promotional activities:** Council runs annual bike days for kids, and supports the national BikeWise programme. In addition the council runs safety programmes for children and adults, in conjunction with the New Zealand Police.
- **Cycle Monitoring:** North Shore City monitors cyclist safety using the Ministry of Transport Crash Analysis System. Results of the North Shore City safety record can be found in **Appendix 1**. Cyclist surveys are carried out annually to monitor the numbers of cyclists around the city. Results from the annual surveys can be found in **Appendix 2** and are summarised in section 1.4.

Figure 1: Current Status of the North Shore City Cycle Network

1.4 Progress to Date: Cycle Counts

Cycle Counts

Bicycle counts have been undertaken at a variety of locations around the North Shore in 2002, 2007 and 2008. The full results from these counts can be found in **Appendix 2.**

A number of the counting stations used in 2002 were counted again in 2008, providing an indication of cyclist usage of particular routes over time.

The increase in cyclists is significant over the period. In most cases the number of cyclists has increased by 50% since 2002. In all cases (with the exception of Oteha Valley Road and Albany Highway) the increase reflects a change since cycle facilities have been installed.

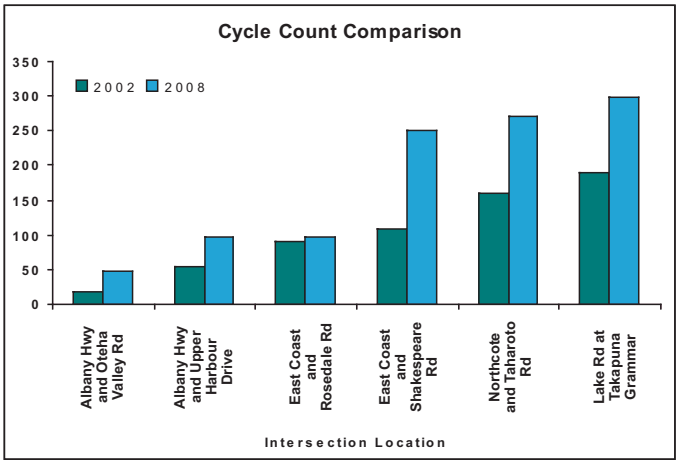


Figure 2: Cycle Count Comparison, 2002 and 2008

Note: Figure 2 shows morning and evening counts combined. In 2008 the morning counting times were slightly longer than 2002, however this is not considered to have added significantly to the total number of cyclists counted. The change in time for the afternoon count in 2008 effectively excludes school children and, as such, reduces rather than increases the number of cyclists counted. For details see Appendix 2.

School Bike Shed Count

School bike shed counts were carried out as part of the ARTA Cycle Monitoring Programme in March 2007 and March 2008 to monitor the number of students cycling to school.

In this the numbers of bicycles in each participating school were counted on the same day which was a representative day in the school year. In 2008, 19 secondary, intermediate and composite schools participated, and the number of bicycles counted varied from 0 to 138 with an average of 30 per school.

The complete records of the school bike counts are detailed in A.2.2 of **Appendix 2.**

Journey-to-Work Census Data

On the North Shore the total number of people commuting to work by bicycle has increased (from 726 to 756), but a higher increase in the total population means that the percentage of commuter cyclists has gone from 1.6% in 1991, to 0.7% in 2006. The Census data from 1991, 1996, 2001 and 2006 show an overall percentage decline in cycling to work for New Zealand, the Auckland Region and the North Shore despite actual numbers of commuters growing on the North Shore. Moreover, the percentage of people that use their bicycle to travel to work is lower on the North Shore than on a regional and national level. These figures are lower than those for Wellington and Christchurch where the 2006 census showed the percentage of commuter cyclists was 2.1% and 5.1% respectively.

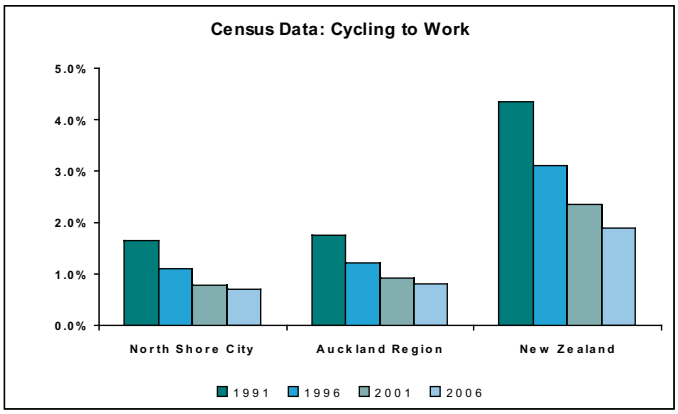


Figure 3 Journey-to-Work Census data

1.5 Consultation

The draft North Shore City ***Cycling Strategy*** went out for consultation between 16 February and 16 March 2009. The consultation plan (including a list of key stakeholders consulted) and a brief summary of the consultation results can be found in **Appendix 3**.

A total of 124 submissions were received during the consultation period. The consultation process requested a response to three key questions and provided opportunity to comment on these (and other) aspects of the ***Cycling Strategy***. The results of the three key questions are as follows:

Question	Yes	No	Not Answered or Unsure
Do the vision statement and goals reflect your vision and goals for cycling in North Shore City?	72%	27%	1%
Are the seven strategies appropriate to achieve the vision and goals?	69%	23%	8%
Are the actions listed in the ***Cycling Strategy*** appropriate to achieve the vision and goals?	57%	29%	14%

These results indicate substantial community support for the ***Cycling Strategy*** as a whole.

The major issues raised by the community are:

- The need for stronger goals and targets
- The need for a stronger focus on improving safety
- Commitment to installation of Harbour Bridge cycleway.
- Better driver education for motorists encountering cyclists.
- Stop spending money on this strategy and cycle facilities
- Install more cycle lanes
- Increase expenditure on facilities for cyclists

No substantive changes have been made to the ***Cycling Strategy*** as a result of this consultation as most of these issues are either already addressed in the ***Cycling Strategy*** or are better placed in the Cycling

Strategy Implementation Plan that will give effect to this document.

A number of sections of the ***Cycling Strategy*** have been reviewed, and minor additions and amendments have been undertaken to bring the document in line with the feedback from the community.

The single largest issue raised by the consultation was the need to strengthen the targets for cycling within North Shore City. Council staff are currently unable to do this, due to a lack of substantive targets at a regional or national level. The review of the Auckland Regional Land Transport Strategy is addressing this issue, and the targets in the ***Cycling Strategy*** will be revised on completion of the regional process.

2: Planning and Policy Context

The governments aim is to achieve an: " affordable, integrated, safe, responsive and sustainable" land transport system.

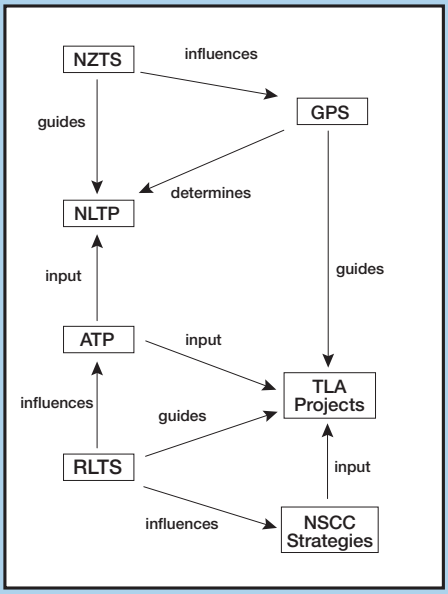


Figure 3: National Policy Framework

A central focus for national policy development in New Zealand over the last decade has been to achieve a top to bottom consistency from national legislation through to regional strategies and local implementation. The Land Transport Management Act 2003 (LTMA) provides the key transport policies that form the basis of the council's strategies, including the ***Cycling Strategy***.

As a requirement of the LTMA, regional and council strategies must show how they contribute towards the government's aim of achieving an: ***"affordable, integrated, safe, responsive and sustainable"*** land transport system. The term "affordable" was introduced by amendment in June 2008. The New Zealand Transport Strategy and the Auckland Regional Land Transport Strategy (ARLTS) reflect the objectives of the LTMA. The council is obliged to take the ARLTS objectives into account in its plans and policies.

Territorial authorities must have an active strategy in place in order to obtain funding from the New Zealand Transport Agency for cycling projects.

The following table lists the key documents which are discussed in this chapter. A more comprehensive list is contained in **Appendix 3.**

Table 2.1: Cycling Related Plans and Policies

National
- New Zealand Transport Strategy (2008) - National Walking & Cycling Strategy (Getting There, On Foot, By Cycle) (2005) - National Walking & Cycling Strategy Implementation Plan (2006-2009) - Pedestrian & Cyclist Road Safety Framework (2006)
Regional
- Regional Land Transport Strategy (2005) - Sustainable Transport Plan (2007) - Draft Auckland Regional Road Safety Plan (2008) - Auckland Transport Plan (2007) - Draft Regional Arterial Road Plan (2008)
North Shore City
- North Shore City District Plan (2002) - City Plan (LTCCP) (2009-2024) - Transport Strategy (2006) - Transport Strategy Implementation Plan (2006-2016) - Recreational Cycling Network Plan (2007) - NSCC Road Safety Strategy (2005)

2.1 National Level

Since the adoption of the council's Strategic Cycle Plan in 2003, national policy and strategic directions have maintained consistent themes, but have been considerably developed. The update of the New Zealand Transport Strategy (NZTS) is an example, where the principal changes are a set of ambitious targets, including walking and cycling. One key strategic approach is to provide supportive

environments for walking and cycling. In part, the NZTS targets come over from the recently released New Zealand Energy Strategy to 2050 and the New Zealand Energy Efficiency and Conservation Strategy (2007), which aim to significantly reduce energy use and greenhouse gas emissions from transport.

The overall focus is to move more people by sustainable means rather than by single-occupant car. 'Getting There - On Foot By Cycle', the national walking and cycling strategy, was released in 2005 and provides direction for supporting and promoting cycling.

New Zealand Transport Strategy

The updated New Zealand Transport Strategy (NZTS) was released in July 2008 and provides the national framework for transport policy. The strategy's objectives are:

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

The purpose of the updated NZTS is to provide greater direction for the transport sector up to 2040 in order to meet national sustainability goals. The 2008 update of the NZTS included targets for the transport sector as well as the various sub-sectors. The two most relevant of the targets are to:

- Reduce the kilometres travelled by single occupant vehicles in major urban areas on weekdays by ten percent per capita by 2015, compared to 2007
- Increase walking and cycling to 30 per cent of all trips in urban areas (currently about 17 per cent)

Government Policy Statement on Land Transport Funding

The Government Policy Statement (GPS) reflects the government's priorities on transport by setting funding ranges for transport activities over the next ten years. The amended LTMA requires the New Zealand Transport Agency to give effect to the GPS through the Land Transport Programme and to take the GPS into account when approving funding applications.

The previous government released the first GPS in August 2008. Funding for walking and cycling increased from the existing $18M in 2008/2009 to a range of $25 to $45M in 2018/2019. However, the new government has proposed changing the GPS to align investment in the transport sector more closely with its priorities of economic growth and productivity. Under the amended GPS, State Highway funding increases significantly, but funding for cycling and walking is less with a range of $12 to $30M in 2018/2019.

Further reference to GPS and funding allocations is included in Chapter 11.

National Walking and Cycling Strategy: *Getting There - On Foot, By Cycle*

In 2005, the government released its strategy to advance walking and cycling in New Zealand, Getting There.

The Getting There vision is:

> "A New Zealand where people from all sectors of the community walk and cycle for transport and enjoyment – helping to ensure a healthier population, more lively and connected communities, and a more affordable, integrated, safe, responsive and sustainable transport system".

Three primary goals underpinning the vision are:

- Community environments that support walking and cycling
- More people choosing to walk and cycle, more often
- Improved safety for pedestrians and cyclists.

National Walking and Cycling Strategy Vision

"A New Zealand where people from all sectors of the community walk and cycle for transport and enjoyment – helping to ensure a healthier population, more lively and connected communities, and a more affordable, integrated, safe, responsive and sustainable transport system".

National Walking and Cycling Strategy Goals

- Community environments that support walking and cycling
- More people choosing to walk and cycle, more often
- Improved safety for pedestrians and cyclists.

Getting There – On Foot, By Cycle Strategic Implementation Plan 2006 - 2009

The Getting There Strategic Implementation Plan 2006-2009 provides the national direction and initiatives for the first three years of the Getting There strategy. While its primary focus is on actions to be undertaken at the national level, it aims to support initiatives on the ground. These initiatives include building awareness and understanding of the importance of cycling and ensuring well-aligned policy and co-ordinated, collaborative action amongst national and local agencies.

Pedestrian and Cyclist Road Safety Framework

Released in 2006, the Pedestrian and Cyclist Road Safety Framework outlines a comprehensive approach to effectively reducing risks to, and improving safety for, pedestrians and cyclists. The framework expands on safety issues outlined in Getting There.

2.2 Regional Level

The Auckland Regional Transport Authority (ARTA) was created in 2004 and is responsible for planning, funding and developing a successful transport system for the Auckland region. One of ARTA's roles is to prepare the Auckland Transport Plan (ATP), which brings all of the region's transport programmes together in one place, offering a single transport plan for the region. ARTA evaluates projects against the objectives of the Auckland Regional Transport Strategy (ARLTS) before forwarding funding applications to New Zealand Transport Agency. In addition, legislation requires that cities and districts in the Auckland region integrate transport and land use planning to give effect to the Auckland Regional Growth Strategy. It is expected that this strategy will encourage a more compact urban form which in turn favours walking and cycling.

Regional Land Transport Strategy

The ARLTS sets regional objectives and policies that provide a framework for transport development in the Auckland region over the next 10 years. The objectives closely align with those of the New Zealand Transport Strategy. Additional objectives are to support the Regional Growth Strategy and to achieve economic efficiency. A central theme of the ARLTS is that building roads alone will not address transport and growth issues in Auckland. Instead, providing an integrated transport system is the way forward. One objective is to increase the number of cycle trips, the benefits of which include:

- Reduced congestion from diverting car trips
- More efficient use of road space
- Enhanced environmental sustainability
- More liveable streets
- Improved public health

A key strategy for promoting cycling is expansion of the Regional Cycle Network. This network will promote safe, pleasant and convenient travel for current and future cyclists along strategic and regional arterial routes. Another strategy is the TravelWise Travel Demand Management

programme, which involves working with schools, workplaces and communities to improve conditions for cycling and to promote more sustainable travel behaviour.

The ARLTS is currently under review and is due in 2010.

Regional Sustainable Transport Plan

ARTA's Sustainable Transport Plan 2007 outlines the actions needed to achieve the ARLTS targets for travel demand management and walking and cycling. It replaces the regional cycling and walking strategies. To increase the number of cycle trips, a key action is to implement the Regional Cycle Network – see **Appendix 5** for the routes within North Shore City. A target is to complete half of the network by 2016 (see ARLTS targets). ARTA have also developed cycle parking guidelines for the region.

The Sustainable Transport Plan sets out local council responsibilities as:

- Constructing the regionally significant routes as identified in the Regional Cycle Network.
- Maintaining the current cycle network
- Linking key destinations to cycle routes
- Considering the needs of cyclists in all new road projects and in significant planning decisions
- Adopting national best practice guidelines for the design of cycle facilities
- Carrying out infrastructure improvements in conjunction with an effective marketing campaign

Draft Auckland Regional Road Safety Plan

The Draft Auckland Regional Road Safety Plan 2008 to 2012 identifies transport safety issues in the region as being: speed-related crashes, intersection crashes, and improving safety for pedestrians and cyclists.

The overall vision is: "No road users are killed or seriously injured on the Auckland region's roads". Actions which aim to improve cyclist safety include:

- share the road projects, and
- urban design, transport planning and engineering approaches which encourage lower speeds in places with significant or increasing cyclist use.

Auckland Transport Plan

ARTA's Auckland Transport Plan 2007 outlines all the major transport projects and activities to be funded in the region over the next 10 years. It translates the vision and objectives of the ARLTS into strategic outcomes on an area or corridor basis.

The Auckland Transport Plan 2007 identifies key issues for the North Shore as being congestion during peak periods and a lack of transport choices. One of seven strategic focuses for North Shore City is supporting development at key growth centres. This focus supports walking, cycling and public transport improvements in Takapuna and Albany in particular.

2.3 North Shore City Plans and Policies

The District Plan is North Shore City's principle document for managing natural and built resources and specifying the way land can be used or developed. The policy for cycling and walking is:

"To provide for cycling and walking in a safe and convenient manner through the comprehensive provision of cycleways and walkways in structure, neighbourhood units and subdivision plan areas and by providing cycleways in established areas."

The Long Term Council Community Plan (the City Plan) 2009-2024 is Council's key strategic document. The City Plan establishes what will be done, how much it will cost, and how it will be paid for.

In 2006, the Council adopted its Transport Strategy. This strategy provides the overarching framework for managing the City's transport system. Other policies of relevance to cycling include the North Shore City Road Safety Strategy and the Recreational Cycling Network Plan (see **Appendix 4**).

The Regional Sustainable Transport Plan sets out local council responsibilities as:

- Construct the regionally significant routes as identified in the Regional Cycle Network
- Maintain the current cycle network
- Link key destinations to cycle routes
- Consider the needs of cyclists in all new road projects and in significant planning decisions
- Adopt national best practice guidelines for the design of cycle facilities
- Carry out infrastructure improvements in conjunction with an effective marketing campaign.

North Shore City Plan 2009 - 2024

The North Shore City Plan provides a broad overview of what the community wishes to accomplish within a 10-year time frame and how Council intends to respond to and achieve these outcomes.

A desired outcome for North Shore City is a transport system which is *"safe, reliable, efficient and environmentally friendly"* [2].

Community feedback revealed that people:

- Want roads to be less congested and safer
- Want foot paths and cycle ways that are accessible and safe for all users
- Want more efficient environmental ways of travelling
- Want land use planning to be integrated with transport
- Want alternative modes of transport promoted, such as ferries and cycling

Council has made some difficult decisions over the funding of cycle lanes. Due to the current economic environment and pressure to reduce rates, the funding for cycle ways has been reduced over the next 15 years. Cycle lanes will be constructed as part of road upgrades, and cycle education and promotion will continue.

North Shore City Transport Strategy 2006

The North Shore City's Transport Strategy 2006 sets out how the Council aims to "develop, manage and influence North Shore transport to achieve community objectives – including those for city growth and land use".

The vision of the Transport Strategy is:

> "To provide and support an integrated, safe, responsive, and sustainable transport system that meets the needs of the North Shore Community, enhances city development and minimises adverse social and environmental impact".

Among the expected outcomes are centres and corridors that are attractive and safe, particularly for cyclists and pedestrians, residents who walk and cycle more and are able to do so safely and are healthier and fitter as a result. One of the nine key strategies is to ***"enhance facilities, opportunities and preferences for walking and cycling".*** Another key strategy is to reduce demand for private vehicle travel through travel demand management measures.

The Transport Strategy refers to the 2003 Strategic Cycle Plan for implementation of specific cycling projects.

North Shore City Transport Implementation Plan 2006 - 2016

This document is the implementation plan for the Transport Strategy. It sets out a series of strategies to implement the key strategies of the Transport Strategy, with projects and budgets against these. The implementation strategies against walking and cycling are:

- Complete the implementation of planned city-wide cycle networks

[2] ***North Shore City Plan 2009 - 2024***

- Improve the safety, standard and availability of local cycle connections
- Support and promote programmes increasing car drivers' awareness of cycle and pedestrian safety
- Actively promote and support walking and cycling
- Ensure that walking and cycling requirements are adequately met in new developments

Recreational Cycling Network Plan 2007

North Shore City Council's Recreational Cycling Network Plan outlines Council's intent to develop a high-quality, accessible recreational cycling network which provides safe and attractive cycling routes that link urban areas with the parks network and other places of interest including recreational and community facilities, residential areas and public transport routes. It is designed to complement Council's existing 2003 Strategic Cycling Plan and strengthen the vision of encouraging more people to consider cycling as an alternative transport option.

3: Vision, Goals and Strategies for Cycling

This chapter describes the Council's vision for cycling on the North Shore, the goals to be achieved and the strategies to be implemented.

Vision

The Council's overall vision for cycling is:

To provide a safe, convenient and enjoyable cycling environment that meets the needs of cyclists and encourages cycling as a mode of transport and as a means of recreation.

Goals

The vision is underpinned by five goals which are described below.

Goal and Description	Target
1. To increase the number of people cycling The number of people cycling to work has been steadily decreasing. This contributes to car congestion on our roads and increased demand for car parking.	In line with the regional policy, the target is to reverse this trend and to double the proportion of people cycling to work by 2016 (compared to 2006 census data and taking population growth into account).
2. To increase the number of students cycling to school The number of children cycling and walking to school has decreased over the last decade. Around 40% of all car trips are education related and contribute to car congestion. In particular congestion at the school gate has become more and more of a problem.	The target is to double the proportion of children cycling to school by 2016.
3. To improve safety for cyclists The community should be confident that cycling is a safe choice for transport and recreation.	The target is to reduce the number and severity of injuries annually, while increasing the number of cyclists.
4. To improve convenience for cyclists People cycle for different reasons, but a common wish amongst all cyclists is to have a convenient journey. Cycling convenience has to do with matters such as: ease of access, directness of routes, smooth, well-maintained surfaces, safe bicycle parking and sufficient information on cycling routes.	The target is to give access to a cycle route within 1500m to 90% of the North Shore population by completion of the strategic network.
5. To improve enjoyment in cycling Cycling can be an enjoyable activity for everyone when practised in a cycle friendly environment.	The target is to double the percentage of people that enjoy cycling in North Shore City through continuous improvement of the cycling environment.

Strategies

The goals will be achieved by implementing the following strategies which are discussed in chapters 5 to 11 of this document.

Strategy 1 - Develop safe, convenient and quality cycle networks and supporting facilities to meet cyclists' needs

The provision of safe convenient facilities for cyclists is paramount in encouraging people to change their travel behaviour. People must feel safe and know they can get to their destination easily. This strategy provides for the development of the cycle network (strategic and local) through cycle specific projects and other road improvements, and supporting facilities such as cycle parking, learn to ride facilities, hand rails and integration with public transport.

Strategy 2 - Apply best practice cycle design guides to cycle networks and to cycle facilities

Ensuring that the appropriate cycle facility is located in the correct location and to the required guidelines (safety and otherwise) will create a vibrant, well-used cycling environment on the North Shore. This strategy provides best practice solutions for cycle facility type, design and location, incorporating Austroads documents and guides from New Zealand Transport Agency and it's predecessors: Transit NZ, Transfund and the Land Transport Safety Authority. It also provides a comprehensive process for delivering the best solution on a case by case basis, recognising that each situation is different. Best practice design guides also apply to urban design and safety guides and Land Transport Rules. This chapter also outlines enforcement in terms of ensuring appropriate behaviour from motorists and cyclists.

Strategy 3 - Maintain cycle infrastructure to a high standard

Once facilities are in place it is important to ensure that they are kept up to standard and updated where and when necessary. This strategy outlines the cycle facility maintenance plan. Another important facet of maintenance is monitoring and evaluation – ensuring that the facility or programme is achieving the goals of this ***Cycling Strategy***. North Shore City is following the lead of the Auckland Regional Cycle Monitoring Plan in its monitoring and evaluation programme.

Strategy 4 – Support education and training programmes that improve cycle safety

North Shore City Council is dedicated to protecting its citizens and improving road safety. This strategy provides for the ongoing expansion of the Council Cycle Safety programme, which includes education sessions delivered in schools and workplaces as well as other community initiatives. Driver awareness and education is addressed through active support of regional and national campaigns. Current programmes include:

- 'Bike It' the North Shore City schools' bike programme
- Kids Bike Day
- 'Share the Road' campaign (regional and local)
- Adult beginner bike sessions

Strategy 5 – Support programmes promoting cycling

In order to maximise the number of people using the cycle facilities provided around the city, a programme is required for promoting cycling as a safe and efficient way to get around. This strategy provides for the ongoing implementation and development of programmes such as the TravelWise school programme and the workplace travel plan programme, which are important channels for promoting safe cycling to people travelling to school and their place of work. The Council will also continue to promote cycling through cycling events, community based programmes, neighbourhood accessibility plans, personalised journey plans and by supporting promotional activities initiated by other organisations.

Strategy 6 – Improve the coordination of efforts amongst groups affecting cycling

The provision of cycle facilities and programmes is progressed by many different parts of North Shore City Council. This strategy seeks to develop processes and structures to maximise the efficiency of these different parts of Council and ensure the successful delivery of this plan. The main driver for coordination will be a cycle steering group made up of relevant Council officers. This group will monitor the implementation of this document and report back to other Council departments and external organisations and groups.

Strategy 7 - Ensure that where possible, adequate resources are available to implement the Cycling Strategy

Resources are required to action the individual strategies outlined above. This strategy puts in place the processes required to ensure that where possible, this funding is available from all obtainable sources – in particular from the New Zealand Transport Agency and North Shore City Council itself.


TRANSIT
LANE
T3
6.30AM – 9AM
MON–FRI

4 Cycling Characteristics

For the purpose of planning, cyclists may be grouped into three skill levels:

- Child/novice
- Basic competence
- Experienced

Cyclists' routes should provide:

- Safety
- Comfort
- Directness
- Coherence
- Attractiveness
- Complementary facilities

In order to provide facilities that will encourage people to cycle, the different types of cyclist trip must be understood. The needs of a cyclist vary according to their level of skill and the reason for their journey. One type of cycle facility will not suit all cyclists. **Appendix 6** contains information on how the different types of cycle facilities are legally defined.

The remainder of this chapter is taken (with some exclusions) from the Land Transport Safety Authority *'Cycle Network and Route Planning Guide,'* 2004.

4.1 The Purpose of Cycling

Cycling generally has two main purposes:

- Utility
- Leisure

Utility cycling involves making a journey for the main purpose of doing an activity at the journey's end, such as work, education or shopping. Time is often an important consideration.

Leisure cycling is done for the journey itself. Leisure cyclists include sports training cyclists, recreation riders and cycle tourists. They also include children playing on their bikes near their homes.

4.2 Cyclists' Skill Levels

For the purpose of planning, cyclists may be grouped into three skill levels:

- Child/novice
- Basic competence
- Experienced

Child/Novice

These are children and beginner adults. Depending on their age, children have serious knowledge, perceptual and cognitive limitations in relation to roads (Crossing, 1987). They can be unpredictable, do not have a good appreciation of road hazards and are generally unfamiliar with road rules. However, children as young as eight do not pose as high a risk as adolescents as they have a reduced tendency for deliberate risk-taking behaviours.

These cyclists most commonly ride to school and shops and for recreation near their homes. This local environment should be safe for them. They cannot safely interact with traffic apart from on traffic-calmed neighbourhood roads. They prefer full separation from other traffic if travelling along busier roads and grade separation or traffic signals for crossing them.

Cycling strategic plans can aim to provide on-road training for novices who have reached about 10 years of age. A good example is the CycleSafe Team at Christchurch City Council. Similar training for novice adults is also beneficial.

Basic Competence

Cyclists can achieve basic competence at about 10 years of age with

appropriate training. Their utility trips generally extend further to intermediate and high schools. These cyclists can ride on quiet two-lane roads, manoeuvre past parked cars, and merge across and turn right from beside the centre line. They can cope with simple traffic signals and single-lane roundabouts that are well designed to slow through traffic. On busier roads they prefer cycle lanes and facilities at junctions. They are not equipped to interact with faster traffic, multi-lane roads and multi-lane roundabouts. They usually lack the confidence to defend a lane in narrow situations.

Cycling strategic plans should consider whether it is practical to design all local facilities so they are suitable for cyclists of basic competence. If not, more advanced training from about age 13 could be beneficial.

Experienced

These cyclists have usually learnt by long experience how best to interact assertively with traffic. They typically make longer commuting trips, sports training rides and cycle touring journeys. They do not require specific cycle facilities, just enough room for faster/busier situations. They will defend a lane where there is not enough room, judge the merge across faster multi-lane traffic, use multilane roundabouts in most cases (though apprehensively), and will not usually divert to a cycle path.

4.3 General Route Requirements

Cyclists' routes should provide:

- Safety
- Comfort
- Directness
- Coherence
- Attractiveness
- Complementary facilities

Safety

Cycle routes should be safe, provide personal security, and limit conflict between cyclists and others.

Traffic speed and volume affect cyclists' safety. As these increase, it may be more desirable to separate cyclists from motorists. Safe provision at intersections is crucial.

Public lighting and other features that improve personal safety are also crucial. Cyclists should always have available a convenient route that provides a high level of personal safety. Routes used at night should have lighting.

Cyclists' perceptions of safety are important. Design to appropriate infrastructure guidelines will help cyclists feel more secure.

Comfort

Cycling routes should be smooth, non-slip, well maintained and free of debris, have gentle slopes, and be designed to avoid complicated manoeuvres.

Rain and wind discourage cycling. Measures to reduce their effects and make cycling more enjoyable include:

- Considering walls, embankments or suitable hedges next to paths, but being aware of maintaining public surveillance
- Paying attention to exposed paths near foreshores or ridges
- Providing shelter at critical destinations (Bach, 1992)

Directness

Cycle routes should be direct, based on desire lines, and result in minimal delays door to door. Parking facilities should be in convenient locations. Indirect cycle routes or excessive delays may lead cyclists to choose more direct routes with greater risk. Some cyclists are unlikely to divert to safer routes greater than 10 percent extra in length (Hudson, 1982).

Cyclist Trip Types:

- Neighbourhood cycling
- Commuter cycling
- Sports adults
- Recreational cycling
- Touring cycling

Coherence

Cycle routes should be continuous and recognisable, link all potential origins and destinations, and offer a consistent standard of protection throughout. To be recognisable, cycling routes should use consistent design guidelines.

Attractiveness

Cycle routes should integrate with and complement their surroundings, enhance public security, look attractive and contribute in a positive way to a pleasant cycling experience.

4.4 Cyclists' Trip Types and Requirements

For the purposes of cycle planning, cyclist trip types can be grouped into:

- Neighbourhood cycling
- Commuter cycling
- Sports adults
- Recreation cycling
- Touring cycling

Neighbourhood Cycling

Most neighbourhood cycling involves trips to local schools and shops, and children playing on their bikes. Cyclist provision should therefore be based mostly around the needs of novices. Speeds are typically lower than 15 km/h. However, busy roads and short lengths of the primary cycle network may still need to be crossed to get to local destinations, and many potential destinations are along well trafficked arterial roads. The highest priority is ensuring a safe environment for children and novices in their local streets and around shops and schools. These cyclists prefer:

- The highest degree of safety
- Comfort and personal security
- Low traffic speeds and traffic volumes
- A good separation from traffic when local destinations require them to travel busy roads
- Minimal gradients
- Facilities for crossing busy roads, such as traffic signals
- Secure parking at destinations
- Good lighting for evening trips
- Screening from weather and wind integrated with the surrounding landscape design

Commuter Cycling

Most commuter trips are done by high school students or adults commuting to work and tertiary education. However, for the purpose of this ***Cycling Strategy*** they include any longer-distance utility trip.

For most of their length these trips are on arterial roads or other primary cycle routes. Regular commuters generally ride at speeds of 20 to 30 km/h. The New Zealand Travel Survey 1997/98 (LTSA, 2000)

indicates the median trip length for commuting cyclists is about five km. Most will choose a faster route at the expense of higher perceived safety, comfort and attractiveness. They are the main users of the primary cycle network.

It is important to note that designs based on ensuring the repeat business of current, more experienced commuters may not attract new users with less confidence. As far as practical, across-town cycle facilities should cater for cyclists of basic competence, while maintaining the qualities valued by more experienced commuters. These cyclists prefer:

- High-quality road surfaces
- Direct and coherent routes
- Minimal delays
- Facilities that give them their own space
- Intersections that minimise conflicts with other traffic
- Good lighting for evening trips
- Secure parking at or very close to destinations
- Facilities for changing clothes, lockers and showers

Sports Adults

Sports adults often travel at speeds higher than 30 km/h. They are confident cyclists and prepared to claim their road space. They generally cycle over long distances, mainly along urban arterial or rural roads, and may seek challenging terrain. They often travel in groups of two or more and like to ride two abreast. These cyclists prefer:

- High-quality road surfaces
- Minimal delays
- Physically challenging routes and demanding gradients
- Generous road widths

Recreation Cycling

Recreation cyclists ride mainly for leisure and place a high value on enjoying the experience. They are usually less constrained by time and vary widely in skill and experience.

Popular recreation cycling destinations include routes along rivers, coasts and reserves, as well as attractive routes with low traffic volume and speed. These cyclists prefer:

- Comfort
- Good surfaces
- Minimal gradients
- A high degree of safety and personal security
- Routes that are pleasant, attractive and interesting
- Screening from weather and wind
- Parking facilities where they dismount to use facilities or visit attractions on the journey

Touring Cycling

Touring cyclists travel long distances carrying camping gear and provisions. They are often experienced and travel in pairs or groups. These cyclists prefer:

- Routes that are, or lead to, pleasant, attractive and interesting locations
- Generous roadside shoulders
- High-quality road surfaces, although some may seek journeys on lightly trafficked back roads
- Rest areas - water, toilets, shelter

4.5 Complementary Facilities

Cycling planning needs to consider the entire point-to-point journey. All cyclists need to store or park their bicycles securely. For other than short local trips, they may need to change clothes, have a shower and store items. For longer recreational journeys toilets, clean water and attractive resting places are important.

Such facilities will often benefit people other than cyclists. For example, rest areas could benefit motorists and pedestrians, and changing areas, lockers and showers at a workplace could benefit lunchtime joggers.

Secure Bicycle Parking

All journeys require secure parking at each end. Most people will not cycle if they cannot secure their bicycle at their destination or public transport terminal (or take the bike with them on public transport). The type of parking will depend on the need for security and convenience. The most common is the ability to lock cycles to a cycle stand. Older cycle-parking stands that support the bicycle by one wheel offer inadequate security and weather protection, and can easily cause wheel damage.

Choice of Parking Facility

Three types of cycle parking are recommended:

- Stands
- Enclosures
- Lockers

Stands

Stands are short-term parking devices that can be located in almost any position. They are suitable outside shops where there is a high degree of passive security. The frame and wheels of the cycle are locked to the rail.

Enclosures

Enclosures are a communal compound, generally at workplaces, where there may be a large number of cyclists. As a longer-term parking option often located away from the public eye, enclosures should be protected from the weather and have a high degree of security and an appropriate form of access control. Swipe cards are often used for access. Within the compound, stands are generally installed to control internal parking and provide additional security. It is sometimes appropriate to require users to sign a contract to ensure they understand their obligations.

Bike Lockers

Bike lockers are for individual cycles and are used where the highest security level is needed. They are mostly used for long-term parking. Lockers are sometimes provided at public transport interchanges. As with enclosures, there are numerous access control choices, including coin-operated locks. Lockers can also be used to store cycling equipment such as helmets and other personal items.

Other End-of-Trip Facilities

Some situations require a conveniently located clothing change area. For example, cyclists travelling distances more than 5 to 10 km often wear cycling clothes to cope with the build-up of body heat and perspiration and the need to move freely while cycling (although whether they need to change depends on the trip's purpose and the destination activity, for example if it involves wearing formal clothing). In wet weather, cyclists travelling any distance may need protective clothing.

Baggage lockers are also needed at workplaces and transport interchanges, as modern cycles have numerous detachable items such as seats, lights and pannier bags but no lockable space in which to store them. Cyclists also appreciate clothes-drying facilities or places to hang wet clothes and towels to dry.

Showers can also be important. It has been determined that more than 80 percent of cyclists who commute to a central business district, and travel more than 10 km, require shower facilities (Adelaide, Australia. Dorrestyn, 1995).

Trip Facilities

Recreation and touring cyclists often undertake long trips and consequently have special requirements. Urban recreation cyclists using reserves and similar resting places need drink fountains and toilets, typically at five km intervals. Touring cyclists need rest areas at about two-hour (30 to 40 km) intervals. These should include water supply points, shelter from the weather, tables and toilets. They also need access to shops for provisions, and to phones in emergencies. Such facilities will often be available in towns along routes. Good examples of remote rural rest areas include Kawatiri Junction between Nelson and Westport, and Lyell in the Buller Gorge. Rural townships are ideal locations for rest areas.

4.6 Summary

Table 4.1 summarises the relevance of cyclists' needs to cycle planning. It is necessarily broad and subjective, and individual cyclists will vary.

	CYCLIST TYPE	NEIGHBOURHOOD	COMMUTING	SPORTS	RECREATION	TOURING
	Cyclists' possible cycling objectives	To shops, school or riding near home	To get to their destination efficiently	To be physically challenged	To enjoy themselves and get some exercise	To see and enjoy new places and experiences
NETWORK/ROUTE REQUIREMENTS	CRITERIA					
Safety	Personal security (good lighting etc)					
	High degree of safety					
	Separated from buses/faster urban traffic					
	Rural road shoulders or paths					
Comfort	Screening from weather and wind					
	High quality riding surfaces					
Directness	Direct routes					
	Minimal delays					
Coherence	Continuity					
	Sign-posted; recognisable					
Attractiveness	Pleasant and interesting routes or destinations					
	Physically challenging routes or grades					
Complementary facilities	Parking facilities located near destinations					
	Security of bicycle parking					
	Showers, baggage lockers					
	Water, toilets, shelter, shops, phones					

Legend: minimal benefit, moderate benefit, most benefit

Table 4.1: The relative importance of network or route criteria to different cyclist groups


DEVONPORT
CYCLE
ROUTE
LIQUOR
BAN AREA

5 Strategy 1: Develop safe, convenient and quality cycle networks and supporting facilities to meet cyclists' needs

There are three types of cycle networks:

- A strategic cycle network
- A local cycle network
- A green cycle network (through parks and reserves)

5.1 Planned Networks

Developing cycle networks is a key part of the Council's ***Cycling Strategy*** for the North Shore. The cycle network needs to connect by destination along desired routes. Figure 5 shows the major destinations around North Shore City (excluding schools) that make up the basis of the North Shore Cycle Network. Cycle routes need to be continuous; to go to where cyclists want to ride (such as schools, places of work and recreation facilities); and to provide cycle circuits for recreation and cycle training. Functionally, these needs are met by three types of network:

- A strategic cycle network
- A local cycle network
- A green cycle network (through parks and reserves)

These networks are defined and discussed below.

Strategic Cycle Network

The function of the strategic cycle network is primarily to meet the needs of cyclists who want to cycle from one part of the city to another. The strategic network serves both those wanting to make short local trips and long distance trips.

The network's requirements are for safety, coherence, directness and convenience. The planned strategic cycle network is closely aligned with the regional cycling network and connects all main destinations on the North Shore.

Due to the road structure and topography of the city, the planned strategic network will be located mainly on arterial and collector roads. Agreement with the New Zealand Transport Agency will be required to develop cycle routes in the State highway corridors.

The existing sections of the strategic network comprise some on road (cycle lanes or shared transit lanes) and some off road (share with care footpaths etc). See Figures 6 and 7 for details.

The strategic network is Councils' priority as it provides cycle facilities in high traffic areas to achieve the goals of the ***Cycling Strategy*** and assists in the delivery of the regional cycle network.

Local Networks

Local cycle networks are developed for those cycling to local destinations such as shops and schools, and visiting local friends and family. While the whole local road network is accessible to cyclists particular routes have the potential to provide better access to community facilities and the strategic cycle network than others. It is these key feeder and linking routes which comprise the local cycle network.

The type of infrastructure making up local cycle networks is likely to alter from one location to another, but will in most cases comprise marking less heavily trafficked roads as cycle routes and improving linkages to the strategic cycle network. Infrastructure improvements for local cycle networks will be to improve safety and improve connections and coherence to the strategic cycle network.

The District Plan (Section 12.3.3) provides guidelines to be followed

when new areas are to be developed. However, with the exception of some structure plan areas, developers are not bound to provide for cyclists in new urban areas. To have a greater and potentially binding influence on providing for cyclists in new developments, firstly requires that indicative cycle routes are defined by Council and design guidelines established. To make these provisions effective, the District Plan will need to be amended to ensure that indicative cycle routes are constructed by developers and/or the Council itself when roads are upgraded, and design guides adhered to.

Retrofitting cycle facilities to the existing streets on the proposed local network is a lower priority than the strategic network. Where opportunities arise through other transport projects, the local network will be furthered, but any identified local cycle network projects may be deferred subject to funding. There is opportunity for local routes to be reviewed and upgraded to strategic routes as the strategic network is completed.

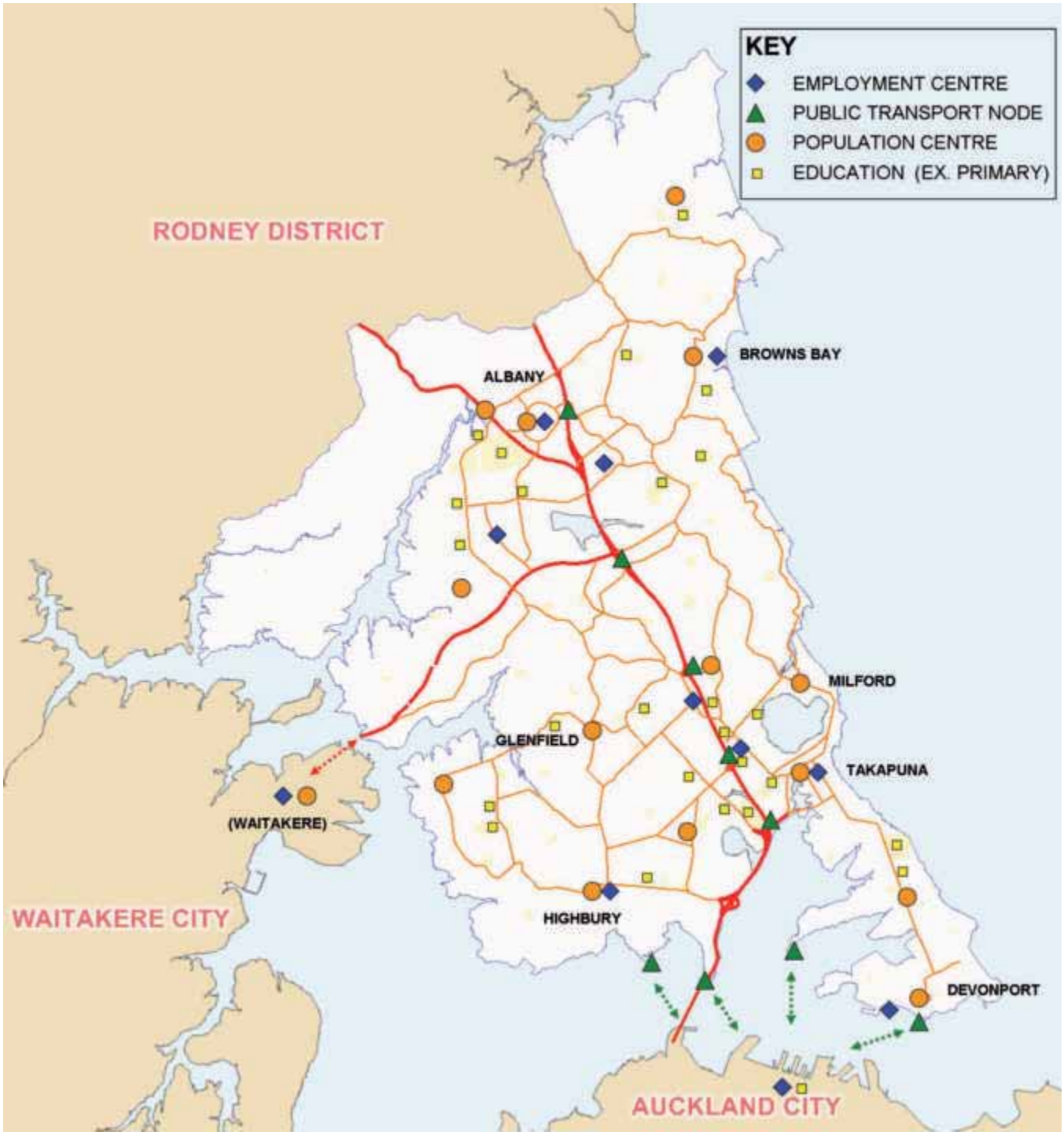


Figure 5 Key destinations for North Shore Cyclists

Figure 6 North Shore City Cycle Networks

Green Cycle Network

Cycle paths through parks and reserves are provided for in the North Shore Recreational Cycling Plan. This has been produced by the Parks Department. The green cycle network is the earliest version of the Recreational Cycling Network and was planned as transportation infrastructure prior to preparation of the Recreational Cycling Plan. The green routes can be either strategic routes (providing access from one part of the city to another) or purely recreational. The delivery of an integrated network requires green routes to be linked with the local or strategic network to provide continuity. This is necessary due to:

- A lack of suitable parks and reserves to provide linkages across the entire city purely in parks and reserves;
- The absence of suitable locations for paths within some parks and reserves;
- Roads interrupting connections between parks and reserves.

Figure 7 shows the green routes and indicative local/strategic network links.

The site characteristics of a park such as topography, drainage characteristics, existing features and facilities, vegetation, available land, and car parking are features to consider when planning and designing for a recreational cycle way. These characteristics can influence the presence, location, nature and form of a cycle way or path within a park or along an esplanade reserve. The North Shore City Parks Department manages the implementation of the green cycle network and undertakes feasibility studies to ascertain:

- The ability to create safe and accessible links between parks
- Connections with the strategic and local cycle networks
- Barriers to these connections
- Alternative routes

Where green routes are also part of the strategic network, Infrastructure Services (Transport) is also involved.

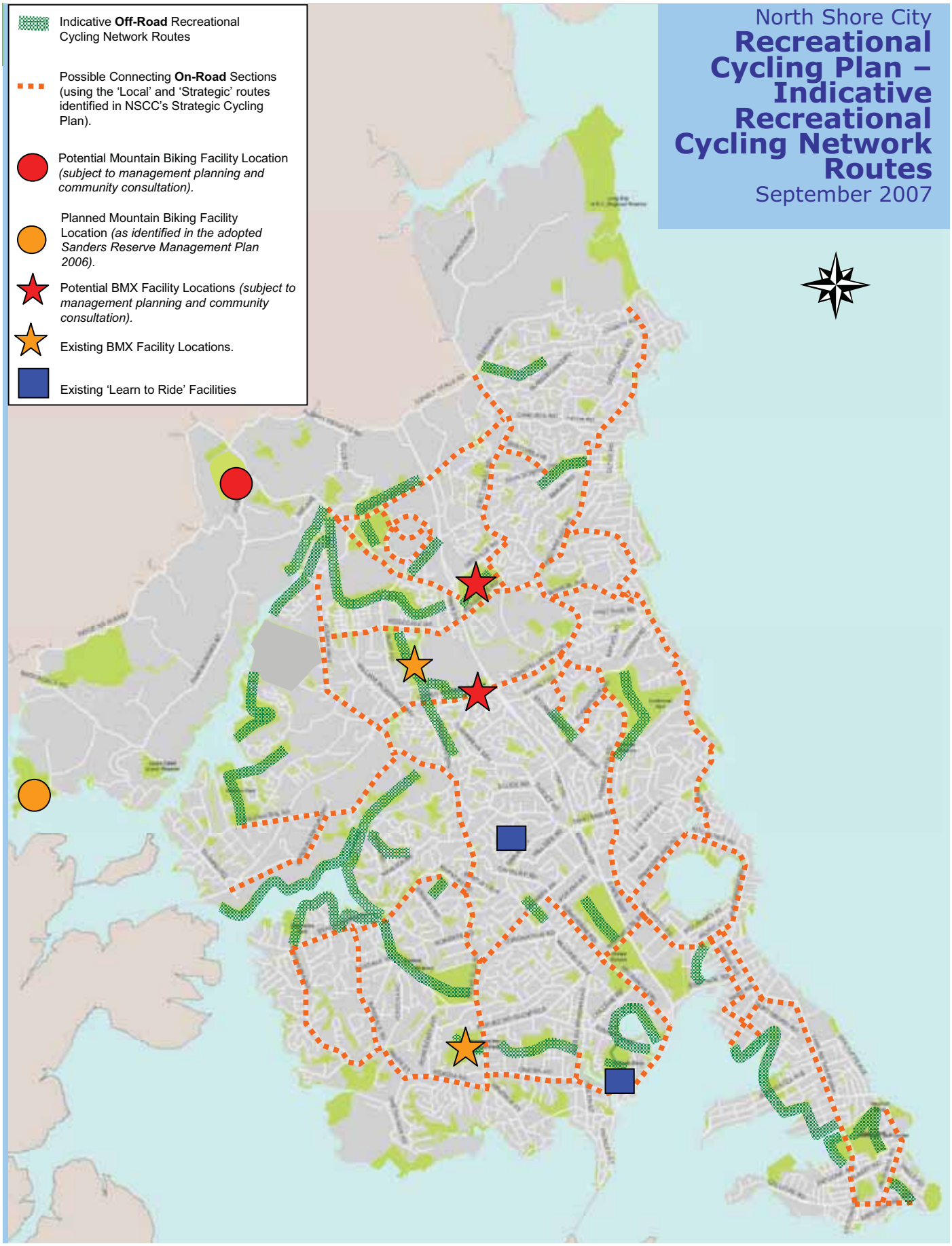


Figure 7 : Recreational Cycling Network Plan – Indicative Recreational Cycling Network Routes

5.2 Cycle Facilities

Cycle Parking

The provision of good quality cycle parking is a key element in encouraging people to cycle more. In the absence of formal parking provision, cyclists often use railings or other fixed structures as a point for securing their bicycles. However, the preference is for secure, covered facilities due to the high value and easily stolen nature of the equipment (particularly for sports, recreation, and touring cyclist types).

Traditionally most public cycle parking has been made up of various types of cycle racks found close to public amenities and in retail areas. Some employers provide cycle racks, often in secure areas, such as in company car parks. A small number provide caged bicycle storage.

Cycle parking facilities should be close to amenities, shops, transport interchanges and areas of employment. If cycle parking is not provided close to destinations, cyclists will park informally if it is easier to do so than to walk some distance from a designated cycle parking area.

Commuter cyclists tend to seek a higher level of security such as cycle lockers and convenient access to showers and changing facilities, generally at their place of work. The absence of these facilities acts as a deterrent to the more widespread use of bicycles for everyday transportation.

Cycling parking facilities are useful at shopping centres, libraries and community buildings. Cycle parking at leisure locations such as beaches, sports facilities and playgrounds is also advantageous, as is cycle parking at ferry terminals and bus stations.

North Shore City Council aims to install cycle parking through the resource consent process and in desired locations.

Cycle Handrails

The Council has installed a number of cycle handrails at signalised intersections. The cycle handrails are placed at intersections on important cycle routes and provide cyclists with a convenient stop. The programme by which these have been provided will be continued and expanded to include new intersections.

Learn to Ride Facilities

'Learn to ride' facilities are well-formed paths with minimal gradients that provide opportunities for beginner cyclists to develop further skills on longer journeys. These facilities provide a safe, enjoyable environment for the inexperienced cyclist to learn to ride bicycles, gain bike-handling confidence, learn the road rules, and to encourage physical activity. 'Learn to ride' facilities are managed as part of the North Shore City Recreational Cycling Network Plan.

There are currently two parks on the North Shore that have 'learn to ride' cycle specific facilities: Normanton Reserve, Glenfield, and Onepoto Reserve, Northcote. Both reserves contain both paved and gravel paths, catering for small bikes, tricycles and a circuit for older cyclists. Normanton Reserve has features for developing cycling skills, e.g., ramps and weave poles, and Onepoto Reserve has 'Stop' signs and intersections to negotiate. Further 'learn to ride' facilities have also been identified for development in the North Shore Recreational Cycling Network Plan.

5.3 Integration with Public Transport

Cycling often forms part of a journey involving public transport. Improving the links between public transport and cycling can increase the use of both transport modes. This comprises the development and implementation of cycle networks to ferry terminals and bus stations, the provision of cycle parking at the interchange and the ability to carry a bicycle on a ferry or bus.

The North Shore City Council is responsible for establishing and maintaining bus stations, including the Northern Busway stations. North Shore City owns or leases the current ferry terminals at Devonport, Stanley Bay, Northcote Point and Birkenhead. These are being upgraded as well as planned redevelopment of the Bayswater and Beachhaven wharves in to modern ferry terminals. Auckland Regional Transport Authority manages the redevelopment and operational control of these terminals.

More cycle storage and/or cycle racks are planned to be installed at all principal bus stations and ferry terminals. Provision for direct cycle access is included in plans for the upgraded Devonport ferry terminal, and new Bayswater ferry terminal. Cycle storage has been provided at the Northern Busway stations.

The principle issue for ferry services is to ensure that sufficient capacity exists on each sailing to accommodate cyclists and their bicycles.

Actions:

Strategic Cycle Network

- Implement cycle facilities on strategic cycle routes, in particular, those comprising the regional network

Local Cycle Networks

- Investigate cycle infrastructure deficiencies on links in the local cycle network
- Develop and adopt programme for implementing planned infrastructure improvements on the local cycle network
- Co-ordinate investigations and implementation with TravelWise and other travel plans

Green Cycle Networks

- Investigate viability of proposed routes
- Develop and adopt programme for implementing green cycle networks in conjunction with programmes for developing parks and reserves in each ward

Cycle Facilities

- Investigate and implement additional cycle parking and handrail facilities
- Assist in development of 'learn to ride' facilities

Integration with Public Transport

- Implement safe and convenient cycle access to principle ferry terminals and bus stations
- Provide more cycle parking and/or storage facilities at ferry terminals and bus stations
- Ensure sufficient cycle capacity on ferries
- Seek opportunities for carrying cycles on buses

District Plan Amendments

- Establish a package of changes to the District Plan by which means cycle parking facilities can be made a condition of consent

6 Strategy 2: Apply best practice cycle design guides to cycle networks and to cycle facilities

North Shore City seeks to provide the best integrated facilities for all road users.

When cycle facilities are designed in North Shore City engineers will be expected to consider each specific case and deliver innovative solutions that exceed guidelines.

The purpose of this strategy is to ensure that all cycle networks and facilities are designed and constructed according to the best and latest guides so that safety and convenience is ensured for all road users.

There is significant debate about what facilities should be provided for cyclists, and this often centres on whether the facilities should be on the road or off the road. 'On-road' means a marked cycle lane on the road, 'off-road' can have different meanings: a separate cycle path adjacent to the road, a shared cycle – footpath, or a cycle path away from the main road, for example through a park.

The preference for off-road cycle facilities is often based on the perception that cyclists are safer off the road and that more children would cycle if off-road paths were available. The key assumption behind this perception is that same-direction motor traffic is the biggest danger to cyclists on the road. This assumption is not supported by accident information or studies. Other concerns are raised where off-road paths are shared with pedestrians, due to cyclist collisions with pedestrians or cars pulling out of driveways.

Cycle facilities are also not restricted to lanes and parking. The design process needs to consider:

- advance stop lines and boxes
- improved traffic signal detector sensitivity
- advance green light for cyclists
- removal of pinch points
- blackspot remediation

There are many points to take into consideration when deciding on the type of facility to be provided. It is important to recognise that only on-road cycle facilities offer the same level of priority to cyclists at intersections as motor vehicles and are less prone than off- road cycle paths to collisions with crossing vehicles. However cycle paths, in particular those away from the main road, have the advantage of being more quiet and less exposed to traffic and its noise and pollution. The choice for on or off-road cycle facilities needs to be considered on a case-by-case basis, looking at location, movement patterns and users. North Shore City seeks to provide the best integrated facilities for all road users, including consideration of non-infrastructure solutions (such as travel demand management) on a case-by-case basis.

Another consideration is the impacts on the wider community. Some issues to be balanced when designing cycle infrastructure are:

- The removal of on-street parking
- Sharing road space with either pedestrians or general road traffic
- Restricting the construction of improvements to within existing road reserves
- The challenge of dealing with difficult intersections

Design reports need to clearly explain the options and issues arising when making decisions about cycle infrastructure.

Consistent application of best practice will not always result in designs that have the same appearance. Care must also be applied so that routes are recognisable. Cyclists and other road users must be able to

see clearly where components or markings change, in order to find their way safely through them, and be led to behave predictably for the safety of themselves and others. Road safety audits are used to ensure best practice design is applied well and consistently to each project, large or small.

6.1 Design Guides

North Shore City Council has adopted the following design guides in the North Shore City District Plan (2002):

- Austroads Guide to Traffic Engineering Practice Part 14 – Bicycles
- New Zealand Supplement to the Austroads Guide to Traffic Engineering Practice Part 14 – Bicycles

Under this strategy North Shore City will adopt the following guides and standards to be applied to the design of cycling infrastructure and facilities:

- Transit New Zealand Manual of Traffic Signs and Markings (MOTSAM)
- New Zealand Land Transport Safety Authority Cycle Network and Route Planning Guide
- Transfund Road Safety Audit Procedure Guidelines for Projects Nov. 2004
- ARTA Guidance Note for Cycle Parking Facilities 2007

The New Zealand Transport Agency provides training for the implementation of the above in its "Fundamentals of Planning and Design for Cycling" course.

6.2 Design Preferences

Where appropriate, cycle facilities will make the most effective use of the local transport infrastructure. This means that in order to facilitate the construction of the strategic cycle network, and to achieve value for money, cycle facilities may be combined with other uses, such as bus lanes, where the safety of all road users can be assured.

North Shore City has a strong focus on ensuring the safety of vulnerable road users, and has found that:

- There is particular concern about separating cyclists and motor vehicles, and cyclists and pedestrians
- It is often difficult to cater for all categories of cyclist (experienced and inexperienced) within the same road reserve without increasing the width of the reserve with associated costs.

When cycle facilities are designed for North Shore City, engineers will be expected to consider each specific case and seek to deliver innovative solutions that exceed the guides listed above. In some cases, non-infrastructure solutions, such as travel demand management or travel behaviour change, may also be appropriate. For example, encouraging and enabling school children to travel to and from school in modes other than cars could reduce traffic at peak times so that it would not be necessary to implement an infrastructure solution. Equally, solutions such as traffic demand management may provide the necessary safety improvements to encourage more cyclists to ride.

Where appropriate, engineers should also make use of international guidance documents, particularly where these documents have been developed to present a suite of possible solutions that might be appropriate as a basis for local implementation. Examples of such documents are:

- London Cycling Design Standards; Transport for London (UK) May, 2005
- Cycling Infrastructure Design (Draft); Department for Transport (UK) Nov, 2008
- NSW Bicycle Guidelines; Roads and Traffic Authority New South Wales (Australia) July, 2008

There is an opportunity for North Shore City Council to develop a similar document to indicate how the guides should be interpreted for implementation in the City. Such a document should include relevant principles of urban design.

6.3 Design Process

It is important that projects that have been established to deliver cycle infrastructure follow a rigorous process to establish the best possible solution on a case-by-case basis. Importantly, North Shore City Council's design guides (the Austroads Guide to Traffic Engineering Practice Part 14 – Bicycles and the New Zealand

Supplement to the Austroads Guide to Traffic Engineering Practice Part 14 – Bicycles) set out process maps that suggest treatments for a wide range of different circumstances. These process maps are included at **Appendix 7** to illustrate the design option selection process.

- Some of the factors that should be considered and recorded in the project documentation are:
  - General information
  - Stated objective in terms of expected outcomes
  - Alternative basic concept designs
  - A summary of consultation.
  - Existing cycle, traffic, and pedestrian counts
- The impact on cyclists for each concept design, setting out, for example:
  - An assessment of the extent to which each of the ***Cycling Strategy*** goals will be achieved
  - For each type of cyclist, an assessment of how their needs are met (in terms of current and potential use)
- The impact on adjacent properties and the immediate neighbourhood:
  - The impact on on-street parking
  - The impact of the proposal on safety of vehicular access to and from adjacent properties and on the safety of pedestrian movements
  - The impact of the proposal on the appearance and amenity of the roadside berm
  - The impact on the provision and maintenance of services within the berm areas
- The impact on traffic flow:
  - Any significant impact on traffic capacity that is likely to lead to queuing and delays
  - Any impact on traffic safety
- Compliance with regional and national objectives:
  - The degree to which the proposal meets regional objectives and policies
  - The degree to which the proposal meets national objectives and qualifies for subsidy applications
- Financial implications:
  - Cost of the options

The New Zealand Land Transport and Safety Authority Cycle Network and Route Planning Guide sets out a process to be followed to facilitate the design process. The London Cycling Design Standards from Transport for London defines a similar process. In both cases the relevance of consultation is set out.

6.4 Safety Audits

Safety audits of projects involving on and off-road infrastructure will need to ensure that the most recently adopted guidelines and best safety practice for cycling are applied appropriately. Safety for cyclists will also be taken into account for temporary traffic management for all road maintenance and construction activities.

6.5 Land Transport Rules

Land Transport rules are largely set by Government and administered by the New Zealand Police Department. Responsibility for enforcing parking rules is mainly the responsibility of local authorities. Cyclists must obey the general road rules that apply to all road users. Specific rules that apply to cyclists include the requirements to wear a suitable helmet and using front and back lights at night. Restrictions for cyclists are: cycling on footpaths, carrying another person on the handlebars or bicycle bars, and riding across pedestrian crossings.

Local authorities can also set a limited range of rules and can influence road safety through the way they manage traffic. Permissible rules are authorised under the Land Transport Act but it is up to individual local authorities as to how these are applied to achieve specific outcomes. Rules can relate to parking and to traffic management devices that influence safety including road markings, signs and road layouts.

Local authorities are empowered to determine where traffic is to be managed under Land Transport Rules, through by-laws. This includes the power to make special vehicle lanes and cycle paths, and to indicate these using signs and markings.

The Land Transport (Road User) Rule covers requirements that road users must adhere to when using public roads. Previous regulations were not clear about the duties of drivers where cycle facilities are marked, leading to increasing concerns about cyclist safety.

Changes in the rule include:

- Including a cycle lane within the definition of a lane
- Prohibiting motorists from driving along a cycle lane
- Prohibiting parking or standing in a cycle lane
- Permitting drivers to cross a cycle lane when proceeding to turn or in the process of parking

North Shore City Council expects that the above will contribute to improve the safety for cyclists using cycle facilities; however many road users need educating in this regard. Publicity nationally and locally is needed in conjunction with road safety publicity to promote understanding and awareness of the facilities that are provided.

6.6 Enforcement

Police and parking officer enforcement is necessary to improve the safety of cycling. Enforcement should focus on aggressive and illegal behaviour by motorists, and unsafe and illegal behaviour by cyclists, such as:

Motorists:

- Parking in cycle facilities
- Driving in cycle facilities
- Driving in transit lanes when not authorised
- Reckless driving around cyclists

Cyclists:

- Not obeying traffic signals
- Riding more than two abreast
- Riding at night without cycle lights
- Riding without a cycle helmet

6.7 Road Safety Strategy

The Road Safety Strategy for North Shore City Council was adopted in August 2005. It identifies "vulnerable road users" (including cyclists) as a road safety issue, and sets out goals, strategies, targets, and actions to achieve the road safety goals for the North Shore - including those for cyclists. Actions to improve cyclist safety have been incorporated into the Road Safety Strategy and reflected in this document. Any new safety initiatives arising from the Road Safety Strategy will be incorporated in succeeding North Shore City cycling strategies.

6.8 Integration with Land Use

Land use planning has an important role to play in the development of a cycle friendly city. Intensification of residential land uses and mixed use developments around centres and community facilities creates an accessible environment in which short trip distances encourage more walking and cycling. Good access to public transport can also be provided by residential intensification around public transport nodes and connectivity to these nodes through the local cycling network.

Land use planning should encourage and facilitate the local cycling network by ensuring the existing cul-de-sac and dead roads have cycle/pedestrian connections through to other roads, maximising the choice of routes and minimising travel distances. In new subdivisions or redeveloping areas the street network needs to be interconnected to offer choice of routes to all users.

It is important that cycle facilities fit within the urban environment in which they are located. The design of all cycle facilities should:

- Recognise and take into account the type of street and the character of that street. The street type is reflected in part by the activities that take place on that street (i.e. retail, residential, industrial, mixed uses)
- Support and complement the street function and land use activities
- Consider future land uses in its design
- Be fit for use in 30 years
- Consider required District Plan building rules (such as building setbacks which may vary along the length of the street)

The design of any cycle lane or facility may change along a route depending on the changes in land uses. Such land use and road layout changes should be reflected in the optimal cycle infrastructure and road design.

Actions

- Develop a document that interprets guidelines for the various locations where cycle infrastructure may be implemented. This is to be supported by:
- Implementation of process and practice to ensure that developers and the Council comply with best practice guides when undertaking cycle infrastructure projects.
- Recommended changes to the District Plan to ensure the implementation of this ***Cycling Strategy*** when triggered by developments under the Resource Management Act (1991)
- Continue current safety audit process
- Ensure that centre and structure planning includes key urban design principles of activity mix, accessibility and connectivity
- Ensure that each cycle infrastructure project considers the urban environment in its design


6

7 Strategy 3: Maintain cycle infrastructure to a high standard

7.1 Asset Management

To ensure that elements of the cycling network continue to offer good service to cyclists, it is necessary to carry out regular maintenance checks. A regular maintenance programme will ensure a facility is offering the high level of service for which it was originally designed.

Over time deterioration of cycle infrastructure can impact on the safety of cyclists. Conditions that are of minor priority to car drivers can critically affect the safety of cyclists. For example:

- Accumulation of debris such as glass and stones on cycle facilities and road surfaces
- Obliteration and deterioration of road markings
- Overhanging vegetation
- Lowered surface objects after resurfacing such as storm water grates or service covers
- Obstacles
- Edge gaps and sharp drops at edge after resealing
- Potholes or broken seal
- Wobbly or damaged handrails

Feedback from cyclists indicates concerns over the standard of maintenance for on-road cycle facilities and off-road cycle paths and suggests that there is room for improvement. The poor condition of painted cycle markings on some shared footpaths is one example.

7.2 Monitoring and Evaluation[1]

In order to assess progress towards achievement of this ***Cycling Strategy's*** vision and goals, the existing cycle counting programme, school bike shed counts and analysis of recorded cycle crashes will be maintained and expanded. These will be used to provide ongoing data to identify trends and monitor increases in cycling trips during the implementation of the ***Cycling Strategy.***

ARTA's Regional Cycle Monitoring Plan (RCMP) sets out guidelines by which a consistent approach is used for data collection for cycling and for monitoring trends in the number and type of cycle trips being made. This document is owned and being implemented by the Regional Cycle Monitoring Working Group on which North Shore City has a representative.

Details of cycle counts and the cycle counting programme are included in **Appendix 2.**

In addition to cycle counts and monitoring in accordance with the RCMP, regular public opinion surveys are needed to monitor cyclist satisfaction on infrastructure improvements being provided for cyclists, in terms of their effectiveness, perceived safety and speed of delivery.

Census data for numbers of cycle journeys to work will continue to be used to monitor the number of commuter cyclists and to make comparisons with other local authorities and the whole of New Zealand.

A programme of cycle parking counts is needed where bike parking facilities have been provided, especially at ferry terminals and bus stations.

[1] ***The Parks Department monitor all aspects of the Green Cycle Network.***

The means of monitoring the five goals set out in the ***Cycling Strategy*** are shown in the table below.

Goal	Monitoring measure
To increase the number of people cycling to work	• Journey to work census statistics • Cycle traffic counts
To increase the number of children cycling to school	• Programmed school bike shed counts • Cycle traffic counts
To improve safety for cyclists	• Crashes recorded in Ministry of Transport crash analysis data base • Cycle traffic counts (observation of cyclists wearing helmets) • Cyclist satisfaction surveys for cyclist's perception of safety,
To improve confidence for cyclists	• Cyclist satisfaction surveys
To improve enjoyment of cycling	• Cyclist satisfaction surveys

Table 7.1: Monitoring Measures

The data gathered in North Shore City is compared with national and regional data to provide a wider perspective on progress within the city.

All 2008 cycle counts and data can be found in **Appendix 2.**

Actions:

- Review maintenance procedures to ensure that cycle infrastructure is continuously maintained to a high standard
- Ongoing monitoring and data collection including:
  - Programmed bicycle traffic counts
  - Programmed school bike shed counts
  - Surveys to monitor user satisfaction before and after implementation of major measures to facilitate cycling
  - Cycle parking surveys
  - Cycle helmet wearing compliance rates
  - Bicycle accident data analysis (MOT)
  - Census 'bicycle journey to work' data

8 Strategy 4: Support education and training programmes to improve cycle safety

"Children who receive cycle training have been shown to have safer cycling behaviours and are less likely to make errors than other children who have not had cycle training. They are also more likely to cycle, as the proficiency training helps to overcome skill, knowledge and confidence related barriers to cycling" [4].

Opportunities exist to improve cycle safety and educate drivers through a cycle safety programme. Education and training to improve the skills, attitudes, and behaviour of both cyclists and drivers is an essential element for road safety and for promoting cycling.

North Shore City has shown a commitment to cycling education through a variety of channels. This includes a number of programmes to promote bike safety for both adults and children, and also for motorists. These programmes will be reviewed each year as they must meet the changing needs of the audience, remain relevant to the current cycling environment, and stay fresh in order to capture the interests of people in coming years.

Safety education programmes for cyclists focus on:

- Providing information on road rules
- Improving road skills and bike handling
- Developing confidence
- Providing information on safety equipment including the correct way to fit a helmet
- Providing information on bike maintenance and keeping bikes roadworthy
- Rights and responsibilities of sharing the road with other road users
- Rights and responsibilities when using 'share with care' paths

Safety education programmes for motorists in relation to cyclists focus on:

- Rights and responsibilities of sharing the road with other road users
- Passing bikes safely
- Watching for bikes

The NZTA vision for cyclist training is[3]:

A New Zealand where everyone has the opportunity to become a confident and capable cyclist.

The education and training needs of cyclists and potential cyclists varies considerably between individuals. Further research is required to identify groups who would benefit from training, and develop resources and programmes developed that are appropriate for those groups.

8.1 Current programmes

'Bike It' North Shore City Bike-To-School programme

The 'Bike it' programme is aimed at students in Years 5 – 8 and is run entirely through schools, enabling a large number of children to participate. The 2008/09 programme consists of four distinct modules which schools can participate in:

- ***Riding By*** - This is a Police programme demonstrating safe cycling practices and road rules. This course is run by Police Education Officers.

[3]NZTA 2008 Cyclist Skills Training: A guide for the set-up and delivery of cyclist training in NZ

[4] Telfer et al., 2006 Encouraging cycling through a pilot cycling proficiency training program among adults in central Sydney, Journal of Science and Medicine in Sport, 9, 151-156.

- ***Bike Skills Extension*** – This is a lunch time course for student cyclists to further develop bike confidence. Students practice bike skill exercises including an obstacle course in a supervised environment.
- ***Be Safe Be Seen*** – As part of this programme student cyclists are provided with a high visibility vest which they receive at a special session with a Police Education Officer. Students and parents sign an agreement that students will wear the high visibility vest when riding to school.
- ***Bike Maintenance Skills*** – This is a lunch time session for students who own a bike. Students learn how to change a bike tyre, how to put on a bike chain, general maintenance and how to perform a safety check before each ride.

Kids Bike Day

This popular event has been running annually in North Shore City since 2002, and twice yearly since 2007. The event caters for primary and intermediate school children aged 7 – 12. It is a fun event for children to learn cycling skills to increase their safety and gain confidence. The cycling activities cover bike handling, safety tips, helmet fitting and bike maintenance and are run by Big Foot Adventures and the Police Education officers.

Regional Share the Road Campaign

Since 2007, North Shore City Council has been involved in the regional 'share the road' campaign coordinated by RoadSafe Auckland. The campaign highlights the need for all road users to share the road and includes mass media advertising (billboards, buses and print media) as well as the production and distribution of resources to schools and workplaces across the Auckland region. The key messages for the 2008/09 campaign are "Summer brings out more bikes" and "Give bikes 1.5m"

Adult Beginner Bike Sessions

North Shore City Council ran beginner bike sessions in February/March 2007 and 2008. The sessions were aimed at adults who lacked confidence to cycle or who were new to cycling. This programme covered basic road rules, bike safety and practical riding skills, with an on-road riding component. Bike skills training is available to businesses involved in the workplace TravelWise programme and the Council is currently investigating advanced training courses.

These programmes will be reviewed each year to meet the changing needs of the audience, remain relevant to the current cycling environment, and to capture the interest of people in coming years.

Actions:

- Develop a cycle education programme based on local research of barriers and benefits to cycling
- Deliver cycle skills training targeting young people
- Deliver cycle skills training targeting adults
- Co-ordinate with the North Shore Road Safety Strategy and road safety programmes targeting motorists and cyclists

9 Strategy 5: Support programmes promoting cycling

At the Go By Bike Day Breakfast held in February 2008, just over half of the participants had not been to a breakfast before. Of the participants who had attended in previous years, 82% reported that the event had encouraged them to cycle more often.

Improvements in cycle facilities and cycle safety will encourage and increase cycling, but the increase will be greater if cycling is actively promoted. Cycle promotion can be general, such as publicity emphasising cycling as being healthy and environmentally responsible. Promotion can also be targeted and comprise programmes and actions involving specific groups or individuals.

Key functions of promotion, programmes, communication, and events are to:

- Encourage more people to take up cycling
- Reduce vehicle use
- Affirm cycling as a positive behaviour
- Motivate existing or lapsed cyclists to continue
- Encouraging cyclists to make additional cycling trips

There are many benefits of cycling that can be promoted to North Shore residents. Alongside information about benefits is a requirement to empower people to take up cycling. Promotional activities should focus on helping to remove barriers to cycling as well as increasing benefits. This requires working on a local community level when selecting minor infrastructure improvements and promotional activities in addition to city-wide initiatives.

Community based social marketing (CBSM) is a growing field of expertise that is increasingly being used to facilitate behaviour change. CBSM is an integrated approach and promotes the use of communications, education, and marketing to motivate people to undertake a particular behaviour. For cycling, CBSM approaches may include promoting cost savings, health benefits, time savings, or concern for the environment. NSC has implemented the Travel Behaviour Change Team which is tasked with researching the barriers and benefits to cycling on the North Shore and using Community Based Social Marketing principles to guide programme development.

The North Shore City Council has participated in or run a range of promotional activities. Programmes and activities will be reviewed regularly and updated by the Travel Behaviour Change Team. Currently the Council is involved in the following programmes and initiatives.

9.1 The School TravelWise Programme

The School TravelWise programme is a partnership between the North Shore City Council, Auckland Regional Transport Authority and individual schools and their community. The programme involves schools developing a School Travel Plan which contains actions to reduce car use on the school journey by making the journey safer and more pleasant and encouraging students to walk, cycle or use public transport. North Shore City launched the first School Travel Plan in New Zealand at Vauxhall Primary in 2002. In 2008 North Shore City had 41 schools participating in the TravelWise programme. There are various ways that the adoption of a School Travel Plan can encourage cycling, including:

- Identifying and improving cycling routes to schools
- Encouraging the provision of more and better cycle parking facilities at schools

- Implementing the Bike-It education programme (as outlined in Strategy 4)
- Supporting school-based publicity campaigns emphasising the need to improve children's health through physical activity

During 2006, a research programme was undertaken in North Shore City to identify barriers to teenagers cycling to and from school. This research, entitled 'Tempting Teens to Cycle' identified a need for safe crossings, safe routes and on-road cycle facilities. Secure, covered bike sheds and having friends to ride with were also identified as items that would encourage more teens to cycle. The findings of this research should be used to inform the development of School Travel Plans through the School TravelWise programme.

9.2 Workplace Travel Plans

Workplace Travel Plans are a way by which companies and institutions encourage employees to use alternative modes to driving alone whether on commuter or business journeys.

The Council has adopted its own Staff Travel Plan to show environmental and corporate leadership and encourage staff to walk, cycle and use public transport, and to reduce car trips through carpooling and/or teleworking/flexible working hours. There are various ways that the adoption of a Workplace Travel Plan can encourage cycling, including:

- Provision of further secure, covered cycle parking
- Provision of showers and clothing/equipment storage lockers
- Staff discounts at local bike shops
- Purchase of fleet bikes
- Encouraging the set up of a bicycle user group (BUG group)

9.3 BikeWise Week

The Council has been involved for several years in the National BikeWise Week. The flagship event of BikeWise Week is the Go By Bike Breakfast, a public breakfast to encourage cycling and cycle commuting held on the Strand in Takapuna. The week also includes a Bike Business Battle promoted through workplaces.

There is opportunity to expand the Go By Bike Day event. Post-event initiatives should be developed to maximise the benefits of the event, and support the habitualisation of cycling as a method of everyday transport.

From 2009, the national BikeWise week will become Bike Month. There is great opportunity to run further activities and events during Bike Month that will encourage participation from a wider audience of existing and potential cyclists.

9.4 Promoting Cycle Infrastructure

The Council will support the implementation of cycling infrastructure with a communication programme to promote the cycle network. Cycle infrastructure is most likely to be developed in stages due to practical construction requirements and funding availability. As each stage is completed, a promotional package should be developed to raise awareness of the new facilities and encourage safe usage. This may include cycle guides, maps, general publicity or planned events and activities.

9.5 Web Information

The Council website has a page dedicated to cycling. The page contains information on using cycle lanes and share with care paths, cycle safety, and the benefits of cycling. The web page also includes information to promote Council cycling programmes and events.

9.6 Other Promotional Activities

The Council will continue to support other local, regional and national initiatives that promote cycling and actively seek to identify new opportunities and initiatives to promote cycling. The Council will also continue to support groups that wish to encourage cycling such as other councils, Cycle Action Auckland, workplaces, schools, health organisations and community groups.

9.7 Neighbourhood Accessibility Plans and Personalised Journey Planning

These two programmes are both in the scoping stage of development for future implementation within North Shore City. Neighbourhood Accessibility Plans (NAPs) aim to improve safety and accessibility for pedestrians and cyclists in a neighbourhood area. The process includes working with local residents and stakeholders to identify safety and access issues and develop solutions. Personalised Journey Planning involves working with individuals and families to assist them to plan more sustainable journeys for their trips. Plans are developed around their individual circumstances and any information provided is tailored to their needs. Where cycling is identified as an option for an individual, personalised journey planning will enable their personal barriers to be addressed.

Actions:

- Continue to support and encourage cycling through the school Travelwise programme
- Continue to support and encourage cycling through workplace travel planning programmes
- Support and encourage cycling through community programmes including the Neighbourhood Accessibility Plan and Personalised Journey Planning programmes
- Develop an annual cycling programme based on local research of barriers and benefits to cycling and using Community Based Social Marketing, community engagement and communications principles
- Investigate new initiatives based on research, and trial, evaluate and integrate into annual cycling programme
- Support groups who wish to encourage cycling


OFFICE

10 Strategy 6: Improve the co-ordination of efforts among cycle groups

Responsibility for implementing the physical works associated with the ***Cycling Strategy*** rests predominantly with the North Shore City Council. The Council also plays a supporting role for other organisations concerned with cyclist safety and with the promotion of cycling. Responsibility for providing a safe environment for cyclists lies principally with Council through the following operations:

- Design and construction of new and improved infrastructure
- Maintenance of infrastructure
- Enforcement of no parking in cycle and transit lanes
- Education and training programmes

The New Zealand Police also play an important role in keeping cyclists safe by enforcement of the rules of the road for motorists and cyclists for all moving offences and public education. Council officers have regular meetings with the NZ Police to raise and discuss issues affecting the operation and safety of the road network. These have been held bi-monthly for many years and are formally known as Police Liaison Group meetings. Included in the agenda for these meetings is a regular item addressing matters of concern affecting cyclists and pedestrians.

Other organisations with involvement or interest in cycling on the North Shore are the Auckland Regional Transport Authority (ARTA), Ministry of Transport (MOT) and Cycle Action Auckland (CAA). These organisations also promote cycling and the safety of cyclists. North Shore City is an active member of the regional walking and cycling group facilitated by ARTA.

North Shore City Council departments most concerned with implementing cycle works, cyclist safety and with the promotion of cycling are:

Infrastructure Services Department (Transport)

- Overall development and implementation of the Strategy
- Planning and programming of cycle work in road corridors and on footpaths
- Identifying and ensuring developers implement required cycle facilities
- Maintenance of cycle facilities
- Cycle education and promotion
- Implementing road infrastructure improvements that benefit cycling
- Maintaining safe cycle facilities

Parks Department

- Planning and implementing infrastructure for cyclists in parks and reserves

Environmental Policy and Planning Department

- Planning and implementing cycle facilities in centre plans, subdivisions and development areas
- Development of Streetscape Plan to provide guidance on design of cycle facilities to integrate with built environment

Environmental Services Department

- Approving land use and subdivision consent applications and advising on development issues

10.1 Cycle Steering Group

Cycling is a function of North Shore City Council that is progressed by many different parts of the organisation. In order to maximise the efficiency and ensure delivery of this ***Cycling Strategy*** there needs to be integration between the different departments involved. In order to maximise the efficiency and ensure delivery of this ***Cycling Strategy,*** it is proposed to establish a Cycle Steering Group led by an officer from Transport Planning and comprising staff members from relevant groups around Council. The Cycle Steering Group will meet regularly to ensure the implementation of the ***Cycling Strategy*** is progressing in a timely manner. This role will include:

- Making regular progress reports to the other departments of Council and relevant external organisations
- Ensuring thorough monitoring and evaluation takes place to demonstrate the effectiveness of the ***Cycling Strategy***.

Actions:

- Establish inter-departmental processes (including a cycle steering group) to ensure integrated implementation
- Review staff resources required to implement the ***Cycling Strategy***

11 Strategy 7: Ensure that where possible adequate resources are available to implement the *Cycling Strategy*

Prioritisation for implementation of the cycle network will be based on:

- ARTA's regional cycle network as well as additions recommended by NSCC
- The safety record of a route
- Other factors such as connectivity, ease of implementation and future demand
- Funding opportunities

11.1 Implementation of the Cycle Networks

The Infrastructure Services Department will facilitate the staged implementation of the City's cycle network by producing and maintaining regular updates of a Cycling Strategy Implementation Plan. The Cycling Strategy Implementation Plan 2009 will be produced on completion of this ***Cycling Strategy*** and will comprise a review of the existing Implementation Plan for the 2003 North Shore City Strategic Cycle Plan.

The Parks Department developed a Recreational Cycling Network Plan (2007) which covers the planning of cycling facilities in Council parks and reserves, and which complements this ***Cycling Strategy***.

Prioritisation for implementation of the cycle network will be based on:

- ARTA's regional cycle network as well as additions recommended by NSCC
- The safety record of a route
- Other factors such as connectivity, ease of implementation and future demand
- Funding opportunities

Some links of the network will be carried out as stand-alone cycle projects or as part of other transport projects. For example, any corridor upgrade or bus lane project to be carried out will include cycle facilities if the road is part of the cycle network.

11.2 Financial Management

The ***Cycling Strategy*** sets out actions to achieve the Council's vision for cycling in the City. Committed funding is required for implementation of these actions. With funding mechanisms in place, NSC can plan and implement the initiatives and can in turn attract more outside funding to support the Council's own efforts.

NSC Funding of the City's Cycle Network

The key financial document setting out funding for the implementation of the ***Cycling Strategy*** is the 15-year City Plan which is reviewed at least every three years. The Council's Annual Plan focuses on the more detailed funding and scheduling needed to implement the City Plan.

The funding allocated to cycling in the City Plan is for stand-alone cycling projects in the City's cycle network where provision is not covered by the Parks Department's projects or by other Infrastructure Services (transport) projects. Where cycling improvements form part of another transport project, such as a road corridor upgrade or public transport network improvement, the funding for implementation of the cycle network is included in the budget for those transport activities.

Cycling improvements often contribute towards a better outcome for all road users as well as add benefits to the transport project. The cycle network can be built in conjunction with improvements to the public transport network. Bus lanes can be shared bus and cycle facilities where appropriate. This gives benefits to both sets of road users and progresses both the cycle and public transport networks at a lower overall cost. For example, shoulder widening treatments not only improve safety and convenience for cyclists but also protect the road

structure from edge damage and improve safety for motorists by providing an additional safety margin for overtaking vehicles or turning vehicles.

The existing Implementation Plan for the 2003 Strategic Cycle Plan will be reviewed following Council's adoption of this ***Cycling Strategy***. It is expected that reviews of the resulting Cycling Strategy Implementation Plan 2009 will be undertaken on an annual basis in conjunction with the City Plan review and the Annual Plan process.

City Funding of Local Cycle Improvements

Funding is available from the Infrastructure Services Department's budget for local cycling improvements which are implemented as part of School Travel Plans and Neighbourhood Accessibility Plans.

Recreational cycle facilities in Parks and Reserves are funded through the Parks Department's budget for recreational cycling. However, where routes through parks provide a safe and practical alternative to the road network for cycling to school or to work, funding for cycle facilities is available through the Infrastructure Services Department.

New Zealand Transport Agency Funding

New Zealand Transport Agency (NZTA) support is available for the development of cycling strategies and for funding the implementation of cycling plans consistent with national and regional transport objectives.

Funding for implementation of the cycle network is available from different activity classes. **Table 11.1** overleaf details the activity classes and their funding assistance rates.

The Government Policy Statement (GPS) is the key statutory document influencing funding decisions and details the outcomes and funding priorities that the NZTA must consider when approving funding applications. In the Auckland region, the Auckland Regional Transport Authority (ARTA) is responsible for evaluating and allocating NZTA funding.

To qualify for NZTA funding assistance, transport projects need to contribute towards the GPS targets – key targets being increasing the number of walking and cycling trips, reducing vehicle kilometres travelled by single occupant vehicles and improving safety for all road users. Cycling projects are more likely to attract funding if they:

- Are identified on the Regional Cycle Network
- Encourage mode shift, particularly on congested roads
- Make cycling a safe, easy and attractive option
- Provide safety benefits for all road users

In order to comply with the GPS, NZTA has established prescriptive processes for assessment of transport projects in terms of the following criteria:

- Seriousness and urgency
- Effectiveness
- Efficiency

All applications to NZTA for financial assistance are rated in accordance with these processes for prioritising in the National Land Transport Programme.

'Seriousness and urgency' has to be demonstrated by way of issues or problems that arise in terms of the Land Transport Management Act 2003 if the project were not to proceed. Cycle projects require a 'high' rating to qualify for financial assistance.

'Effectiveness' is derived from the evaluation of attributes of integration, sustainability, safety, responsiveness, economic development, personal safety and security, access and mobility and public health. Cycle projects require at least a 'medium' rating to qualify for financial assistance.

'Efficiency' is the criterion concerned with the assessment of the economic costs and benefits. The benefit cost ratio is the primary tool used to assess this. For cycle projects, benefits are mainly assessed on the basis of the projected increases in the number of cyclists and improved safety. Benefit cost ratios higher than 1 have been sufficient for cycle projects to qualify for financial assistance.

Note that cycle projects which enhance cycling for recreational purposes only do not attract NZTA funding.

Activity class	Work category	Provides for	Excludes	Funding Assistance Rate
Transport planning	002: Studies and strategies	Cycling studies and strategies		75%
Walking and cycling facilities	452: Cycle facilities	Construction/ implementation of new or improved cycle facilities and shared pedestrian and cycle paths on a cycle network		TA Base rate (43%) + 10%
New and improved infrastructure for local roads	323: New roads	Construction of new road structures as part of construction of a new road additional to existing network	Cycle facilities costing more than $1M – covered under 'walking and cycling facilities"	TA Base rate + 10%
	324: Road reconstruction	Construction of new road structures as part of reconstruction or upgrading of an existing road		TA Base rate + 10%
	341: Minor improvements	Construction of low-cost/ low-risk cycle improvements up to $250,000 for an individual project		TA Base rate + 10%
Maintenance and operation of local roads	122: Traffic services maintenance	Routine care and attention of cycleway markings	Reinstatement caused by maintenance or construction work	TA Base rate
	124: Cycle path maintenance	Operation, maintenance and renewal of the pavement and facilities associated with cycle paths, consistent with ***Cycling Strategy***	Recreational paths New cycle facilities – covered under 'walking and cycling facilities'	TA Base rate
	141: Emergency reinstatement	Restoration of cycle facilities damaged by a natural event		TA Base rate
	151: Network and asset management	Cycle counts		TA Base rate
Renewal of local roads	222: Traffic services renewals	Renewal of existing markings	Reinstatement caused by maintenance or construction work	TA Base rate. Regional funding also available where a local authority has increased its expenditure above a baseline level established by the NZTA
	241: Preventive maintenance	Protect cycle facilities from damage from natural events		As above
Public transport services	511: Bus services	Cycle facilities on buses		50%
	512: Passenger ferry services	Cycle facilities on ferries		50%
	515: Passenger rail services	Cycle facilities on trains		60%
Public transport infrastructure	531: Passenger transport infrastructure	Cycle access to rail stations		60%
Demand management and community programmes	432: Community programmes	Promotion of cycling education and road safety		75%

Table 11.1: Activity classes and NZTA funding assistance available for cycle projects (2008)

In addition to Council-led cycle projects, NZTA is investigating pedestrian and cycle improvements on the State Highway network. Most of these are for pedestrian and cycleways along State Highways 1, 17 and 18 shown on the City's and the regional cycle networks. NZTA's other investigations are for improved pedestrian and cycle access to the Northern Busway stations. These will complement and strengthen both the regional and North Shore City cycle networks. The outcome of these investigations will be the development of an NZTA programme that is both funded and implemented by the NZTA.

Actions:

- Prepare detailed implementation plans on an annual basis
- Seek to commit funding for implementation of the ***Cycling Strategy*** in the reviews of the North Shore City Plan
- Coordinate cycle access to the Northern Busway Stations with NZTA
- Coordinate implementing and funding the regional cycle network with NZTA

12 Implementation Process

This section outlines the strategies and related actions that have been developed to assist with implementing the ***Cycling Strategy***. The Cycling Strategy Implementation Plan 2009 will expand on these actions and identify the relevant projects over a three year period. The Cycling Strategy Implementation plan will be reviewed with the Annual Plan, but will retain at least a three year timeframe to allow for forward planning.

The Transport Department of the Infrastructure Services Division will facilitate the staged implementation of the City's Strategic Cycle Network by regularly updating the Implementation Plan. The Parks Department developed a Recreational Cycling Network Plan in 2007 which covers the planning of cycling facilities in Council's parks and reserves, and which complements this ***Cycling Strategy***.

Prioritisation for implementation of the cycle network will be based on:

- ARTA's regional cycle network as well as additions recommended by NSCC
- The safety record of a route
- Other factors such as connectivity, ease of implementation and future demand

Some links of the network will be carried out as stand-alone cycle projects or as part of other transport projects. For example, any corridor upgrade or bus lane project to be carried out will include cycle facilities if the road is part of the cycle network.

As previously stated, implementing the strategic cycle network is Council's priority. Guidelines for the Cycling Strategy Implementation Plan 2009 are:

- Cycle facilities will generally be implemented as routes rather than individual sections
- Every planned road-widening project will include cycle facilities if it is on the strategic cycle network
- Every planned bus lane project on the strategic cycle network will take cycle facilities into account
- Every road on the strategic cycle network being resurfaced or rehabilitated that is wide enough to install cycle facilities will include for the implementation of these
- Implementation of cycle facilities will include provision for cyclists at intersections and roundabouts
- Routes with a high number of cyclists and/or crashes will receive a higher priority for implementation
- Safety of all road users will be taken into account in all processes from planning to implementation

Table 11.2 summarizes the strategies in this document and actions to be taken. **Table 11.2** also identifies which council division will be responsible for each of the actions. Input and coordination will generally be required from other divisions. The Cycling Strategy Implementation Plan 2009 and the Recreational Cycling Plan 2007 will outline the operational details and timeframes to implement the ***Cycling Strategy***.

Strategy Number	Action	Lead Division
STRATEGY 1: Develop safe, convenient and quality cycle networks and supporting facilities to meet cyclists' needs	Establish a package of changes to the District Plan by which means cycle parking facilities can be made a condition of consent	IS
	Implement safe and convenient cycle access to principal ferry terminals and bus stations	IS
	Provide more cycle parking and/or storage facilities at ferry terminals and bus stations	IS
	Ensure sufficient cycle capacity on ferries	IS
	Seek opportunities for carrying cycles on buses	IS
	Investigate and implement additional cycle parking and handrail facilities	IS
	Assist in development of 'learn to ride' facilities	IS/P
	Investigate viability of proposed routes	IS
	Develop and adopt programme for implementing green cycle networks in conjunction with programmes for developing parks and reserves in each ward	IS/P
	Investigate cycle infrastructure deficiencies on links in the local cycle network	IS
	Develop and adopt programme for implementing planned infrastructure improvements on the local cycle network	IS
	Co-ordinate investigations and implementation with TravelWise and other Travel Plans	IS
	Implement cycle facilities on strategic cycle routes, in particular, those comprising the regional network	IS
STRATEGY 2: Apply best practice cycle design guides to cycle networks and to cycle facilities	Develop a document that interprets guidelines for the various locations where cycle infrastructure may be implemented.	IS
	Implementation of process and practice to ensure that developers and the Council comply with best practice guides when undertaking cycle infrastructure projects.	IS/S&P
	Recommended changes to the District Plan to ensure the implementation of this ***Cycling Strategy*** when triggered by developments under the Resource Management Act (1991)	IS/S&P
	Continue current safety audit process	IS
	Ensure that centre and structure planning includes key urban design principles of activity mix, accessibility and connectivity	IS/S&P
	Ensure that each cycle infrastructure project considers the urban environment in its design	IS/S&P

Strategy Number	Action	Lead Division
STRATEGY 3: Maintain cycle infrastructure to a high standard	Review maintenance procedures to ensure that cycle infrastructure is continuously maintained to a high standard.	IS/P
	Ongoing monitoring and data collection including: • Programmed bicycle traffic counts • Programmed school bike shed counts • Surveys to monitor user satisfaction before and after implementation of major measures to facilitate cycling • Cycle parking surveys • Cycle helmet wearing compliance rates • Bicycle accident data analysis (MOT) • Census 'bicycle journey to work' data	IS
STRATEGY 4: Support education and training programmes that improve cycle safety	Develop a cycle education programme based on local research of barriers and benefits to cycling	IS
	Deliver cycle skills training targeting young people	IS
	Deliver cycle skills training targeting adults	IS
	Co-ordinate with the North Shore Road Safety strategy and road safety programmes targeting motorists and cyclists	IS
STRATEGY 5: Support programmes promoting cycling	Continue to support and encourage cycling through the school Travelwise programme	IS
	Continue to support and encourage cycling through workplace travel planning programmes	IS
	Support and encourage cycling through community programmes including the Neighbourhood Accessibility Plan and Personalised Journey Planning programmes	IS
	Develop an annual cycling programme based on local research of barriers and benefits to cycling and using Community Based Social Marketing, community engagement and communications principles	IS
	Investigate new initiatives based on research, and trial, evaluate and integrate into annual cycling programme	IS
	Support groups who wish to encourage cycling	IS

Strategy Number	Action	Lead Division
STRATEGY 6: Improve the coordination of efforts amongst groups affecting cycling	Establish inter-departmental processes (including a cycle steering group) to ensure integrated implementation	All
	Review staff resources required to implement the ***Cycling Strategy***.	IS
STRATEGY 7: Ensure that where possible, adequate resources are available to implement the ***Cycling Strategy***	Prepare detailed implementation plans on an annual basis	IS
	Seek to commit funding for implementation of the Cycling Strategy in the reviews of the North Shore City Plan	IS
	Coordinate cycle access to the Northern Busway Stations with NZTA	IS
	Coordinate implementing and funding the Regional Cycle Network with NZTA	IS

Table 11.2: Cycle Strategies and Actions, 2009

Note: IS = Infrastructure Services, S&P = Strategy & Policy, ES = Environmental Services, P = Parks

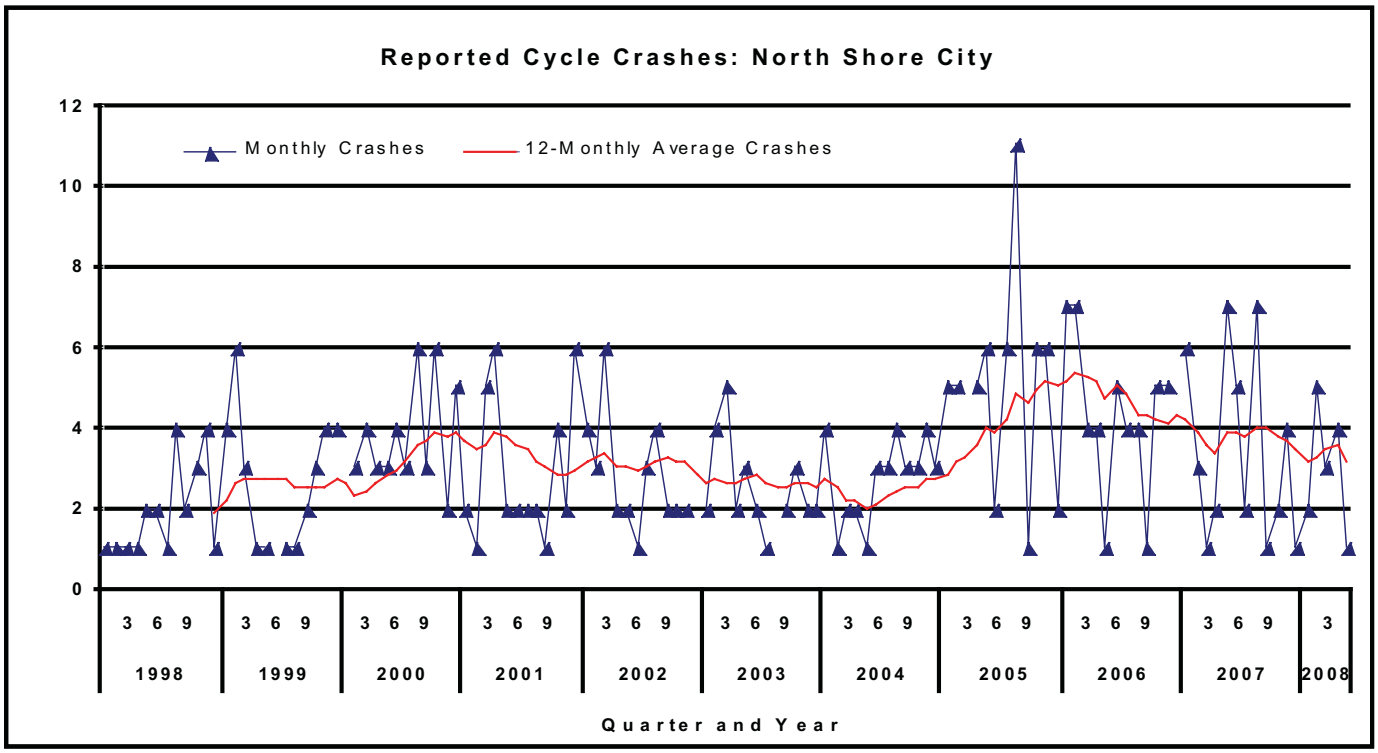
Appendices

A1.1 Cycle Crash Data

One of Council's stated goals in relation to cycling is "to improve safety for cyclists" (see Chapter 3 of this document) Alongside the increase in total cyclist numbers and kilometres of cycle lanes in North Shore City a recent decrease in injuries indicates that North Shore City's commitment to implementing the cycling network is achieving Council's goal to improve cyclist safety.

Recorded Crashes

The Ministry of Transport's Crash Analysis System (CAS) has recorded 204 cycle crashes within North Shore City for the five year period, 2003 to 2007. This compares with 161 for the previous five year period 1998 to 2002. It should be noted that the CAS database only records crashes involving motor vehicles that were attended and reported by police officers. The chart below shows the reported monthly crash numbers since 1998 with the red line showing the 12 month rolling average (number of cycle crashes during the previous 12 months).



Injuries

Cyclist vs vehicle injuries represent nine percent of all injuries in North Shore City; however the percentage of serious injuries to cyclists was twice as high at 18 percent. The 2007 injury count is lower than the previous two years. Cyclist injury numbers are highest for those in the 10 to 14 and 40 to 44 year old age groups. The oldest cyclist injured was 76 years old.

Five year injury record: All Roads in North Shore City

	2003	2004	2005	2006	2007	Total
Fatal						**0**
Serious	5	12	11	11	8	**47**
Minor	14	20	36	28	21	**119**
Non-inj	9	1	8	8	12	**38**
Unknown						**0**
Total	**28**	**33**	**55**	**47**	**41**	**204**

Crash Location Map

For the five year period 2003 to 2008 the locations of recorded cycle crashes are shown on the map below.

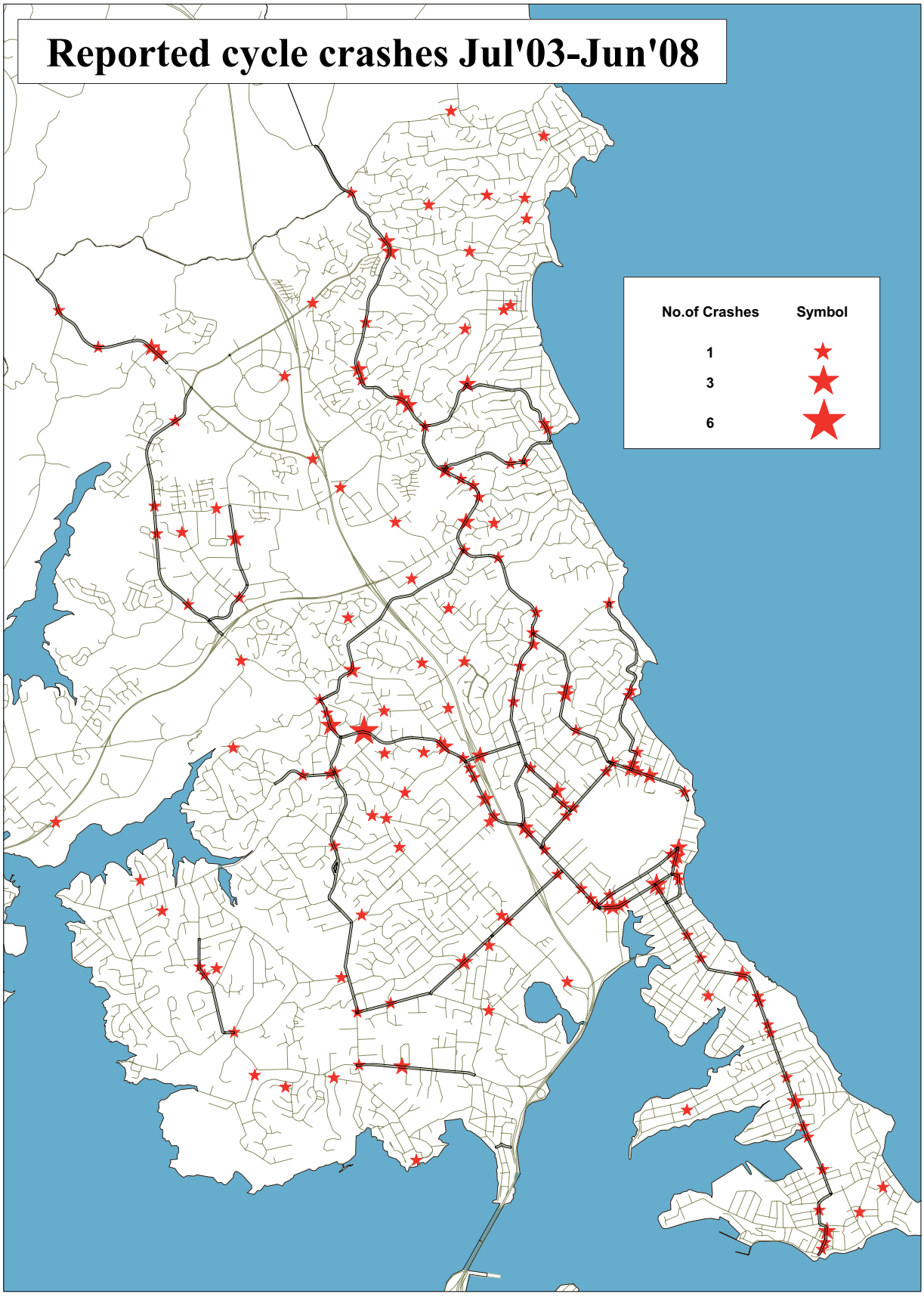


Figure A1: Crash Location Map July 2003 to June 2008

Crash Analysis

Most cycling crashes (72%) occurred on major urban roads; the majority of these (60%) were at intersections and during daylight hours.

Of the 192 reported cyclist vs. vehicle crashes on local roads in North Shore City 2003 to 2008, both injury and non-injury reports:

- The most common type of crash was when a vehicle turning right out of a side road or driveway hits an oncoming cyclist
- 19 percent of cycle crashes were recorded as non-injury
- For all years the worst month was August and the best month was December
- For all years the worst day of the week for crashes was Wednesday, and the day with the fewest crashes was Saturday
- Ten crashes involved riding on the footpath
- 73 percent of cyclists injured were male

This suggests crashes can be reduced by:

1. Promoting driver awareness of cyclists as well as cyclist visibility, particularly frontal visibility (i.e. front lights). This is similar to the issue addressed by the motorcycle road safety advertising campaign 'See Me Save Me'.
2. Making vehicle and cyclist commuters aware that times of the year with lower daylight hours (August) increase the risk of cyclist vs. vehicle crashes, as do times when more commuters are on the road (weekdays).

Continued monitoring of these trends (both in percentages and absolute numbers) is important for targeting effective safety improvements in North Shore City.

State Highways

There were 12 injury and non-injury reported cyclist crashes on State Highways in North Shore City between 2003 and 2008. Further information on these crashes is:

- 30% resulted in serious injuries
- 33% were at intersections
- 17% were at night
- 90% of the 10 cyclists injured were males

Crashes on cycle routes

Individual cycle routes around the city have been assessed and ranked for safety on the basis of the number of cycle crashes per kilometre in the following table.

Rank/Ref	Roads	Network status	km	Crashes	Crashes/ km
1	Anzac Street *whole length*	strategic	1.12	8	7.1
2	Wairau Road-Glenfield Road *Taharoto Road to Sunset Road*	strategic	4.12	23	5.6
3	Kitchener Road - Hurstmere Road *Takapuna to Milford*	strategic	2.55	12	4.7
4	East Coast Road *Greville Road to Constellation Drive*	strategic	2.66	12	4.5
5	Taharoto Road *whole length*	strategic	1.15	4	3.5
6	Victoria Road - Albert Road -Lake Road *Devonport Ferry to Anzac Street*	strategic	6.07	20	3.3
7	SH 17 *Gills Road to Hobson Road*	strategic	1.85	6	3.2
8	East Coast *Oteha Valley Road - Okura River Road*	strategic	0.95	3	3.2
9	Killarney Street *whole length*	strategic	1.38	4	2.9
10	East Coast Road *Sunnynook Road to Milford*	strategic	2.43	7	2.9
11	Forrest Hill Road/Quebec Road/Waterloo Road *route*	strategic	2.82	8	2.8
12	Shakespeare Road *whole length*	strategic	1.51	4	2.6
13	Beach Road/ Milford Road *Aberdeen Road to Milford*	local	2.72	7	2.6
14	Beach Road - Brighton Road *Browns Bay Road to Mairangi Bay*	local	2.71	5	1.8
15	East Coast Road *Oteha Valley Road to Rosedale Road*	strategic	3.48	6	1.7
16	Target Road *Sunset Road to Wairau Road*	strategic	1.77	3	1.7
17	Pupuke Road - Ocean View Road - Northcote Road *Glenfield to Takapuna*	strategic	3.04	5	1.6
18	Bentley Avenue-Diana Drive *whole length*	none	2.09	3	1.4
19	Chivalry Road - Sunnybrae Road *Glenfield Road to Northcote Road*	strategic	3.08	4	1.3
20	Rosedale Road *Albany to Windsor Park*	strategic	1.75	2	1.1
21	Birkdale Road - Mokoia Road *Beach Haven to Highbury*	strategic	4.83	5	1.0
22	Sunset Road *Windsor Park to Glenfield Road*	strategic	3.19	3	0.9
23	Bush Road *Albany Highway to Albany Centre*	strategic	3.21	3	0.9
24	Albany Highway *whole length*	strategic	5.34	4	0.7

Table A1.1: North Shore City Cycle Crash Data

A.2.1 Cycle Counts

Over the past two years Council has established a programme for cycle counting covering 29 sites on the city's arterial roads. For 13 of the counting sites, the count has been arranged by the Auckland Regional Transport Authority (ARTA) in the first two weeks of March as part of their regional cycle counting programme. For the remaining 16 counting sites, counting has been arranged by NSCC on 31st July 2007 and 8th August 2008.

A summary of these counts is shown on the attached table. For comparison purposes this table also shows the cycle counts undertaken at the time that the Strategic Cycle Plan was being developed in October 2002.

It should be noted that the cycle counts have been recorded for slightly different times and time of day, so that in many cases direct comparisons are not possible. They are however indicative of a significant increase in the total numbers of cyclists since October 2002.

		2002			2007		2008	
		Wednesday 23/10/2002 7-9am, 3-6pm	Saturday 19/10/2002 7am-3pm	Sunday 20/10/2002 7am-3pm	Tuesday 13/3/2008 6.30-9am, 4-7pm	Tuesday 31/07/2007 6.30-9am, 4-7pm	Wednesday 5/3/2008 6.30-9am, 4-7pm	Wednesday 6/08/2008 6.30-9am, 4-7pm
	Location				ARTA count	NSCC Count	ARTA count	NSCC Count
1	Lake Road at Takapuna Grammar	189	133	157	192		297	
2	Hurstmere Road -Killarney Street				121		252	
3	Northcote Road -Taharoto Road	161	144	164	162		270	
4	Northcote Road -Akoranga Drive					50		72
5	Akoranga Drive -College Road							47
6	Birkenhead Ave -Onewa Road -Highbury By Pass	41	-	-		28		56
7	Birkenhead Ave -Mokoia Road				40		49	
8	Birkdale Road -Beach Haven Road					10		9
9	Glenfield Road -Pupuke Road					36		47
10	Glenfield Road -Coronation Road	-	41	52	28		75	
11	Glenfield Road -Kaipatiki Road	38	-	-		22		33
12	Glenfield Road Chivalry Road					60		36
13	Glenfield Road -Wairau Road				64		73	
14	Glenfield Road -Sunset Road -Albany Highway					30		59
15	Kaipatiki Road -Stanley Road	-	20	33				
16	East Coast Road -Kitchener Road -Shakespeare Road	108	144	171	137		250	
17	East Coast Road -Forrest Hill Road	32	115	97				
18	East Coast Road -Sunnynook Road					21		98
19	East Coast Road -Sunset Road					86		98
20	East Coast Road -Rosedale Road	91	124	96	76		98	
21	East Coast Road -Oteha Valley Road				59		114	
22	Rosedale Road -Bush Road				31		73	
23	Sunnynook Road -Target Road					17		13
24	Upper Harbour Highway -Caribbean Drive					12		15
25	Greville Road -Tawa Drive					2		10
26	Greville Road -Hugh Green Drive					55		43
27	Beach Road -Anzac Road							24
28	Beach Road -Browns Bay Road				19		45	
29	Beach Road -Park Rise -Aberdeen Road	11	51	47				
30	Albany Highway -Upper Harbour Drive	54	108	168	25		98	
31	Albany Highway -Rosedale Road							69
32	Albany Highway -SH17 -Oteha Valley Road	19	61	67	19		48	

Table A1.2: North Shore City Cycle Survey Counts

At the busiest counting station on Lake Road outside Takapuna Grammar, there has been a 43 % increase over 5.5 years. For the second busiest station at the Northcote Road/ Taharoto Road intersection there has been a 52% increase over the same period.

These increases compare with that measured at the 13 ARTA sites in the one year period between March 2007 and March 2008 (an increase of 79% - from 973 to 1742). It should be noted that the 2007 count was in slightly inclement weather and this is likely to have caused a reduction in those choosing to cycle on that day.

For the NSCC counts at the 13 sites counted both in July 2007 and August 2008 there was an increase of 37% (from 429 to 589).

A.2.2 School Bike Shed Count

School bike shed counts were carried out in March 2007 and March 2008 to monitor the numbers of students cycling to school.

From the 23 secondary, intermediate and composite schools approached, 15 participated in 2007 and 19 in 2008. Of the participating schools only one, Pinehurst School, has policies that restrict students cycling to school. At Pinehurst only students in Year 4 and higher are permitted to cycle to school.

Key points from the 2008 survey:

- Among the surveyed schools, of those eligible to cycle at school, on average, three per cent of students are cycling to their schools (unchanged from 2007).
- As in 2007, Belmont Intermediate School reported the highest share of cyclists – 26 per cent of all eligible students currently cycling (down from 34 per cent in 2007).
- Of the 19 schools that responded, two (11 per cent) had no students cycling to school. This compares with one school (6 per cent) in 2007.
- The tables below illustrate the rates of cycling to school at different school levels. Rates of cycling to school are highest among intermediate schools (5 per cent, down from 7 per cent in 2007) and lowest for composite schools (1 per cent, unchanged from 2007).

School Name	Year Levels	School Roll Eligible To Cycle	Number of Cycles Counted	Cyclists as share of those eligible (2008)	Cyclists as share of those eligible (2007)
Belmont Intermediate School	Intermediate	530	138	26%	34%
Takapuna Normal Intermediate School	Secondary	644	102	16%	-
Albany Junior High School	Intermediate/ Secondary	1145	76	7%	4%
Wairau Intermediate School	Intermediate	310	22	7%	4%
Takapuna Grammar School	Secondary	1650	105	6%	8%
Rosmini College	Intermediate/ Secondary	960	37	4%	3%
Northcote Intermediate	Intermediate	194	6	3%	2%
Murrays Bay Intermediate	Intermediate	819	20	2%	5%
Glenfield Intermediate	Intermediate	521	10	2%	4%
Long Bay College	Secondary	1600	9	1%	-
Pinehurst School	Composite	736	6	1%	1%
Birkdale Intermediate	Intermediate	460	5	1%	2%
Rangitoto College	Secondary	3032	14	<1%	1%
Westlake Boys High School	Secondary	2147	5	<1%	2%
Birkenhead College	Secondary	915	4	<1%	-
Westlake Girls High School	Secondary	2150	3	<1%	<1%
Carmel College	Intermediate/ Secondary	945	2	<1%	0%
Hato Petera College	Secondary	135	0	0%	-
Northcross Intermediate	Intermediate	1120	0	0%	5%
Average per school		**1053**	**30**	**3%**	**3%**

Table A1.3: School Bike Count Summary 2007-2008 (n)

A3.1 Consultation Methodology

The draft ***Cycling Strategy*** was posted on Council's web site from 16th February 2009 to 16th March 2009 together with a consultation questionnaire (attached at page 71) inviting comments.

Copies of the document along with posters and the consultation questionnaire were located at all North Shore public libraries and advertisements were placed in the North Shore Times Advertiser and the Devonport Flagstaff to inform the public that the draft ***Cycling Strategy*** was available for consultation and inviting responses.

At the Bike to Work day on 18th February a large display board was set up outside the Council offices advertising the draft ***Cycling Strategy*** and council officers were on hand to answer questions.

In addition, the following groups were identified as having a possible interest or involvement in cycling and were directly contacted and invited to participate in the consultation process:

Automobile Association	Living Streets / Walk Auckland
Accident Compensation Commission	Ministry of Health
Auckland Regional Transport Authority	North Shore City Community Boards
Auckland Regional Public Health Service	North Shore City Schools
Auckland Primary Schools Principals Assoc	North Harbour Secondary Schools Principals' Association
Board of Trustees Association (schools)	NZ Navy
Bus service providers (NZ Bus, Ritchies, Birkenhead)	NZ Police
Business Associations	NZ Recreation Association
CCS Disability Action	NZ Transport Agency
Community Coordinators	Other TLAs in the Auckland region (Auckland, Rodney, Waitakere, Papakura, Manukau and Franklin)
Cycle Action Auckland (CAA)	Residents Associations
Cycle Lanes Action Review Association (CLARA)	Safe Kids
Department of Conservation (DOC)	Shore Safe
Fullers Ferries	Sports and Recreation New Zealand (SPARC)
Harbour Sport (including walking & running groups)	Waitemata District Health Board
Heavy Hauliers Association	Workplace Travel Plan Companies
Iwi groups	YMCA

Table 1: Interested Parties

These groups received an additional follow up email to remind them of the imminent closure of the consultation period and again invite their response.

Reports and a presentation on the ***Cycling Strategy*** were prepared for all North Shore community boards.

A 3.2 Demographics

Submission Type

A total of 124 submissions were received. Of these, 110 submissions were from individuals and 14 were from organisations.

Submissions were received from the following separately notified organisations:

- Accident Compensation Commission

- Auckland Regional Transport Authority
- Auckland Regional Public Health Service
- Cycle Action Auckland (CAA)
- Cycle Lanes Action Review Association (CLARA)
- Devonport Community Board
- NZ Transport Agency
- Auckland City Council
- Takapuna Business Association

Age and Gender of Respondents

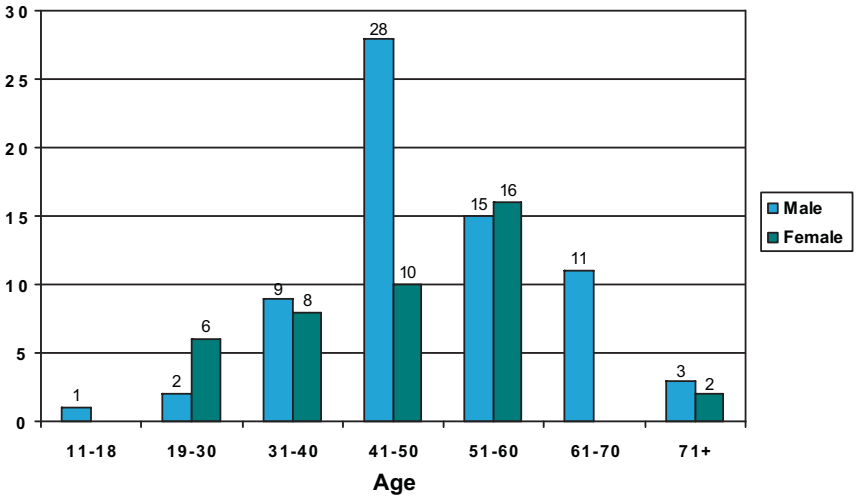


Figure 1: Responses by age and gender

The total number of respondents is 77 male (62%) and 45 female (36%) with a single couple and an anonymous response making up the additional 2%.

The largest age groups for responses are the 41-50 group and the 51-60 group, which make up around 56% of the total responses.

Location of Respondents

Of the 124 submissions, information on locality was provided in 114 responses. Around 94% of these respondents are from North Shore City, with 6% from elsewhere in Auckland.

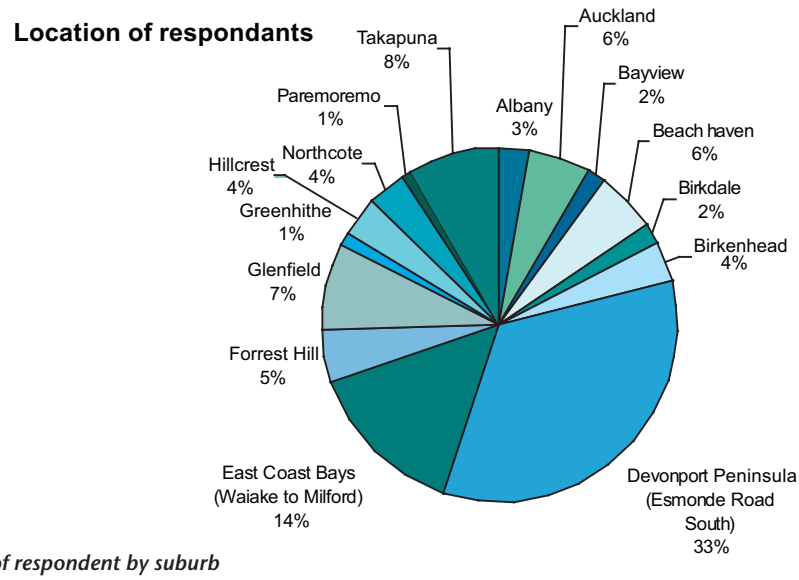


Figure 2: Location of respondent by suburb

Cycling Statistics

The questionnaire contained requests for information on cycling habits. Of those who responded to this question (109 submitters or 89%), around 64% had ridden a bicycle within the last week, with 45% cycling daily.

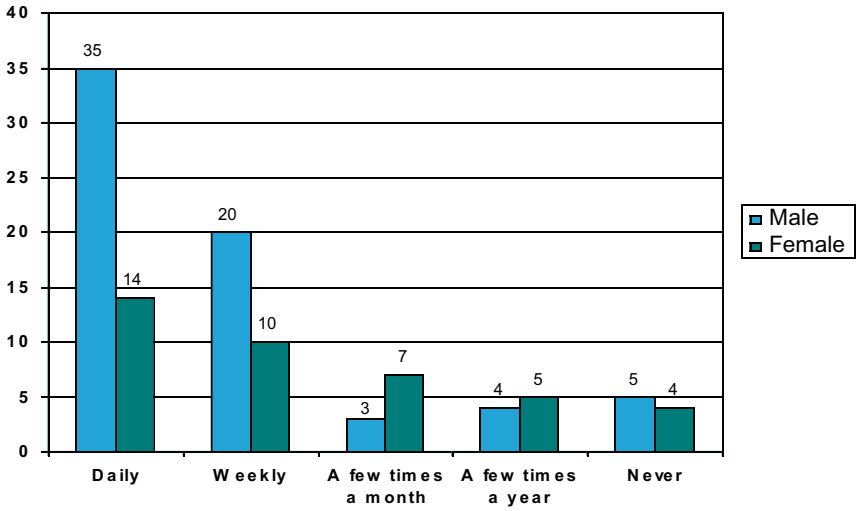


Figure 3: Cyclists by gender

Breaking down the 45% of respondents who cycle daily, around 41% are in the 41 - 50 year age group, with 22% in the 51 - 60 age group and 18% in the 31 - 40 age group.

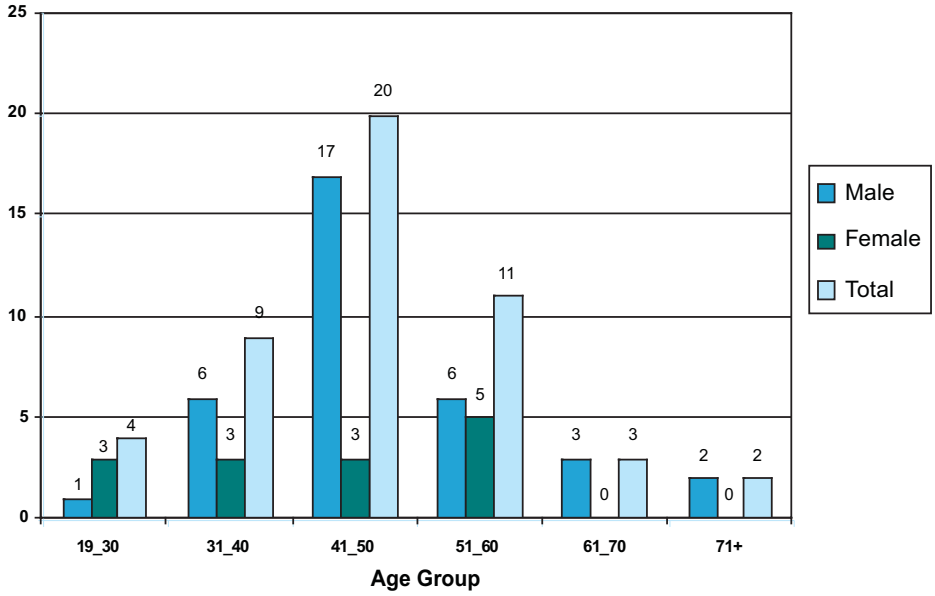


Figure 4: Age of respondents who cycle daily

The respondents were also asked to indicate the reason why they cycle. The majority (around 60%) indicated they cycle for a variety of reasons. The most popular reasons for cycling were commuting, recreation and exercise.

Reason for Riding	% of responses
Commuting	45
Exercise	64
Recreation	54
School	2
Errands	13
Other	1
No Response	21

Table 2: Reasons for cycling

A 3.3 Content of Submissions

The comments in the submissions have been organised into three groups. The first group is the responses to the three specific questions asked. The results of these questions are outlined in the table below.

Question	Yes	No	Not Answered or Unsure
Do the vision statement and goals reflect your vision and goals for cycling in North Shore City?	72%	27%	1%
Are the seven strategies appropriate to achieve the vision and goals?	69%	23%	21%
Are the actions listed in the ***Cycling Strategy*** appropriate to achieve the vision and goals?	57%	29%	14%

Table 3: Responses to key questions

The second group of submissions are the minor changes suggested to improve the accuracy and clarity of the document. These changes do not amend the meaning of any part of the document.

The third group of submissions are the general and specific issues raised by the public about the content of the Cycling Strategy and other aspects of cycling on the North Shore.

The issues raised in each submission were noted and grouped into common themes. These themes, the number of times they were raised, and the response to each are as follows:

Response Key:

CS = The ***Cycling Strategy*** will be reviewed and amended where necessary to address this issue.

IP = This issue will be addressed in the Implementation Plan or other Council processes

NR = No change or action required

Outcomes sought by submitters	No.	Key	Reason
Stronger goals and targets	16	NR	Guidance for targets come primarily from the regional and national level. As the Regional Land Transport Strategy is currently under review, there are no relevant targets to base the North Shore standard on. These will be revisited on completion of the regional review.
Stronger focus on improving safety	14	CS	Safety is currently accorded the highest priority when considering cyclists and cycle facilities. The ***Cycling Strategy*** has been amended to give stronger emphasis to additional tools that can be implemented to make cycling safer around the city.
Commitment to installation of Harbour Bridge cycleway.	13	NR	The Harbour bridge issue was addressed in February 2009 by Council's Infrastructure and Environment Committee who resolved that ***'no further investigations be pursued on this project pending progress on planning for and implementing the third Waitemata Harbour crossing'.***
Better driver education for motorists encountering cyclists.	13	CS	Driver education is included as part of the North Shore City Safety Strategy. The ***Cycling Strategy*** has been amended to include an action relating to programmes targeting motorists.
Stop wasting money on this strategy and cycle facilities	11	NR	North Shore City has a responsibility as a local authority to provide for alternative forms of transport. The ***Cycling Strategy*** and the implementation plan that will follow it, gives effect to this responsibility.
Install more cycle lanes	10	IP	Comments referred to the development of the Cycling Strategy Implementation Plan.
Increase expenditure on facilities for cyclists	8	IP	Comments referred to the development of the Cycling Strategy Implementation Plan.

Give priority to providing off-road cycle lanes	7	NR	The existing approach to the provision of cycle lanes prioritises off road lanes over on road lanes. This is not always practicable for safety and financial reasons, and does not suit all cyclists and road users.
Improve the standard of maintenance of cycle lanes	7	IP	Negotiation with the contractor who holds the asset management contract will be undertaken at the next contract review. Comments referred to the development of the Cycling Strategy Implementation Plan.
Improve publicity and encouragement for cycling	6	CS	The strategy has been amended to include additional and revised actions for promotion of cycling.
Give more consideration to other (non cycling) road users	6	NR	Due to its nature and intent, the ***Cycling Strategy*** is focused primarily on cycling. All other modes are given consideration during the planning for specific sections of cycling infrastructure. The North Shore City Transport Strategy will be reviewed later in 2009.
Discourage children from cycling (because it is unsafe)	6	NR	The strategy currently encourages children to ride in safe environments, and provides them with tools to keep themselves safe (Kids Bike Day, skills training etc)
Remove the Lake Road cycle lanes.	5	NR	The Lake Road cycle lanes are existing infrastructure and are not part of the review of the goals and vision for cycling on the North Shore.
Stop providing cycle lanes that cause increased traffic congestion.	4	NR	The information provided in chapter 6 of the ***Cycling Strategy*** outlines a new approach to the design and type of cycle lanes.
Provide more support for travel plans	3	CS	The ***Cycling Strategy*** has been amended to contain a revised action for school and workplace travel plans.
Make better use of latest technology for improving cycle facilities	3	NR	The information provided in chapter 6 of the ***Cycling Strategy*** outlines the standards and guidelines to be used in the design and type of cycle lanes. This section encourages best practise and is not restricted to the documents mentioned.
Retain the Lake Road cycle lanes.	2	NR	The Lake Road cycle lanes are existing infrastructure and are not part of the review of the goals and vision for cycling on the North Shore.
Legislate requirements for cyclists to be registered	2	NR	This issue is beyond the scope of the ***Cycling Strategy***.
Stop retaining on-street parking where this carriageway space should be used to provide cycle lanes	2	NR	Parking needs are currently considered case by case during implementation.
Extend the existing cycle lanes in East Coast Road	2	IP	Comments referred to the development of the Cycling Strategy Implementation Plan.
Stop directing cyclists to share road space with pedestrians	2	NR	Share with care cycle and pedestrian paths are a tool used where appropriate to provide a safe environment for beginner cyclists who are uncertain about using the roadway. Share with care paths are only used where there is no room or budget for a separate facility.
Improve and extend cyclist education programmes	2	CS	The ***Cycling Strategy*** has been amended to include new or revised actions on cyclist education.

Install bike racks on buses.	2	NR	North Shore City are liaising with ARTA to investigate the possibility of bike racks on buses.
Use Traffic Demand Management principles and traffic calming to improve safety for cyclists.	2	CS	The ***Cycling Strategy*** has been amended to include additional reference to traffic demand management principles and traffic calming devices.
Provide stronger support for the recreational cycling network	1	NR	No action required.
Provide more "share with care" cycle facilities	1	IP	Share with care cycle and pedestrian paths are a tool used where appropriate to provide a safe environment for beginner and cyclists who are uncertain about using the roadway. Share with care paths are only used where there is no room or budget for a separate facility.
Provide traffic signal detectors that can detect cyclists	1	NR	The has been amended to note this point.
Protect existing on-road parking from being removed for cycle lanes	1	IP	Parking needs are currently considered case by case during implementation.
Give priority to providing on-road cycle lanes	1	NR	The existing approach to the provision of cycle lanes provides on road lanes where appropriate. This is, however, not always financially possible and does not suit all cyclists and road users.
Provide more cycle rails at signalised intersections	1	IP	Comments referred to the development of the Cycling Strategy Implementation Plan.
Stop using cyclist jargon	1	NR	No action required.
Integrate cycle facilities with public transport.	1	IP	Comments referred to the development of the Cycling Strategy Implementation Plan.
Ensure that Council's chairperson for the committee involved with making decisions on cycling strategy and projects is impartial.	1	NR	No action required.
Provide support for the Green Bike scheme	1	IP	Comments referred to the development of the Cycling Strategy Implementation Plan.
Recognise cycling as a means of sustainable transport	1	NR	Cycling is recognised as a sustainable form of transport, and this provides the basis for the strategy itself, and the funding applied to its implementation.
Provide better accident monitoring.	1	IP	Comments referred to the development of the Cycling Strategy Implementation Plan.

Draft Cycling Strategy 2009 Consultation

North Shore City Council
Infrastructure Services
Private Bag 93500
Takapuna
North Shore City 0740

FreePost Authority 92786

Free

NORTH SHORE CITY
www.northshorecity.govt.nz

Infrastructure Services

Cycling Consultation

Dear Resident,

The draft Cycling Strategy 2009 outlines Council's strategic aims to support health, environmental, recreational, and transport benefits of people riding bicycles.

This strategy updates North Shore City's Strategic Cycle Plan 2003. Feedback may be submitted until March 16, 2009.

The vision for Cycling on the North Shore remains:

"To provide a safe, convenient and enjoyable cycling environment that meets the needs of cyclists and encourages cycling as a mode of transport and as a means of recreation."

The vision is supported by five goals which reflect national and regional transportation and community objectives. The goals remain:

- Increase the number of people cycling
- Increase the number of students cycling to school
- Improve safety for cyclists
- Improve convenience for cyclists
- Improve enjoyment in cycling

The draft Cycling Strategy 2009 describes seven strategies and lidentifies a series of actions to be taken to achieve the goals. We need your feedback to ensure that the Cycling Strategy meets the needs of North Shore City citizens.

Print copies of the Cycling Strategy are available at North Shore City's libraries. To read the document and submit your feedback electronically, please visit www.northshorecity.govt.nz.

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Draft Cycling Strategy 2009 Consultation

North Shore City Council
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Relevant Policy and Strategy Documents

National Context:	
• Land Transport Management Act (2003)	The Land Transport Management Act 2003 (LTMA) provided a new framework for transport policy that deliberately moved away from a focus on roads to a more holistic approach, which considers other modes of transport, as well as the broader issues of society, the environment and the economy. The purpose of the LTMA is ***"to contribute to the aim of achieving an affordable, integrated, safe, responsive and sustainable land transport system"***. Cycling strongly aligns with these outcomes. From 2008 the LTMA requires the government to release a Government Policy Statement every three years to give strategic guidance to the transport sector, including funding allocations A 2008 amendment of the Act established the New Zealand Transport Authority - a merger of Land Transport New Zealand and Transit New Zealand. The amendment also required the full allocation of fuel excise duty to the land transport fund and changed the way that it is set to provide more funding certainty. The amendment also required the full allocation of fuel excise duty to the land transport fund and changed the way that it is set to provide more funding certainty. It also extended the planning horizon to 30 years to reflect the long term nature of transport infrastructure, lengthened the land transport planning and funding cycle to three years and regional land transport strategies to a six year review period.
• New Zealand Energy Strategy to 2050 (2007) Ministry for Economic Development	The New Zealand Energy Strategy (NZES) was released in 2007. The vision of the strategy is ***"a reliable and resilient system delivering New Zealand sustainable, low emissions energy services"***. The transport sector is targeted as it is responsible for approximately half of the country's energy use and the rate of greenhouse gas emissions from transport is growing unsustainably.
• The National Energy Efficiency and Conservation Strategy (2007) Ministry for Economic Development	The second New Zealand Efficiency and Conservation Strategy was adopted in October 2007. The Strategy sets the agenda for government programmes to promote greater energy efficiency and renewable energy across the economy. A transport objective is ***"to reduce the overall energy use and greenhouse gas emissions from New Zealand's transport system"***. Actions include: • Reducing vehicle kilometres travelled • Increasing the use of more energy-efficient modes, including walking and cycling • Behaviour change programmes to support more sustainable travel patterns

• Local Government Act (2002)	The Local Government Act 2002 outlines what needs to be included within Long-Term Council Community Plans (LTCCPs). LTCCPs provide a broad overview of what a community wishes to achieve within a 10 year time-frame and how councils intend to respond to and achieve these outcomes. The Council named the LTCCP the North Shore City Plan (see below).
• New Zealand Transport Strategy (2008) Ministry of Transport	The updated New Zealand Transport Strategy 2008 (NZTS) sets out the issues facing the transport sector and provides greater direction in order to meet government targets in the areas of sustainability, economic development, energy and climate change. The NZTS recognises and supports cycling as an alternative and viable means of transport which contributes towards health and sustainability targets. Reflecting the LTMA, the NZTS vision is: ***"By 2010, New Zealand will have an affordable, integrated, safe, responsive and sustainable transport system".***
• National Walking and Cycling Strategy: Getting there – on foot, by cycle (2005) • National Walking & Cycling Strategy Implementation Plan (2006-2009) Ministry of Transport	This national walking and cycling strategy sets out to encourage more people to cycle more often as part of their routine travel behaviour. 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 choose to walk and cycle for transport and enjoyment – helping to ensure a healthier population, more lively and connected communities, and a more affordable, integrated, safe, responsive and sustainable transport system"***. The Strategy has three primary goals: • Community environments and transport systems that support walking and cycling • More people choosing to walk and cycle more often • Improved safety for pedestrians and cyclists Getting there highlights the need to consider from the policy and planning stages through to implementation. The stratgey guides the allocation of government funding into cycling initiatives. Amongst the six key principles are that providing a transport system that works for pedestrians and cyclists means catering for diversity and that the potential benefits of walking and cycling can make a critical difference in urban areas in particular. The Strategy is given effect to through the National Walking & Cycling Strategy Implementation Plan (2006-2009)
• Road Safety to 2010 Strategy (2003) Land Transport New Zealand (See New Zealand Transport Authority or NZTA)	This is a national strategy which aims to reduce road casualties to no more than 300 deaths and 4,500 hospitalisations a year by 2010 through engineering, education and enforcement actions. Improving safety for cyclists is considered a key priority area for action. This will involve developing guides and guidelines for road network design, reduction of vehicle speeds, driver education and the development of road safety programmes such as ***Safer Routes***. As an update to this Strategy, the Road Safety 2020 document is currently being developed.

• New Zealand Health Strategy (2000) Ministry of Health	The New Zealand Health Strategy 2000 provides the framework within which the District Health Boards and other organisations across the health sector will operate. There are 13 population health objectives for action in the short to medium term, including reducing obesity and increasing the level of physical activity. The promotion of cycling and walking as transport options can help to achieve both objectives.
• New Zealand Positive Ageing Strategy (2001) Office for Senior Citizens, Ministry of Social Development	The aim of the Positive Ageing Strategy is to improve opportunities for older people to participate in the community in the ways that they choose. Effective positive ageing policies will: • Empower older people to make choices that enable them to live a satisfying life and lead a healthy lifestyle • Provide opportunities for older people to participate in and contribute to family, Whanau and community • Ensure older people, in both rural and urban areas, live with confidence in a secure environment and receive the services they need to do so Part of the strategy involves providing opportunities for older people to take part in physical activity, including walking and cycling, and improving accessibility to services, which these modes may contribute towards.
• Transit New Zealand's Planning Policy Manual (2007) Transit New Zealand (See NZTA)	Transit New Zealand has established national policies for managing planning and development along state highways. The Transit Planning Policy Manual (TPPM) 2007 recognises that different roading systems require varying degrees of provision for cycling and walking. These provisions allow for good quality, safe and accessible cycling and walking facilities. The TPPM provides for this "context sensitive management" approach by first dividing New Zealand's roading network into national and regional highways and then assigning different subgroups to each. Through this process, Transit New Zealand is able to apply different types of cycling and walking provisions for different situations based on the locality and purpose of a highway.
• Pedestrian and Cyclist Road Safety Framework (2006) Ministry of Transport	Released in 2006 this framework outlines a comprehensive approach for effectively reducing risks to, and improving safety for, pedestrians and cyclists. The framework incorporates Land Transport New Zealand's ***Safer Routes and Walking and Cycling Standards and Guidelines*** programmes.
• Safer Routes programme (2003) Land Transport New Zealand (See NZTA)	The Safer Routes programme began in 2003. It builds on the earlier Safe Routes to School Programme. Safer Routes aims to help councils identify risks to pedestrians and cyclists in communities where they are shown to be at higher risk of injury and to implement a mix of engineering, education and enforcement solutions to improve safety outcomes.
• Walking and Cycling Standards and Guidelines (2003) Land Transport New Zealand (See NZTA)	The Walking and Cycling Standards and Guidelines programme started in 2003 to provide a series of guidance documents for walking and cycling. One guidance document is the Cycle Network and Route Planning Guide (2004), which aims to promote a consistent best practice approach to cycle network and route planning throughout New Zealand. It sets out a process for deciding what cycling provision, if any, is desirable and where it is needed.
• Crime Prevention through Environmental Design (2005) Ministry of Justice	Crime Prevention through Environmental Design is a partnership between the New Zealand Police and Ministry of Justice. This strategy adopts the internationally recognised principle that creating safer and more usable town centres, public spaces, and streets helps to prevent crime. Personal security issues for pedestrians and cyclists are identified and addressed in broader strategies to reduce crime in communities.

• Urban Design Protocol (2005) Ministry for the Environment	The Urban Design Protocol is a voluntary commitment by central and local government, property developers, educational institutes and other groups to create quality urban design. Launched in 2005, the Protocol places a high priority on walking and cycling. It treats streets as positive spaces which provide opportunities for social interaction and physical activity. North Shore City Council is a signatory.
Regional Context:	
• Auckland Regional Growth Strategy: 2050 (1999) Auckland Regional Council	Councils adopted the Auckland Regional Growth Strategy in 1999 to ensure careful planning for and management of projected growth in the Auckland region. The strategy establishes a 50-year vision for Auckland's development by integrating transport and land use planning. There is emphasis on accommodating population and employment growth in and around existing town centres and along key transport corridors. Providing for and encouraging cycling plays a key role in intensification of these areas and in revitalising urban centres as places to live, work and play. The strategy is prepared by the Regional Growth Forum, a partnership between regional council and local authorities, and is currently under review.
• Auckland Sustainability Framework (2007) Auckland Regional Council	The Regional Growth Forum endorsed the Auckland Sustainability Framework in 2007. The Framework represents a shared view of what is needed to make the region truly sustainable. It provides a common purpose and direction for local and central government in the form of a 100-year vision, eight long-term goals, and eight shifts in the way we think and do things. Two shifts in thinking that have relevance to cycling are: • Reduce our ecological footprint • Build a carbon neutral future A transport-related goal is to create high-quality and compact urban environments. This entails increasing travel choices and prioritising walking, cycling and public transport over cars.
• Auckland Transport Plan (2007) Auckland Regional Transport Authority	ARTA's Auckland Transport Plan 2007 outlines all the major transport projects and activities to be funded in the region over the next 10 years. It translates the vision and objectives of the ARLTS into strategic outcomes on an area or corridor basis. The Auckland Transport Plan 2007 identifies key issues for the North as being congestion during peak periods and a lack of transport choices. One of seven strategic focuses for North Shore City is supporting development at key growth centres. This focus supports walking, cycling and public transport improvements in Takapuna and Albany in particular.

• Auckland Regional Land Transport Strategy (2005) Auckland Regional Council	The Auckland Regional Land Transport Strategy (ARLTS) 2005 provides the regional framework for transport planning in Auckland. The Auckland Regional Council prepares the ARLTS with input from the seven territorial local authorities. A review of the ARLTS is currrently underway and is due by 2010. The ARLTS recognises cycling as a valid and important mode of transport. Promotion of cycling contributes towards the ARLTS objectives of: • Assisting economic development • Assisting safety and personal security • Improving access and mobility • Protecting and promoting public health • Ensuring environmental sustainability • Supporting the Auckland Regional Growth Strategy • Achieving economic efficiency
• Auckland Regional Physical Activity and Sport Strategy 2005-2010 (2003) SPARC (Sports and Recreation NZ)	This strategy focuses on the importance of sport and physical activity with the aim of addressing the declining levels of physical activity in the Auckland region. It calls on key organisations to work collaboratively across the region to provide better quality opportunities for people to participate in sport and physical activity. The vision it sets out is: ***"Auckland is a region where physical activity through exercise, sport, active transport (such as walking and cycling) or active recreation, is a way of life."***
• Sustainable Transport Plan 2006-2016 (2007) Auckland Regional Transport Authority	The Auckland Regional Transport Authority's (ARTA) Sustainable Transport Plan was released in 2007 and details a 10-year programme for delivering the sustainable transport component of the ARLTS. • An aim is to double the number of cycle trips by the year 2016. Actions to achieve this include: • Implementation of the regional cycle network - a target is to complete half of the network by 2016 • Promotion of cycle-friendly policies and quality facilities at destinations • Integration of cycling with public transport through cycle parking and storage facilities
• Regional Cycling Monitoring Plan (2007) Auckland Regional Transport Authority	ARTA has overseen the development of the Regional Cycling Monitoring Plan to ensure a consistent approach to monitoring of cycling across the region. This plan proposes how ARTA and the TLAs across the region can - 1. Align manual cycle count methodologies to one system, increasing regional comparability 2. Deploy permanent cycle monitoring equipment, to collect annual trends in cycle use 3. Use temporary automatic cycle monitoring equipment to monitor specific infrastructure upgrades, as part of the development of the Regional Cycle Network 4. Organise the collection and reporting of other related cycle monitoring data in a regionally consistent way.
• Draft Regional Road Safety Plan 2008-2012 Roadsafe Auckland (ARC)	The Auckland Regional Road Safety Plan (RRSP) articulates at a regional level the government's Road Safety to 2010 Strategy. The RRSP identifies the key road safety issues facing the region as being: drink-driving; speed; pedestrian and cyclist safety; intersection crashes; and, at-risk communities. It sets the vision, goals, strategies and performance measures for the region against each of the road safety issues.

• Auckland Regional Arterial Road Plan (2009) Auckland Regional Transport Authority	The Auckland Regional Arterial Road Plan determines funding priorities for regional arterial roads. The Plan supports cycle lanes in appropriate locations and states that the safety and interests of cyclists must be considered on all regional arterial improvement schemes.

Local Context:	
• North Shore City District Plan (2002)	The District Plan outlines the rules governing land use activities. It is a statutory document that became operative in June 2002. The policy for cycling and walking is to: ***"provide for cycling and walking in a safe and convenient manner through the comprehensive provision of cycleways and walkways in structure, neighbourhood units and subdivision plan areas and by providing cycleways in established areas."***
• Strategic Plan (2001) North Shore City	The Strategic Plan was published in 2001. One of the outcomes sought by the community is ***"ease of movement"*** which involves provision of safe, connected and accessible cycle ways and facilities. The Strategic Plan has largely been superseded by the City Plan.
• North Shore City Plan 2009-2024	The North Shore City Plan is the Council's LTCCP and represents a 15 year strategic plan. There are a number of community outcomes which are relevant to cycling, including: • Natural Environment – ***"Our natural environment is protected, enhanced and promoted".*** • Transport – ***"Our transport systems are safe, reliable, efficient and environmentally friendly".*** • Built Environment – ***"Our built environment is of a high quality".*** • Personal Safety and Crime – ***"People feel safe and secure in their everyday lives".*** • Community Services and Facilities – ***"Our services and facilities meet the needs of our community".*** • Physical Activity, Sport and Personal Health – ***"Our people have the opportunity to be active, fit and healthy"***. • Business and Economy – ***"Our economic environment is visionary, vibrant and sustainable"***.
• North Shore City Blueprint (2001)	The City Blueprint is the Council's response to the Regional Growth Strategy. It sets out the future form and structure of the city over the next 20 years and provides a framework for achieving desired growth outcomes. The City Blueprint proposes a "balanced transport system allowing choice of transport modes". Two of the five key aims relate to making it easier for people to cycle in the City. Actions to facilitate cycling include: • Extending the existing cycle network • Developing a strategic cycle network to support commuting and recreational cycling such as routes which integrate with ferry terminals and bus stations • Introducing cycle parking standards for major commercial developments

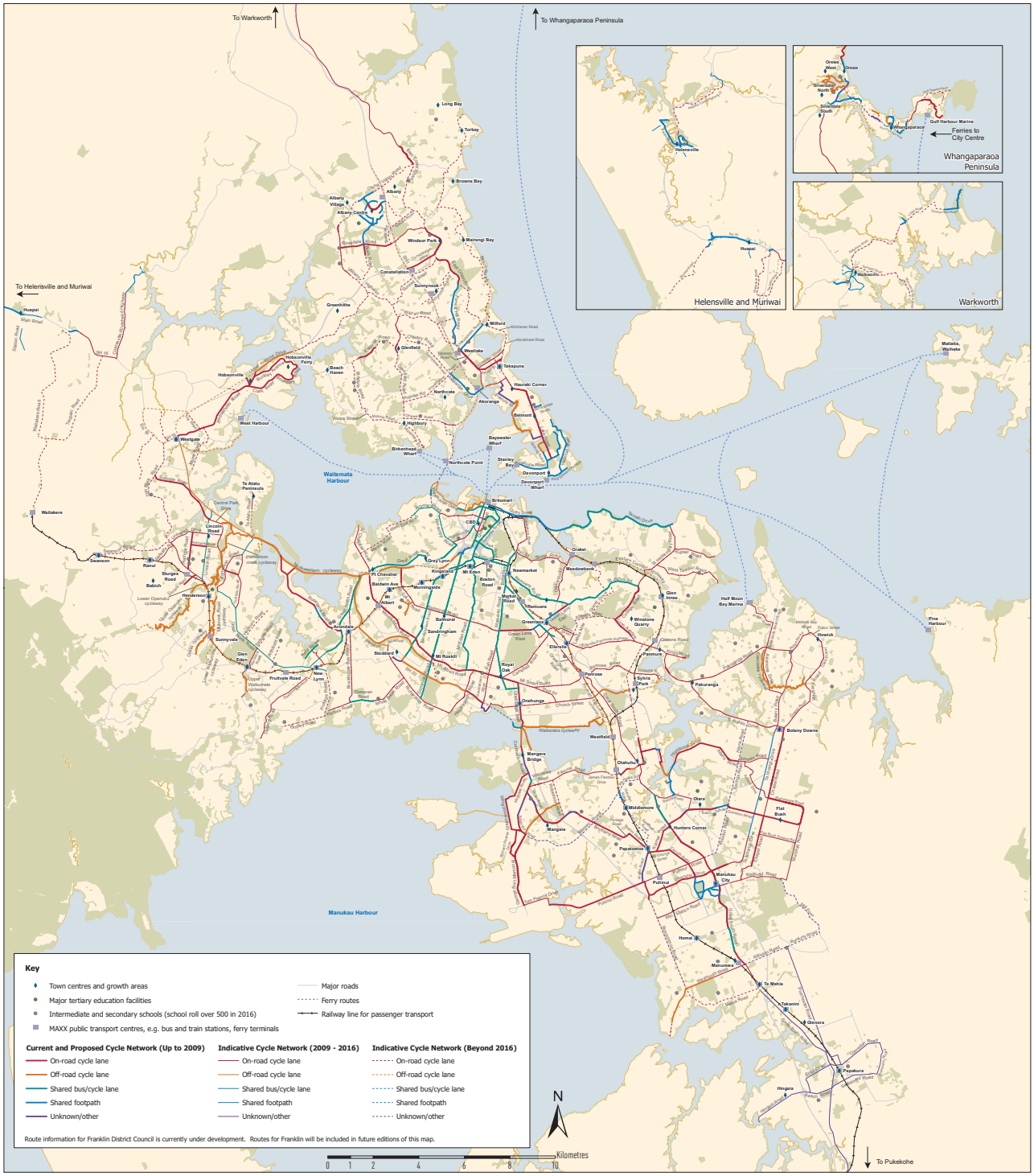
• North Shore City Transport Strategy (2006) • North Shore City Transport Strategy Implementation Plan (2007)	The vision and objectives of the Transport Strategy 2006 reflect the tenets of the national and regional transport strategies. The vision of the strategy is to: ***"provide and support an integrated, safe, responsive and sustainable transport system that meets the needs of the North Shore community, enhances city development and minimises adverse social and environmental impacts"***. Key outcomes are to increase walking, cycling and the use of public transport in the City, and to enhance the ability to walk and cycle safely, as well as the health and fitness of its residents. The Transport Strategy notes that there is a lack of marked cycle facilities on busy roads; cycle networks are not well-connected and cyclist safety is compromised by the limited extent of cycle facilities and intersection safety measures. Actions to increase use of cycling included provisions of convenient and safe cycling facilities and compensation of the planned cycle network. Community consultation identified that people want cycle ways that are accessible and safe for all users. The cycling issues identified in the Transport Strategy are: • Lack of marked cycle facilities on busy roads • Few dedicated or joint off-road cycle paths • Cycle networks not connected • Need for more cycle racks and cyclist handrails • Lack of cycle access across the Harbour bridge The Transport Strategy is given effect through the North Shore City Transport Strategy Implementation Plan. The implementation of the Transport Strategy is expected to: • Promote efficient use of road space • Create centres and transport corridors that are attractive and safe for all users • Allow for, and encourage, transport choices
• North Shore City Road Safety Strategy (2006)	Adopted in 2006, this strategy was developed as North Shore City's response to national road safety targets to reduce the number and severity of crashes. The vision is: ***"A transport system that is safe for all modes of travel and where people are less likely to be injured or killed".*** The Strategy identifies key safety issues for cyclists in the City and outlines interventions to address these issues.
• North Shore City Parks Strategy (2007)	The Parks Strategy, adopted in 2007, is an update of the Open Space Strategy 2000. It sets the vision and framework for the provision and management of Council-owned parks and establishes a clear sense of direction for resource allocation and action. Since 2000, a significant number of issues have emerged: • community outcomes have been developed for the City • there is more focus on being active and healthy • there is a shift in growth patterns away from urban expansion towards redevelopment in and around existing centres. In response to these key drivers, the Parks Strategy identifies the core outcomes for parks which are focused around quality, recreation, natural environment, linkages, city identity, amenity, and community development.

• Recreational Cycling Network Plan (2007) North Shore City	This plan was adopted in 2007 and complements the Parks Strategy and the Sports and Recreation Strategy. It has a focus on recreational cycling and identifies routes which mostly involve parks and reserves, but also follow roads and streets in some cases. The Plan guides the implementation of an accessible, well-designed and safe network and features linkages to both off-road and on-road cycling routes. The aim is to provide a network of cycling paths that create pleasant, enjoyable and safe links between parks and other facilities.
• Draft Sports and Recreation Strategy (2009)	The Sports and Recreation Strategy will be the overarching strategic document guiding North Shore City Council's approach to delivering its sport and recreation services. The strategy identifies the vision for the future, key principles and objectives for providing a choice of affordable and accessible sporting and recreational opportunities that contribute to the health and well-being of the community. As a 'lifestyle city' North Shore City Council (NSCC) is committed to providing opportunities that enable its community to be fit, healthy and active as well as, become the city of 'sporting excellence'. Underpinning this Strategy is recognising the value of sports and recreation in terms of the social, economic and health benefits for individuals and communities.
• TravelWise Programme (launched 2003) North Shore City	TravelWise to School is a Travel Demand Management programme that aims to reduce the number of children being driven to school by private car, and to increase safety for those who walk or cycle to school. Council and contract staff work with individual schools to develop and implement travel plans. This begins with schools identifying safety issues, travel needs, and barriers to walking and cycling. Travel plans and other initiatives are then developed and implemented to address these issues such as establishing walking school buses and identifying improvements to infrastructure.

Cycle Facility Design Guidelines:	
• AUSTROADS guide to Traffic Engineering Practice: Part 14: Bicycles (1999)	AUSTROADS is an association of Australian and New Zealand road transport and traffic authorities, including Transit NZ and Land Transport New Zealand (now both New Zealand Transport Agency), which work together to create improved transport policies and systems. The organisation produces guidance on road safety, traffic management and transport planning. The most recent publication, ***Local Area Traffic Management,*** covers the planning and management of road space and usage within a local area with a focus on increasing amenity, reducing traffic volumes and speeds, and improving safety and access for residents, especially pedestrians and cyclists.
• NZ Supplement to the AUSTROADS guide to Traffic Engineering Practice: Part 14: Bicycles (2008) Transit NZ (see NZTA)	The New Zealand Supplement provides the means to ensure that the AUSTROADS document is applied in a way that meets New Zealand specifications and needs.
• Cycle Network and Route Planning Guide (2004) Land Transport New Zealand (See NZTA)	The guide is a relatively recent document, published in 2004, that provides guidance and a process which can be used to facilitate the decisions that are required to implement appropriate cycling facilities on a case-by-case basis.

ARTA Regional Cycle Network

See www.arta.govt.nz for a downloadable version of this plan.



Auckland's Regional Cycle Network

This map shows existing and proposed cycle routes across the Auckland region. It also shows priority locations for linking to these routes to improve connectivity across the region. These include:
> All town centres and growth areas (as listed in Schedule 1 of the Regional Policy Statement)
> All passenger transport stations on the Rapid Transit Network, major interchanges and all ferry terminals
> Intermediate and secondary schools (with a roll over 500 in 2016)
> All major tertiary institutions
Combined, these routes and links make up the Regional Cycle Network.

Auckland Regional Transport Authority (ARTA) will prioritise proposals to build parts of the Regional Cycle Network in the Auckland Land Transport Programme.

The Regional Cycle Network was developed by ARTA in conjunction with local councils. Each council is working with ARTA to deliver improved cycling infrastructure across the region. This will ensure the cycling target in the Regional Land Transport Strategy is reached – to build at least half the Regional Cycle Network by 2016. The overall goal is to double the number of cycle trips around the region.

As well as showing the routes that make up this first half of the network, this map also includes routes that will provide better connectivity when the entire network is completed, but are not currently planned to be implemented before 2016.

The Regional Cycle Network as shown here covers more than 900 kilometres, of which more than 100 kilometres already exists. Potential links that would connect key destinations to the network would cover many more kilometres if implemented.

Building the Regional Cycle Network

The Regional Cycle Network will be designed and partially-funded by local councils. Other funding will come from Land Transport New Zealand, through the yearly Auckland Land Transport Programme which ARTA manages. For further information, please see the Sustainable Transport Plan online at www.arta.co.nz

Summary of Legal Definition and Status of Cycle Paths and Tracks

From Land Transport Rule: Traffic Control Devices 2004 and Land Transport (Road User) Rule 2004

Cycle

(a) Means a vehicle having at least two wheels and that is designed primarily to be propelled by the muscular energy of the rider; and

(b) Includes a power-assisted cycle.

Cycle lane means a longitudinal strip within a roadway designed for the passage of cycles.

Cycle path

(a) Means part of the road that is physically separated from the roadway that is intended for the use of cyclists, but which may be used also by pedestrians; and

(b) Includes a cycle track formed under section 332 of the ***Local Government Act 1974.***

From *Local Government Act 1974*

332 Cycle tracks

(1) The council may on any road, or on any land vested in or under the control of the council, form a public cycle track, and may make bylaws under section 684 of this Act regulating and controlling the use of that cycle track.

(2) For the purpose of constructing any cycle track, the council may take, purchase, or otherwise acquire land in accordance with the provisions of this Act.

(3) In this section the term road does not include an access way.

From *North Shore City Bylaw 2000: Part 6 Traffic Control*

6.6 Cycle tracks

6.6.1 We may by resolution:

(a) specify any land owned or controlled by us to be a cycle track;

(b) form and mark out the location of the cycle track; and

(c) put up signs indicating the location of the cycle track.

6.6.2 Where a cycle track is marked you must:

(a) ride a cycle only within the marked cycle track and not on the footpath, except for the purpose of the delivery of newspapers, mail, or printed material to letterboxes; and

(b) give way to pedestrians when using the cycle track.

From *Land Transport (Road User) Amendment Rule [2009] (Yellow paper)*

11.1A Use of shared paths

(1) This clause applies to paths that are shared by—

(a) pedestrians:

(b) cyclists:

(c) drivers of mobility devices:

(d) drivers of wheeled recreational devices.

(2) A user of a shared path—

(a) must use the shared path in a careful and considerate manner; and

(b) must not use the shared path in a manner that constitutes a hazard to other users of the shared path.

(3) If priority is indicated by signs or other markings to a particular user of the shared path, the other users of the shared path must give way to the user of the shared path that has priority.

(4) However, if sub-clause (3) applies, the user that has priority must not unduly impede the passage of any of the other users of the shared path.

Explanation

Cycle paths in North Shore City are made as cycle tracks and are designated as exclusive or shared use by appropriate signs and/or markings. Neither the Land Transport (Road User) Rule nor the City Bylaw prohibits cyclists from using another part of a road that is available to them where a cycle track or cycle lane is provided.

There does not appear to be any problem with the legality of any existing cycle paths in North Shore City made by resolution under the current or any previous bylaws, or as cycle tracks under the Local Government Act.

When the Land Transport (Road User) Amendment Rule [2009] is made, the City Bylaw section 6.6.2 should be amended to reflect its requirements. Section 6.6.1 could also be improved, and definitions could explain the meaning of “cycle path” and “cycle track” so that “cycle path” can be used in the same way as primary legislation.

Extracts from:

- **Austroads Guide to Traffic Engineering Practice Part 14 – Bicycles**
- **New Zealand Supplement to the Austroads Guide to Traffic Engineering Practice Part 14 – Bicycles**
- **New Zealand Land Transport Safety Authority Cycle Network and Route Planning Guide**

The following is extracted from Austroads GTEP 14 and is a guide to choosing the type of facility that is required in a given situation

2.4.1.2. Type of Facility Required

The flow chart in Figure 2-4 is provided to assist designers and road authorities to choose the appropriate type of facility (road or path) and in the case of roads, to determine whether bicycle lanes or another form of road treatment is required.

In particular, the flow chart identifies the circumstances beyond which treatment is desirable.

The flow chart is an assessment of the primary factors needed to determine the type of facility required. It is acknowledged that other issues, constraints and practices will also have a bearing on the decision making process.

Notes for Figure 2-4; Guide to Choice of Facility for Cyclists:

1. The purpose of the question is to ascertain the likelihood of inexperienced cyclists using the route, for which a higher level of protection is usually appropriate. Therefore, if the route is used primarily by inexperienced cyclists but not for recreation or travel to school, then it may still be appropriate to answer yes to this `test'.
2. The `tests' for motor traffic conditions are based on traffic volumes as well as traffic speeds. An alternative `test', to a specific traffic volume threshold is provided, which is preferred by some authorities, i.e. `is route used for commuting by motor traffic?'. This recognises that motor traffic commuting routes are often associated with aggressive traffic conditions. Such conditions are a significant concern for vulnerable road users including cyclists.
3. A traffic volume of 3000 motor vehicles per day is widely regarded as the highest level beyond which provision for cyclists should be made, in view of the level of the stress experienced by cyclists, and of road safety concerns. It is also in accord with urban road network planning criteria.
4. There are occasions when the use of daily two-way traffic volumes is insufficient to define the road conditions to which cyclists are exposed. For instance it may be appropriate to consider a `left lane traffic volume' of approximately 200 - 250 vehicles per hour (rather than 3000 vehicles per day) in the case of multi lane roads, one way roads, and roads that experience unusually high or low traffic peaks. It may also be appropriate to use this criterion to determine the period of application of bicycle lanes that are subject to time limitations.
5. See Section 6.4.1 for characteristics of a successful commuting path.
6. The flow chart is not intended to discourage the provision of bicycle lanes including those in low volume, low speed local streets where they may be required as part of a strategic bicycle route or for young and inexperienced cyclists.

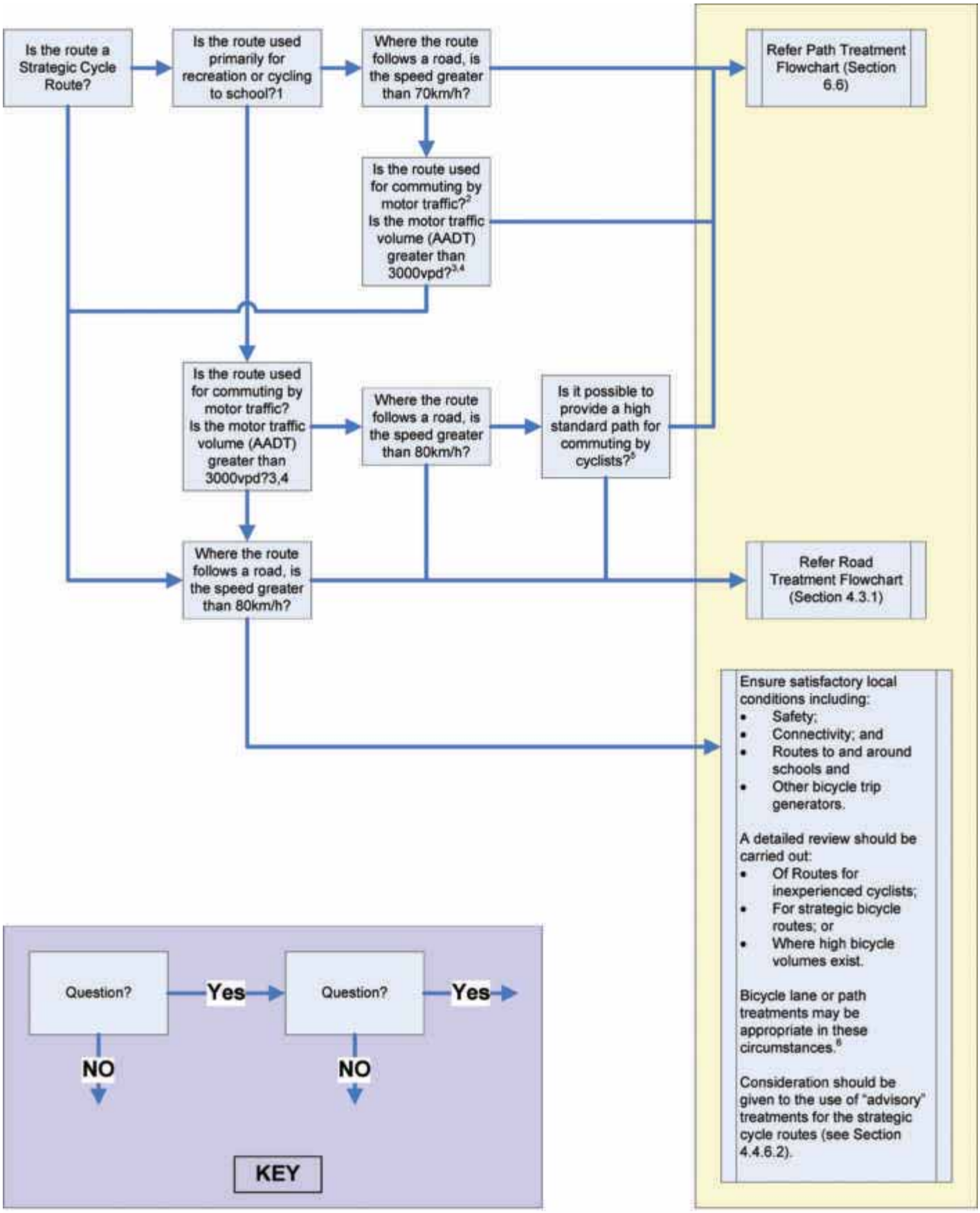


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Figure 2-4: Guide to Choice of Facility for Cyclists

This section of Austroads GTEP14 leads from the previous section 2.4.1.2 and the associated Figure 2-4 flowchart. The New Zealand Supplement makes use of a graph.
The two methods are included here, followed by the associated text in a table, so that the differences in approach are highlighted.

4.3. Provision for Cyclists

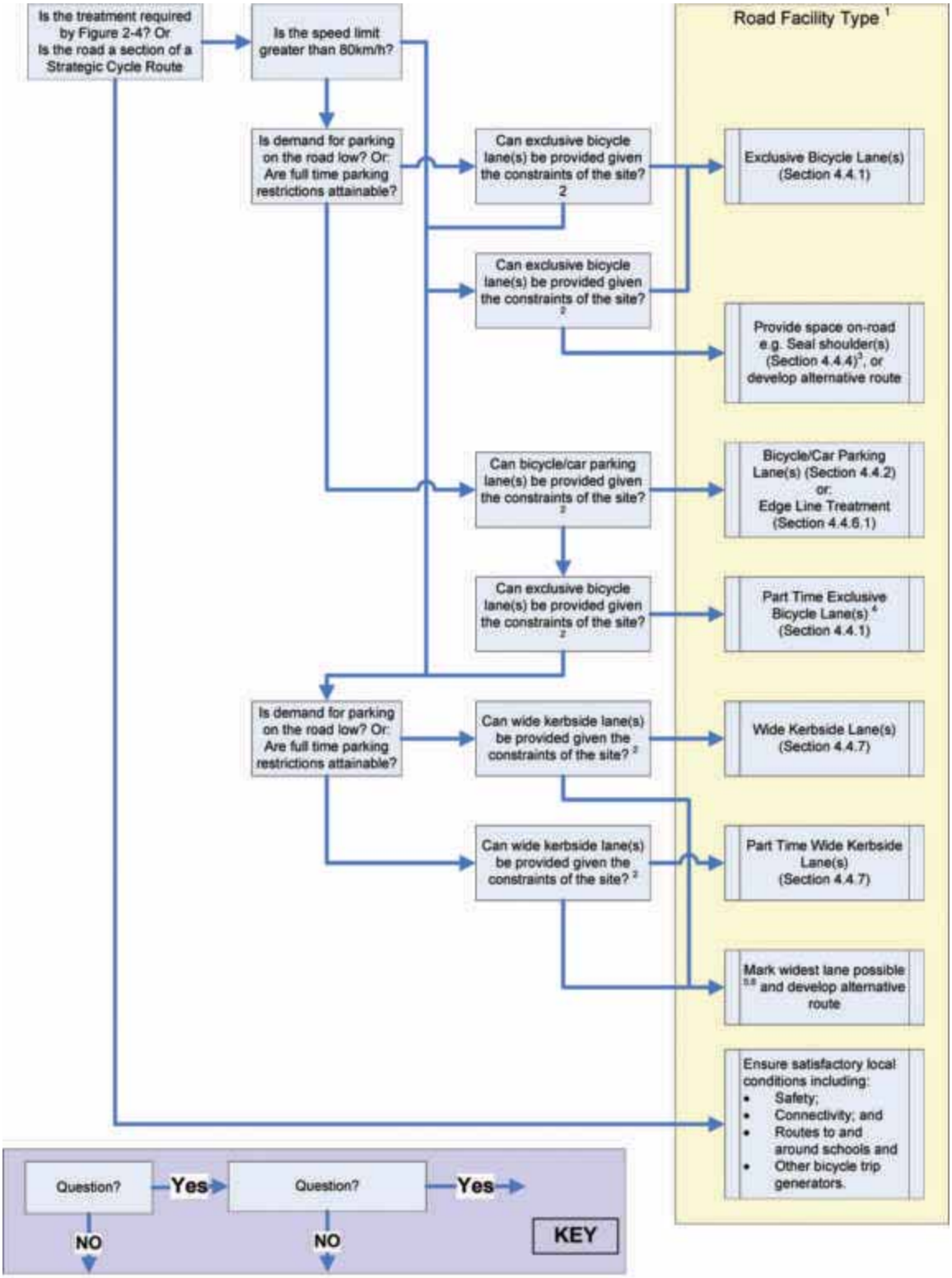

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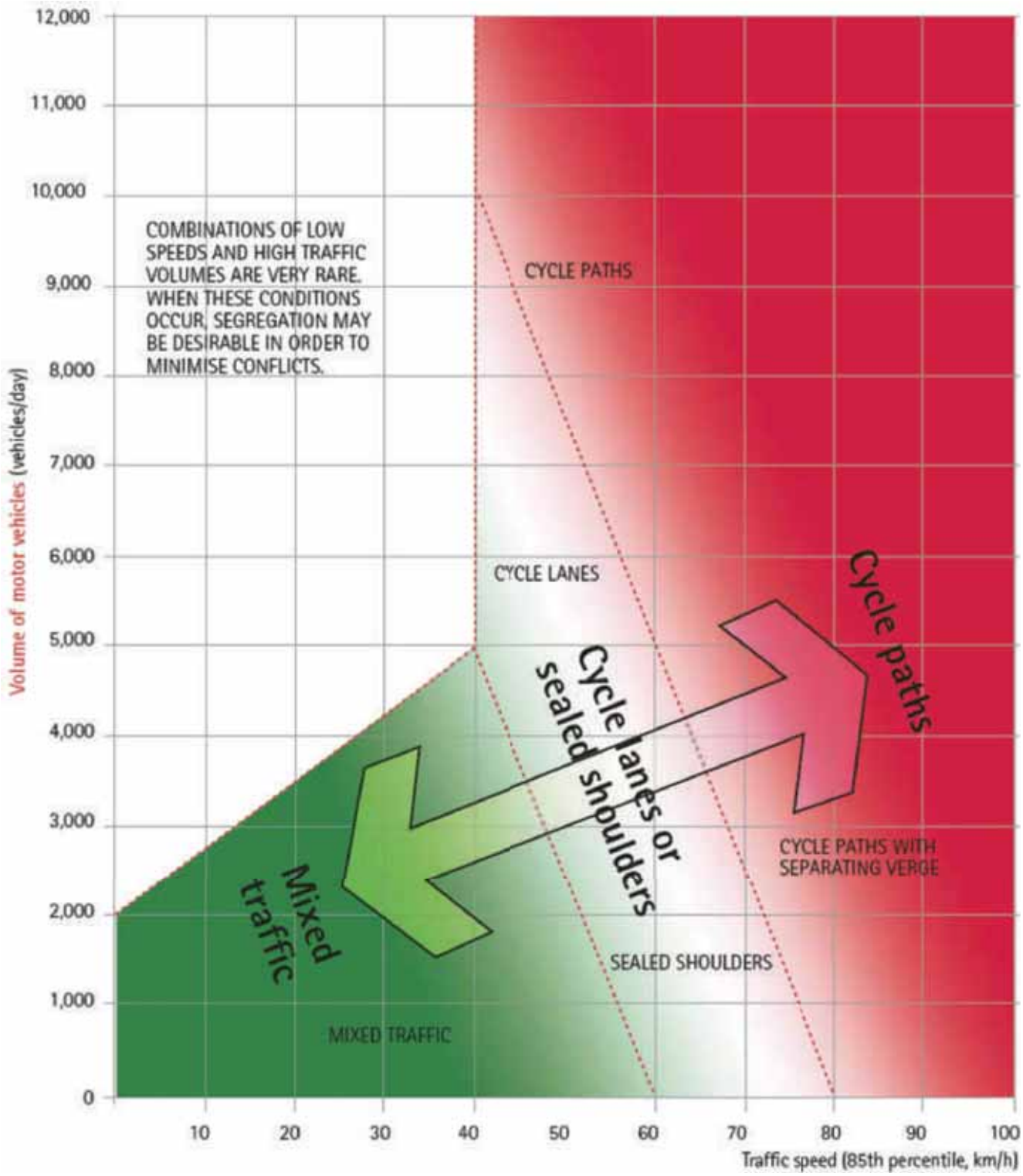
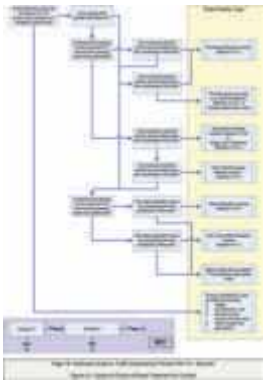
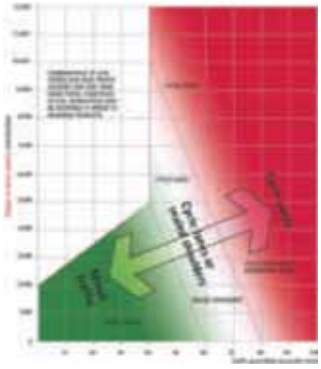
Figure 4-1: Guide to Choice of Road Treatment for Cyclists

Below is the graph from the New Zealand Supplement that replaces Figure 4-1 in Austroads GTEP 14.



See notes in table which follows.

The following table compares the GTEP14 rules and the New Zealand supplement replacements to show the variations.

GTEP 14	New Zealand Supplement
	
4.3.1. General Traffic lanes for cyclists should be viewed as part of a bicycle network providing the connectivity required to enhance the convenience and safety of trips by bicycle. The flow chart in Figure 4-1 is a basic guide to assist designers and road authorities to choose the appropriate type of lane or other road treatment for cyclists. The flow chart only considers the primary factors needed to determine the type of treatment required. As for the associated guide charts in this document (refer Figure 2-4 and Figure 6-15), there are other issues, constraints and practices that will have a bearing on the decision making process. It is acknowledged that urban planning strategies, financial, commercial and political considerations, and hybrid treatment options (e.g. asymmetric road cross-sectional choices, see sect. 4.3.2(b)) will influence the final choice of treatment for a given road or locality. The Chart provided in Figure 4-1 relates to the more commonly used treatments only, where a choice often exists. Other treatments are referred to in this chapter and may be appropriate depending on the circumstances. A Contra-Flow Bicycle Lane (sect. 4.4.3) is applicable to one-way streets only. Protected Lanes (sect. 4.4.5) would normally be used in special circumstances only. No `test' has been applied to determine whether or not part time parking restrictions are attainable. These are effectively `lowest preference' options where treatment is recommended under Figure 2-4, and accordingly represent the minimum level of provision that should be provided for the comfort and safety of cyclists. In rural towns this assessment should recognise the intended function of a route within the town. For example, although the road may carry little traffic and be essentially local in function, it may be desirable to define cycle lanes along it to promote a safe and convenient route between suburbs and/or community facilities. Conversely, where a local street forms part of a bicycle route it may not be necessary for cyclists, or desirable in terms of the visual amenity of the street, to mark bicycle lanes. In considering the width that can be made available for a bicycle lane, it is essential to consider also the width that is or may be required for all other road user groups. The flow chart should be read in conjunction with the following notes.	4.3.1. General Traffic lanes that are part of a cycle network should provide the connectivity required to enhance the convenience and safety of cycle trips. Figure 4-1: Guide to Choice of Facility Type for Cyclists in Urban Areas is a basic guide to identifying an appropriate type of facility for different combinations of traffic speed and volume within an urban area. Cycle facilities may be needed at lower speed/ volume thresholds than shown in Figure 4-1 especially where there are high numbers of heavy vehicles and/or school children. The Figure 4.1 relates to the more commonly used treatments. Other treatments referred to in this section may also be appropriate, for example: • Contra-flow cycle lane (Section 4.4.3). Applicable to one-way streets only, • Protected two-way cycle lanes (Section 4.4.5), normally used in special circumstances only. Rural Roads In rural areas, roads are usually of sufficient width to allow comfortable sharing of the road. However, the provision of appropriate bicycle operating space is a key issue when considering the provision of cycle facilities. Where safe and comfortable sharing of the road is not possible due to high traffic volumes and /or speed then a cycle facility in the form of a sealed shoulder, cycle lane or cycle path may be required. On rural high-speed roads continuity of cycle facility is a key issue for cyclists. Therefore, when providing a cycle facility any lack of continuity should be identified and suitable treatment or warning provided for all road users. For guidelines on the design of cycle facilities on expressways refer to GTEP Part section 4.6.

GTEP 14	New Zealand Supplement
Notes for Figure 4-1: 1. In general the treatments are arranged around the desired preferences for treatment (Exclusive Bicycle Lane highest priority). The order of preference may vary locally or on a regional basis. 2. See Section 4.3.2, and the respective sections on the construction requirements for individual lane facilities (also referred to in the figure), for advice on obtaining space to implement the particular facility. 3. The option for shoulder sealing is located in a convenient position in the chart and is not listed by order of preference. In general, this option is applicable to rural roads where motor traffic speeds are high, bicycle volumes are low and the expense of a separate (i.e. from the road) path treatment is unlikely to be warranted. 4. In utilising part time treatments, care is required to ensure reasonable conditions exist for cycling outside of the periods when these treatments are in operation (also see sect. 4.4.1). 5. The shared use of the kerbside lanes of roads in 80 km/h (or higher) speed zones is relatively stressful for many cyclists. However it is often not possible to provide marked lanes or a left lane of a satisfactory width. In these instances, regardless of whether an alternative route can be identified and developed, it is essential to maximise the left lane width. In 60 km/h speed zones, many cyclists would prefer to avoid kerb lane widths between 3.0 to 3.7 metres (Loder and Bayly, 1989). 6. Careful assessment of roads is required in addition to marking the widest possible lane. Additional measures should be considered including: • the provision of the highest quality surface within 1.5 metres of the kerb; • fully mountable kerb sections where `escape' from the carriageway could be necessary; and • separated one-way paths at the roadside verge (sect. 6.6.2.2).	Figure 4-1: Notes 1. In general, roads with higher traffic speed and traffic volumes are more difficult for cyclists to negotiate than roads with lower speeds and volumes. The threshold for comfort and safety for cyclists is a function of both traffic speed and volume, and varies by cyclist experience and trip purpose. Facilities based on this chart will have the broadest appeal. 2. When school cyclists are numerous or the route is primarily used for recreation then path treatments may be preferable to road treatments. 3. Provision of a separated cycle path does not necessarily imply that an on-road solution would not also be useful, and vice-versa. Different kinds of cyclists have different needs. Family groups may prefer off-road cycle paths while racing or training cyclists, or commuters, tend to prefer cycle lanes or wide sealed shoulders.

4.3.2 Finding Space for Treatment

Having determined that bicycle lanes or another form of provision for cyclists is required along a road, it is necessary to implement those treatments in circumstances where space is often limited, the demands for the use of that space is high, or where the cost to utilise any available space is high.

Bicycle Victoria (1996) provides detailed guidance on techniques used to obtain space in road reserves for the provision of cyclists' facilities. These are generally associated with existing roads and include the following:

(a) Rearrangement of Space

- By the adjustment of existing carriageway lane positions or widths;
- Upgrading service roads so that they are suitable for cyclists; and
- Sealing road shoulders.

(b) Trading Space

- Through indented car parking;
- Road widening at the verge;
- By restricting car parking to one side of a road resulting in an asymmetric road layout. Whereas this practice is used in normal circumstances, additional opportunities sometimes exist where on one side of the road car parking restrictions exist, or the car parking demand is low;
- Road widening at the median;
- Removing a traffic lane, where excess road capacity exists, or a reduction in the road demand occurs or to achieve a traffic calming objective; and
- Closing a road e.g. Swanston Walk in Melbourne.

(c) Alternative Space

In some instances an alternative off-road route may attract road cyclists if it is constructed in close proximity to a road, has a high standard of geometric design, construction and maintenance, and a similar travel distance to the road route.

GTEP 14	New Zealand Supplement
4.4. Road Treatments for Cyclists 4.4.1. Exclusive Bicycle Lanes ***Description and Purpose*** An exclusive bicycle lane is a lane created by pavement marking and signs. It is the preferred treatment for cyclists on roads. In general it is located at the left side of a road. An example of an exclusive bicycle lane is shown in Figure 4-2. In general, motor traffic is prohibited by traffic regulations from travelling in the lane except to access property or to turn at intersections. Similarly parking in the lane is prohibited either full time or otherwise during the designated periods of operation of the lane. An exclusive bicycle lane may be appropriate where: • Bicycle traffic is concentrated, e.g. near schools or along major routes near city or town centres; • An existing or potential significant demand for bicycle travel can be demonstrated, e.g. where traffic volumes and speeds deter cyclists from using an otherwise favourable route; • It is needed to provide continuity within a bicycle route network; and • A road is carrying or is likely to carry more than 3000 vehicles per day and/or a significant percentage of heavy vehicles.	4.4. Road Treatments for Cyclists 4.4.1 Cycle Lanes ***Description and Purpose*** Cycle lanes are identified by cycle pavement marking symbols, and may have other distinguishing features such as different coloured surfaces. Cycle lane signs are currently optional. Cycle lane signs and markings are illustrated and discussed in Section 9 Traffic Signs and Markings and will be fully documented in MOTSAM. In general, cycle lanes are the preferred treatment for cyclists on urban roads. They may be achieved in some cases by reallocating road space as discussed in GTEP Part 14 Section 4.3.2 Finding Space for Treatment (Page 19). Cycle lanes may be appropriate where: Cycle traffic is concentrated, e.g. near schools or along major routes near city or town centres; An existing or potential significant demand for cycle travel can be demonstrated; Truck traffic volumes are high making cycling unsafe or very unpleasant; They are needed to provide continuity within a cycle route network. ***Figure 4-2: Cycle lane next to parking (Dunedin)*** Where required on two-way streets, cycle lanes should be provided on both sides of the road so that cyclists can use them in the same direction as motor vehicle traffic. Cycle lanes should not be placed between the kerb and parked cars as there will be no escape for cyclists if a car door is suddenly opened. In addition, cyclists will be hidden by parked cars from the view of drivers turning across the cycle lane from other lanes on the road.
	On gradients, wider cycle lanes are advantageous to cyclists since uphill they need more space to "work" their cycles and downhill where their speed can be high. However, where a cycle lane is being provided in only one direction it is desirable to install it on the uphill side. This option should only be considered after all other options have been considered for the provision of a lane in both directions. The width of cycle lanes will vary depending on: • Presence or absence of parking; • Parking turnover; • Road gradient; • Volume of cyclists; • Speed and volume of motor traffic; • Volume of large vehicles; and/or • Ability to make road space available given the needs of other road users, and physical constraints. The width of cycle lanes for the purposes of this Supplement is measured from the face of the adjacent left kerb or the road edge to the centre of the cycle lane line, or between the centres of lane lines.

Application Details

An exclusive bicycle lane may be provided where parking is banned, where the demand for kerbside car parking is minimal or where the facility is mainly required in peak periods and parking is allowed in the off peak period. In the latter case supplementary sign plates should be provided to state the limited times of operation of the facility (refer Figure 9-1).

Exclusive bicycle lanes should be constructed in accordance with the details shown in Table 4-1, and the associated facility layout shown in Figure 4-3.

The width adopted for exclusive bicycle lanes will vary depending on the number of cyclists, the speed of motor traffic, the volume of large vehicles and the ability to make space available given the needs of other road user groups, physical constraints and budgetary constraints.

However, the following provides a guide:

- 3.0 metres is the absolute maximum width and is desirable where the adjacent motor traffic is moving at high speed (e.g. 100 km/h) and large vehicles are a significant proportion of the traffic stream or where demand for cycling is so great that this width is required on operational grounds. This is the desirable width required to enable cyclists to overtake each other with sufficient clearance to the adjacent traffic lane;
- At least 2.0 metres is desirable where the adjacent motor traffic is moving at high speed (e.g. 100 km/h) and there are few large vehicles or where speeds are moderate (e.g. 80 km/h) and the volume of large vehicles is substantial. This is the minimum width that will enable cyclists to overtake each other without encroaching into the adjacent traffic lane;
- 1.5 metres is the desirable width to be used along the length of a lane, in a 60 km/h speed zone;
- 1.2 metres is the absolute minimum width to be used along the length of a lane and should only be used where the provision of a wider lane is impracticable, in a 60 km/h speed zone;
- 1.0 metre width is permissible only in special circumstances where an otherwise wider lane passes through a `squeeze point', which may be an intersection (e.g. S lane treatment) or traffic management treatment, and it is not possible to achieve a wider bicycle lane. A 1.0 metre width may also be acceptable where the speed environment is less than 60 km/h and space is severely restricted; and
- The upper limit of the acceptable range for each road speed is limited to a lane width in which motor traffic is unlikely to travel.

Application Details – Cycle Lanes Next to the Kerb or Road Edge

Cycle lanes next to the kerb or road edge should be implemented in accordance with the details shown in Table 4-1 and its associated notes.

The width of road gutters/channels (comprising a different surface medium) should be less than 0.4 m. The widths of cycle lanes in Table 4-1 presume that surface conditions adjacent to the gutter or road edge are of a high standard. Where there are poor surface conditions at the road edge (see Section 8.5 Surfaces for Cycling), then the width of cycle lanes should be based on usable road space available to cyclists.

When using Table 4-1, the following key width requirements of cycle lanes where no parking exists, are:

- At least 2.0 m is desirable where the adjacent motor traffic is moving at high speed (e.g. 100 km/h) and there are few large vehicles, or where speeds are moderate (e.g. 70 km/h) and the volume of large vehicles is substantial. This is also the minimum width that will enable cyclists to overtake each other without encroaching into the adjacent traffic lane;
- 1.2 m is the absolute minimum width and should only be used in low speed environments (85th Percentile speed of 40 km/h and below) and when it is not possible to achieve a wider cycle lane
- If cycle traffic flows exceed 150 in the peak hour, then additional width to accommodate overtaking manoeuvres should be considered.

Notes applicable to Table 4-1:

The posted or general speed limit is used, unless 85th percentile speed is known and is significantly higher.

Interpolation for different speed limits is acceptable.

The width of the lane is normally measured from the face of the adjacent left hand kerb. The width of road gutters/ channels (comprising a different surface medium) should be less than 0.4m where minimum dimensions are used. The figures in the table presume that surface conditions are to be of the highest standard. Where there are poor surface conditions (see sect. 8.5.1) over a section of road adjacent to the gutter, then the width of the Exclusive Bicycle Lane should be measured from the outside edge of that section.

Notes:

1. The speed limit is used unless the 85th percentile speed is significantly higher.

2. Interpolation for different speed limits is acceptable.

3. When greater than 2.5 m of shoulder exists, chevron pavement markings should be provided to suggest a cycling area of between 1.5 m and 2.0 m in width and to separate the cycling area from the general traffic lane. In such cases, the chevron markings should be at least 1.0 m wide.

Typical cross-sections of a cycle lane next to the kerb are shown in Figure 4-4.

	Road Speed[1] (km/h)	60	80	100
Lane Width [2.3] (m)	Desirable	1.5	2.0	2.5
	Acceptable Range	1.2 - 2.5	1.8 - 2.7	2.0 - 3.0

Table 4-1: Exclusive Bicycle Lane & Sealed Shoulder Dimensions

It may be appropriate for designers to give consideration to the interaction of cyclists with adjacent traffic, in varying speed environments or where unusual circumstances exist. The details provided in Figure 4-4 can be used as a basis to assist calculations for the facility width under such circumstances.

Other important aspects relating to exclusive bicycle lanes are that they:

- Should be provided on both sides of the road where possible so that use is in the same direction as motor vehicle traffic;
- Should not be placed between the kerb and parked cars as there is no escape for cyclists should a car door be opened suddenly;
- Should only be used where there is little demand for parking throughout the day or where parking can be prohibited during certain designated hours to suit the peak travel demands of cyclists and motor vehicles (e.g. clearway times, school travel hours -also see sect. 2.4.1.2). When cyclist demand is mainly in peak periods and parking is required throughout the day the exclusive lane and adjacent traffic lane can provide an appropriate width for the lane to act as a bicycle/ parking lane;
- Are of considerable advantage on long uphill grades where there is a higher speed differential between motor vehicles and cyclists and cyclists tend to weave about whilst working their way uphill; and
- Are also advantageous on long downhill grades where extra room to manoeuvre is desirable.

Lane Width[2] (m)			
Speed Limit[1] (km/h)	≤50	70	100
Desirable Minimum Width	1.5	1.9	205
Acceptable Range	1.2 - 2.2	1.6 - 2.5[3]	2.0 - 2.5[3]

Table 4-1: Cycle Lane and Sealed Shoulder Widths

The following flowchart from the NZ Supplement to Austroads GTEP14 leads from section 2.4.1.2 and the associated Figure 2-4 flowchart. This flowchart indicates how cycle paths should be treated.

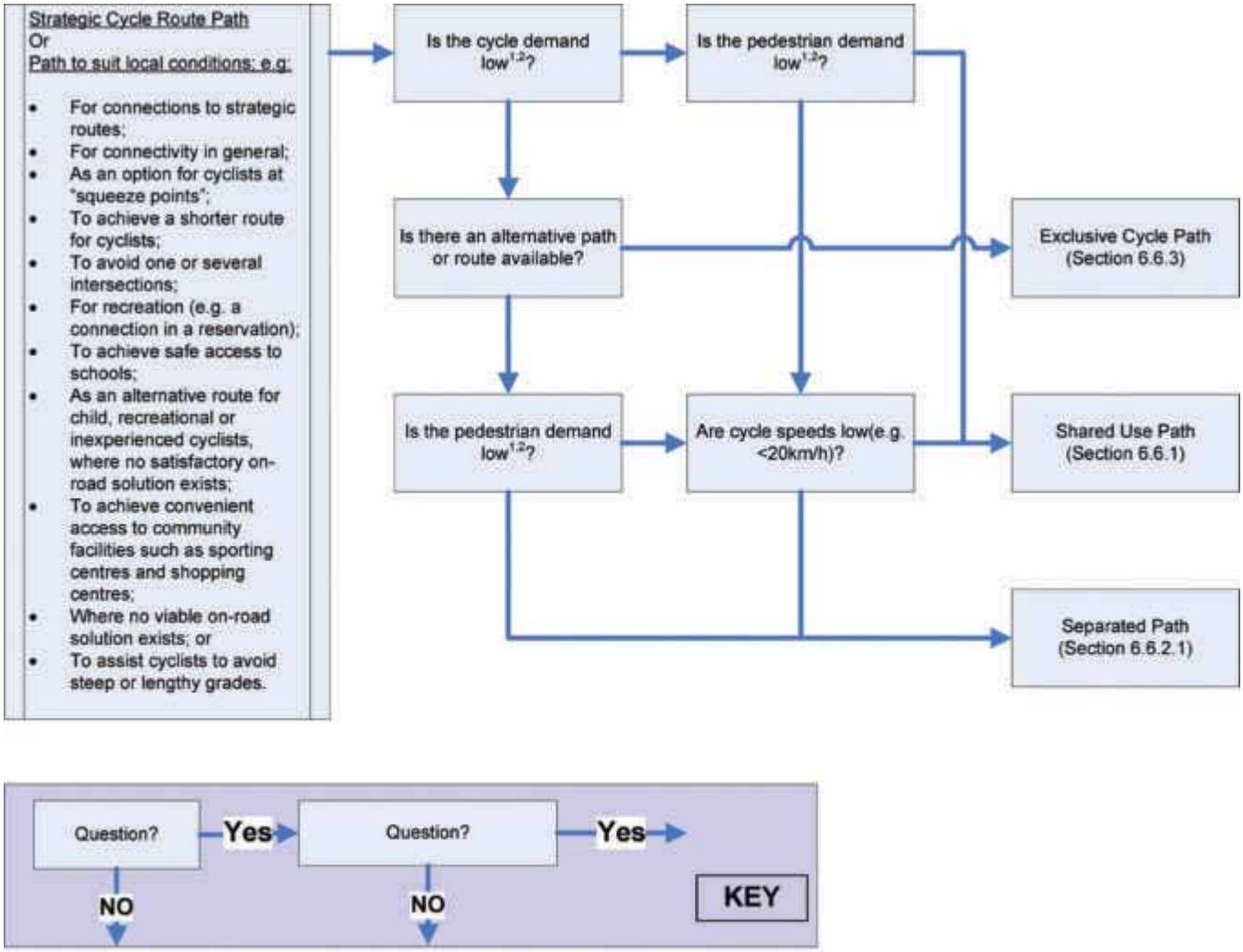


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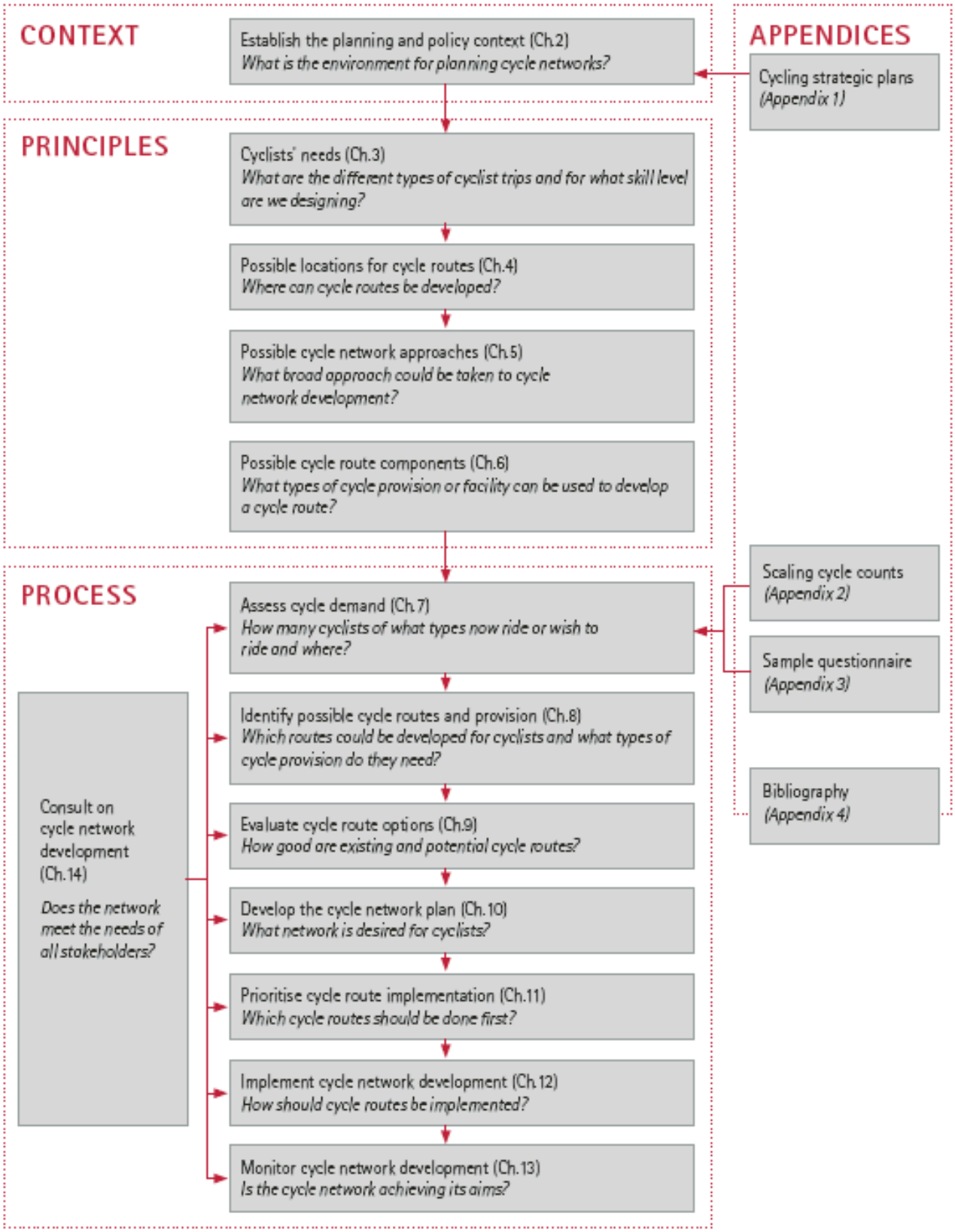
Figure 6-15: Guide to Choice of Path Treatment for Cyclists

GTEP 14

Notes for Figure 6-15:

1. 1. The level of demand can be assessed generally on the basis of the peak periods of a typical day as follows:
   - Low demand: Infrequent use of path (say less than 10 users per hour);
   - High demand: Regular use in both directions of travel (say more than 50 users per hour).
2. These path volumes are suggested in order to limit the incidence of conflict between users, and are significantly lower than the capacity of the principal path types.

The following is the process suggested by the New Zealand Cycle Network and Route Planning Guide.



NORTH SHORE CITY