The Napier Cycling Strategy

Traffic Design Group Ltd

City of Napier

1.0 Introduction

Planning to make Napier a better city for cycling involves a partnership between the City Council and the community. *Bike It!* is your Council's commitment to providing for the safe and convenient movement of cyclists throughout the whole of the city, including Bay View and links to the Hastings District Council network, and is a Strategy that caters not only for experienced cyclists but also non-cyclists.

Bike It! provides a framework and direction for Council to recognise the needs of cyclists and to integrate their needs into transport planning and design. It is a commitment to various objectives and methods that will achieve Council's policy of encouraging a decrease in the reliance on motor vehicles through the establishment of cycleways. Its development takes on board the consultation undertaken with user groups and the community, and is supported by a separate Background Report.

Throughout New Zealand, transportation planning is seeking to rely more and more on cycling to contribute to the sustainable management of transport networks. Authorities are developing ways to reduce dependence on the motor car, and so are identifying ways to encourage cycling. Already, Napier City Council is committed to such a result by funding the development of this Strategy and components of the Bay View to Awatoto cycleway. Through the District Plan, Council also has a policy of establishing a safe cycling environment.

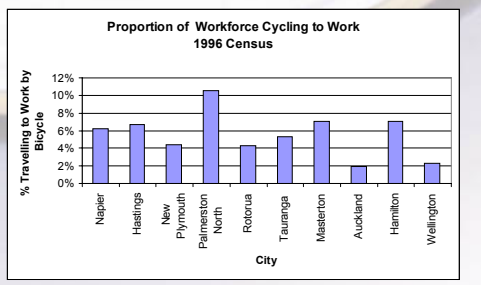
Neighbouring Hastings District Council has also recently completed and adopted a cycle strategy, called Towards Better Cycling. *Bike It!* recognises the adoption and provisions of that strategy and is specifically arranged to match the network at the city boundary and to recognise its objectives and targets.

2.0 Where Are We At?

Napier is a city gifted with a pleasant climate, flat topography and reasonably compact land-use patterns that naturally aid cyclists. However, a number of factors have led to an overall decrease in the number of people cycling in Napier in recent years such that there is now a renewed need to better plan and make provision for cyclists.

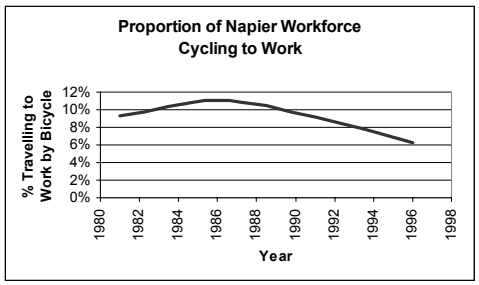
2.1 Statistics

The most recent information available from Statistics NZ shows that in 1996 77% of the Napier workforce drove a car to work, with a further 8% travelling as passengers. A smaller 6% of the workforce, involving 1,200 people, cycled to work. These statistics indicate that cycling accounts for only a small percentage of all trips. They represent an even smaller percentage of distance travelled.



When compared to similar urban centres, the chart opposite shows that Napier has a generally average cycling base, being larger than New Plymouth and Rotorua, but less than Palmerston North. It is itself greater than the New Zealand average of 4%.

Since the mid 1980's, and as shown in the chart opposite, the number of people cycling to work in Napier has steadily declined. The recent decline is disappointing given the facts that cycling is well aided by the flat topography and good climate of Hawkes Bay, that cycles are reasonably cheap, quiet and energy-efficient, and that cycling is an activity which promotes good health and fitness.



Around 150,000 new bikes are imported into New Zealand each year, with between 5,000 and 6,000 sold in the Hawkes Bay. This number of cycles is approximately double that imported and sold in the 1980's. However, and while the community today owns more bicycles than ever before, their use is recreation rather than transport focussed as evidenced by the decline in cycle-to-work statistics during the 1990's.

The higher proportions of people cycling in the past do however show that there is a potential for more people to again cycle. With active promotion and good cycling facilities, the proportion of cyclists in Napier can rise back up to 10% to the level of cycling currently experienced in Palmerston North. This is the five year aim of *Bike It!*

2.2 Infrastructure

Napier has an abundance of both drainage and public reserves that provide ideal facilities for cyclists and indeed are currently used by some cyclists. The road network as it exists today also presents many possibilities for the provision of a cycle network in Napier.

As yet, Napier has little in the way of dedicated provision for cyclists, although the proposed Bay View to Awatoto cycle track will immediately provide a useful link. Council has already committed funds to enabling construction of part of this foreshore track. Despite the current lack of facilities, Napier is a city with great potential and the future is bright for cycling.

Throughout Napier there is also a significant resource of cycle stands able to hold around 4,300 bikes. About 3,200 of these stands are in schools, with the remaining 1,100 distributed around the city and suburbs. School children comprise a significant proportion of cyclists in Napier and counts show that more than 800 students regularly use a bicycle as a means of getting to and from school. For children, cycles are a cheap and convenient form of transport but today, less children are cycling to school. Attitudes must change, and *Bike It!* has been tailored accordingly to achieve an outcome of increased safe cycling.

3.0 Why Cycle?

In many ways, cycling is an ideal means of getting around towns and cities for people of all ages. The advantages of cycling are broad-ranging and relate not only to the individual, but also to the community and to the environment. They include:

- bicycles are energy efficient
- their operation is environmentally friendly
- bicycles occupy little road space and cause little damage to roadways and pathways
- bicycles demand minimal expenditure for routes and support facilities
- bicycles are relatively inexpensive to purchase and maintain
- bicycles are a quick and convenient means of travel for particularly short journeys
- regular cycling offers health benefits for the individual.

People cycle for many reasons, including transport, health, sport, and recreation. It provides independent transportation for those people who have limited resources and provides a low-cost transport alternative for all. By providing access to almost all areas of the city, cycling also provides a low-cost alternative to those shorter journeys usually made by car. For children, cycling gives them independent mobility and through cycling, children will learn road skills and respect for others on the road.

With a better understanding of our environmental responsibilities, the needs of our community and our own personal wellbeing, the bicycle is rising to the fore as a better way to travel. Indeed, it is much more than just a recreational activity. It is a mode of transport.

3.1 For Individuals and the Community

Over the last century, technology has had the effect of reducing human effort. Most of us partake in very little physical activity as part of our normal day. The population has become sedentary, with a resulting and rapid decline in physical activity. Now, unchallenged medical evidence exists on the benefits accruing from incorporating exercise into daily living patterns and particularly why cycling has been identified as a sustainable and healthy mode of transport.

For the individual, cycling has little associated costs and is often quicker for shorter journeys than the alternative of using a car. By incorporating cycling into their daily routine, individual users can save money and, at the same time, increase their health and fitness. Cycling is also a very economical means of travel, costing much less than the car. Available research shows that the average cost of running a 1300 cc car is $108 per week, more than 20 times the average weekly cost of cycling.

Replacing short journeys currently being undertaken by car with trips by bicycle also produces significant savings to the city in terms of reduced public infrastructure costs.

With a reduction in work based physical activity and increasingly stressful lives, the community needs to be provided with opportunities to incorporate physical activity into their lives. The developing consensus amongst researchers is that moderate, frequent and maintained physical activity for a large proportion of people's lives leads to a healthy lifestyle. Choosing cycling as a mode of transport can provide a large proportion of the moderate exercise needed for optimum protection against health problems and can be integrated into lifestyles so that little extra time is required.

The health benefits from increased use of cycling will also accrue to the cycling individual and to the broader community. The benefits to the individual are largely those of regular moderate exercise. The benefits to the community flowing from a modal shift from motorised to non-motorised transport come as a result of:

- reduced health care costs
- reduced traffic congestion
- reduced air pollution
- reduced noise.

Where a supportive and encouraging environment is provided, cycling for transport is seen as a desirable option for healthy exercise. Council is committed to providing such an environment.

3.2 For the Environment

It is now universally accepted that cars burning fossil fuels are an unsustainable means of transport that are adversely affecting the world environment. Cycling on the other hand has been shown to be the most efficient means of transport. It causes virtually no noise or air pollution and gains its energy directly from the traveller. That energy in turn offers valuable health benefits.

Statistics show that almost half of all car journeys in New Zealand are less than 3km long. With reasonably compact land-use patterns in Napier, many of these journeys can be easily biked.

Notably, cold engines just after start-up are most inefficient, producing up to 40% more emissions than at any other time. Cycles therefore make an excellent substitute for cars on short trips.

There are clear environmental gains from reducing dependence on the motor vehicle. Specifically for Napier, school trips involve double the number of trips and twice the distance than if the same children made their own way to school. It adds to traffic at times when roads are already busy and causes congestion outside schools when children are being dropped off or picked up. Often, the twice-daily chore of transporting children to and from school is a major inconvenience to parents. Cycling to and from school can forestall the need for a second car.

4.0 Objectives and Methods

Around the world, the development of cycle facilities, education of cyclists and other road users, and promotion of cycling is encouraging more people to ride. The main goal of bicycle planning and indeed this Strategy is to encourage cycling as a desirable alternative to travel by car and to ensure travel by bicycle is safe and convenient. *Bike It!* includes a series of methods which are based on the 4E's package of engineering, education, encouragement and enforcement. Their individual objectives are:

1. **Engineering**
   To have a comprehensive physical network that allows the community to access destinations directly, and safely

2. **Education**
   To educate cyclists as to safe routes and safe cycling techniques, and to educate motorists to safely share the roadway with cyclists

3. **Encouragement**
   To encourage all groups of the community to cycle and to use the cycle facilities available

4. **Enforcement**
   To create an environment where the road is shared courteously between motorists and cyclists.

Methods are needed that, together, increase the use of bicycles in the community and make cycling safer. *Bike It!* is aimed at such an integrated approach. For each of the four E's, there are a number of tools and methods that can be used to achieve these objectives. A total of 24 methods have been derived. As appropriate, Napier City Council will work with the Hastings District Council to commonise strategies for the Hawkes Bay.

Together, the objectives and methods of this Strategy will dispel any negative stigma that has been attached to cycling and promote it as an efficient and pleasant transport option as well as for recreation.

5.0 Engineering

The first priority in these objectives is the physical network, from which education, encouragement and enforcement will stem.

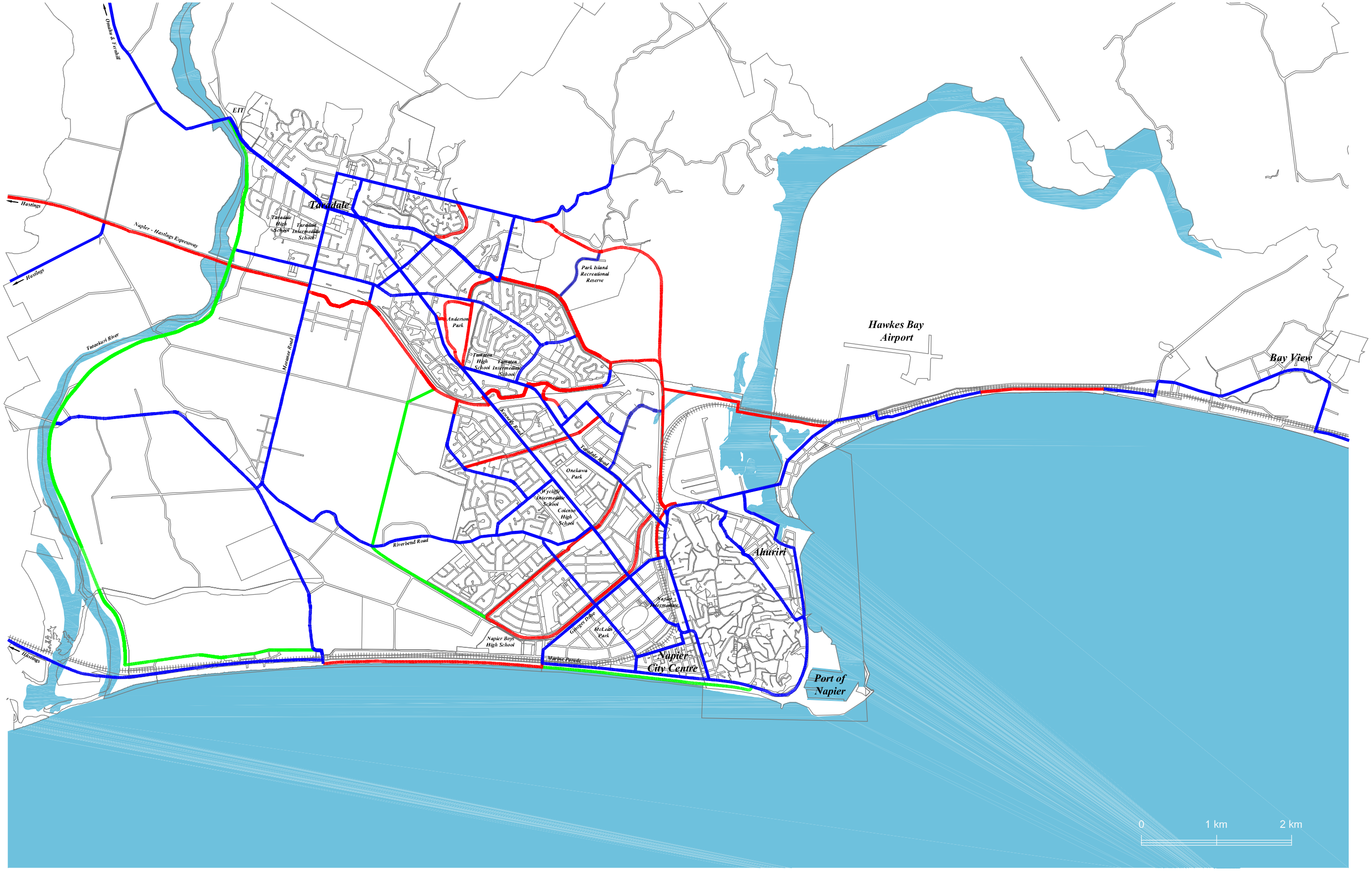
The primary requirement in planning for cyclists is safety. One of the best ways of integrating cyclists into the transport system is through the establishment of a cycle network. The necessary technology and methods for planning and designing a network are already available, with growing experience in New Zealand and Australia and decades of successful experience in Europe.

5.1 The Needs of Cyclists

Cyclists have five basic needs and requirements wherever they ride. The requirements are:

- firstly, a safe space in which to ride
- secondly, a smooth and consistent riding surface to enable safe, efficient and comfortable riding
- thirdly, to be an attractive method of transportation the routes need to be well connected and continuous
- fourthly, cycle routes need to enable speed maintenance. Routes that require cyclists to regularly slow to stop and to take long deviations are undesirable
- fifthly, the network needs to provide information and guidance to cyclists.

Cycling as a form of travel varies widely in many respects from other forms of travel. The needs of users themselves vary widely in many respects when compared to users of other travel modes. For these reasons, planning towards increasing the popularity of cycling and improving safety for cyclists must remain flexible such that a range of options is made available for all users.



ON-ROAD ROUTE

OFF-ROAD PATH

RECREATIONAL ROUTE

5.2 Planning a Cycle Network

The greatest resource available in the development of an urban cycle network is that area of the city space which is already given over to roads. Despite the obvious benefits of off-road cycle paths, there is little substitute for the directness of the roading network. The experience of most cities is that off-road paths are only used if they offer the same or improved directness as the best on-road option. Napier has the fortunate advantage in this regard of an established network of open drains and reserves that can provide off-road paths at a standard similar to and in some instances better than the on-road equivalent.

Channelling cyclists to a network of on and off-road facilities can also offer benefits to other road users such that the level of conflict with cyclists is minimised and the resulting safety of both user modes is increased.

The cycle network map included in this Strategy has been formed by analysing existing cycle demands, cycle crash patterns, and cycling desires and issues, and by making a detailed inspection of possible cycle routes in Napier. As such, the network has been developed with its focus on providing links between key origins and destinations, including areas of employment, education and residential activity. The routes depicted by the map have been purposefully selected with the aim of providing a self-sufficient cycling system within the total transport system that enables access to be given to all sectors of the city.

Recreational cycling has not been forgotten and itself forms a basis for enticing cyclists to also use their bicycles for other purposes. This Strategy makes specific provision for such users.

Overall, the function of the cycle network will be to:

- serve short trips to schools and shops
- provide for safe and convenient commuter cycling between key origins and destinations
- enable expanded recreational activities, providing inexperienced cyclists an opportunity to get out and enjoy cycling.

The network will also have an increasingly important function in the promotion of tourism in Napier.

As a whole, the network has been developed with a community preference for reinforcing existing trends rather than pioneering new ones, and is aimed not only at the short journey requirements of primary school children and close employment trips, but also the longer distance and cross-city movements of secondary school pupils and employment trips.

5.3 Design Characteristics

The form of the cycle network will differ according to the existing resources and the types of users for which it is designed. The map included with this Strategy shows a network involving three types of facilities. On-road routes are coloured blue, off-road paths are coloured red and recreational routes are coloured green.

On-Road Routes will cater for all users and be achieved by redefining the existing road space to dedicate an area of the carriageway to cyclists in the form of marked cycle lanes. All lanes will be marked at a minimum width of 1.2m and be supported with bicycle symbol markings at regular 200m intervals. Signs will be erected at intervals no greater than 500m.

Sump grills adjacent to the cycle lanes will be replaced with "cycle friendly" grills.

The same markings and provision of dedicated space for cyclists will then also extend across intersections along the defined routes to ensure continuity. It is appreciated that some intersection arrangements cause difficulties for some cyclists, including roundabouts. The recommended cycle network has been developed accordingly to avoid where possible, cycle routes through existing roundabouts. Where roundabouts feature along certain routes, the design and physical implementation of the network will ensure that cyclists are properly catered for within a good engineering solution.

Off-Road Paths will similarly be designed to cater for all users. The width of these paths will vary from 2.5m for low use, local paths to 3.5m for busier commuter routes. Each path will be arranged as a shared facility, providing for both pedestrians and cyclists. The paths will be surfaced with open-graded asphalt which reduces water spray in wet weather while also providing a smooth riding surface for all bikes.

Where these paths cross roads, advance warning signs will be provided for both cyclists and motorists. Central refuges will aid cyclists to cross from one path to another in areas where they need to cross busier roads.

Recreational Routes will be developed in a similar manner to off-road paths such that they will be arranged as shared facilities and have a minimum width of 2.5m. As a recreational route however, they will be designed to a lower standard than the network of off-road paths and would not be generally practicable for commuting purposes.

As a whole, the network will be designed and implemented in accordance with best practice and the industry-recognised Austroads Guide "Bicycles" which provides well-researched design.

5.4 Methods

The following six key Engineering Methods are proposed:

M1.1 Develop a cycle network that is within 500m of 85% of all houses and workplaces in the urban area. The network included in this Strategy has been prepared accordingly.

M1.2 Set priorities for establishing the network, with a first priority involving a connection between Napier and Taradale and extending to EIT, and a foreshore link between Napier and Bay View.

M1.3 Initiate a programme of works to bring the network into existence through a particular programme of implementation.

M1.4 Ensure that all off-road paths are designed in a manner that provides safety and security for the cyclist.

M1.5 Ensure that cyclists are properly considered in new roading projects and upgrades.

M1.6 Facilitate the fitting of secure end of trip facilities in new and existing premises and public places.

Bike It! recognises that the provision and implementation of a physical infrastructure for cyclists is one of the key elements in providing a safe and attractive environment for cyclists. Council is committed to the ongoing planning and funding requirements of developing the network defined by this Strategy.

6.0 Education

The behaviour and practice of both cyclists and motorists strongly influences the way in which the cycle network is used. Education programmes need to target all users from young to old. They need to instruct the general public about sharing the road and about good motorist and cyclist behaviour.

Motor and cycle traffic can safely co-exist on the roading network without either mode dominating. Indeed, cyclists tend to favour the convenience and directness afforded by the roading network such that the cycle map included in this Strategy has been specifically arranged to include on-road routes. As long as cyclists are required to interact with other road users there will be a need to educate cyclists (and other users) to maintain a safe environment.

6.1 Aims of Education Programmes

Education seeks to alter behaviour by first altering the attitude that cycling is unsafe. There are three aspects that education programmes need to be based on, as follows:

- education of rights and responsibilities under the New Zealand road rules
- training of particular skills that will allow competence and confidence
- promotion of safety.

The actual mechanisms by which these three aspects are promoted will vary with regard to different target age groups.

Safe cycle training will have significant benefits in creating a new generation of cyclists that will be aware and skilled to interact with other road users. Such programmes have achieved significant success in preparing particularly children with the required skills to ride safely and it has also equipped them with the competence and confidence to choose cycling as a transport option.

Similar programmes can be just as effective for adults.

6.2 Methods

The following six key Education Methods are proposed:

M2.1 Support other groups and the Hastings District Council in cycle education.

M2.2 Create in-schools safe riding programmes, incorporating on-road practice and cycle inspection and road-worthiness programmes.

M2.3 Educate the community in not allowing children to cycle unsupervised before the age of ten.

M2.4 Organise on-road cycle coaching and skills workshops for adults.

M2.5 Use billboards, newspaper and radio mediums, regional television advertising, and the Internet to convey cycle safety messages for motorists. A specially-prepared cycling website could be added to the established Council site.

M2.6 Develop a “Safer Routes to Schools” programme.

All these methods, as well as having their particular improvements to safety will also serve to increase overall awareness of the presence of cyclists on our roads. Education is also important in that it advises people that new and/or improved facilities exist, and explains how the engineered system is intended to operate. To this end, Council recognises that education is important at each of the "before", "during" and "after" stages of the delivery of this Strategy.

7.0 Encouragement

While the cycle network will provide great benefits to existing cyclists, there is a need to also encourage potential cyclists to venture out and experience the benefits provided by the new network. This encouragement is best undertaken by Napier City Council in conjunction with other organisations promoting cycling such as Sport Hawkes Bay, the Cycle Advocacy Network, and Road Safe Hawkes Bay.

7.1 Raising Awareness

Many people who do not regularly cycle identify the large number of cars on the road, and their speeds as the primary deterrent to cycling. Indeed, the perceived danger of cycling is one of the major deterrents to increased cycle use and, in recent years, has caused many parents to discourage their children from cycling. This has had the effect of not only reducing the mobility and independence of children but also creating additional traffic demands and localised congestion in and around schools. A number of other barriers are often also cited as deterrents to cycling, including:

- narrow roads and bridges
- poor condition of the road surface
- a lack of consideration from drivers
- difficult intersections, particularly roundabouts
- a lack of information and sign-posting.

The promotion of safe riding for all cycle groups is seen as an important element in achieving an increased safety level among cyclists. Promotional programmes aimed at modifying the behaviour of all road users can be initiated through local media. Newspaper campaigns, radio advertisements and regional television will be useful in both raising awareness of cyclists and thereby encouraging cycling as an option for both transport and recreation. They will also promote the health benefits of cycling which will be best done with the co-operation of organisations such as the Heart Foundation.

Active participation in national campaigns such as the successful Bike Week will serve as a significant method of encouragement for Napier residents to cycle. Many New Zealand cities have also organised activities around National Bike to Work Day which have typically included a morning breakfast and festivities. These have been greatly successful events, often providing people with an opportunity to get back on their bikes after many years.

In conjunction with education of safe cycling practices and the appropriate use of the proposed cycle network, schools and cycle clubs can also take the opportunity of actively encouraging cycling as an environmentally friendly mode of transport, with consequent advantages to the wider community. Such encouragement can lead to an increase in the use of cycles.

7.2 Methods

The Strategy includes the following six Encouragement Methods:

M3.1 Support organisations promoting cycling and its safety such as the Police, Sport Hawkes Bay, the Heart Foundation, the Cycle Advocacy Network, Road Safe Hawkes Bay and local bike shops and cycle clubs.

M3.2 Initiate wider campaigns to raise awareness and encourage cycling as environmentally friendly, healthy and desirable for the personal economy.

M3.3 Promote events that encourage cycling and support local initiatives for National Bike Week, Bike to Work Day, and National Kid Safe Week.

M3.4 Facilitate positive employer attitudes and incentives for employees to cycle to work.

M3.5 Work with EIT to encourage more students to cycle, including an initial target of 400 students cycling by 2006.

M3.6 Monitor trends in cycle use, cycle crashes and community attitudes towards cycling.

The Encouragement Methods are aimed first at maintaining cycling numbers and reducing cycle crashes, and then oriented towards increased cycle use in the community. As the number of cyclists increases, more drivers gain experience of cycling (as occasional cyclists) and drivers become more experienced among cyclists, so cycling becomes safer. Therefore, strategies that improve the safety and perceived safety of cycling in the community are likely to be the most effective at increasing the use of bicycles for transport.

8.0 Enforcement

In addition to its programme of education and encouragement, *Bike It!* includes a fully integrated element of enforcement. Safety for cyclists needs to be recognised as a key issue, and needs to consider behaviour on the part of both the cyclist and the driver. This is the tasks of and will be the aim of law enforcement officers.

The primary focus of the enforcing authority will be to provide a safe environment for the use of cycles by constructive involvement rather than by simply penalising offenders. Enforcement, along with education, will also be necessary to discourage unsafe practices such as riding without lights at night.

8.1 Behavioural Patterns

The needs, skills and behavioural patterns of cyclists are diverse and reflect the wide age range of cyclists as well as the different motivations of each individual, whether they be riding to school, as a commuter, or as a recreational cyclist at weekends. Obviously, part of the onus for increasing the safety of bicycle travel rests on users themselves.

Cyclists are safest when they fully obey the rules of the road, when they are skilled in proper riding techniques, and when they share the road in co-operation with other traffic. In encouraging cycling as a means of travel, importance needs to be placed on behavioural aspects of cycling such that enforcement needs to constitute part of the overall solution.

The Police will be a key player in a “Share the Road” campaign. This multi-faceted campaign will combine local advertising of responsibilities on the road with particular Police targeting of offenders. It will largely focus on driving and cycling behaviour including indicating, obeying road signs, providing sufficient space and other courtesies, and will help motorists to travel in harmony with cyclists and cyclists to be provided with a safe riding space.

Further Police campaigns will target cyclists failing to adhere to the road rules and legal requirements for cycle helmets and lights. While such approaches appear negative they are necessary to ensure that safety targets are reached alongside the target of increased cycle usage.

8.2 Methods

The following six Enforcement Methods are incorporated in this Strategy accordingly:

M4.1 Work with the Police in initiating a "Share the Road" campaign, aimed particularly at informing drivers how to respond to the presence of cyclists and encouraging responsible behaviour from both motorists and cyclists.

M4.2 Support and utilise local media to raise awareness of both driver and cyclist rights and responsibilities on the road, especially at intersections.

M4.3 Run a Police campaign targeting cycle helmet wearing.

M4.4 Set up a "Be Bright on a Bike" campaign.

M4.5 Run a Police campaign targeting cyclist compliance with road rules, especially at intersections.

M4.6 Facilitate the security and safety of the cycle network and end of trip facilities.

As a whole, enforcement enhances a safe cycling environment by ensuring that traffic rules are adhered to by both cyclists and motorists by seeking to eliminate unsafe or otherwise unacceptable road behaviour.

9.0 Cycling Ahead

Napier City Council has a clear policy in the District Plan to "encourage a decrease in the reliance on motor vehicles by establishing cycleways within the City". *Bike It!* harnesses this policy and expands to all avenues of encouraging people to choose cycling and of achieving a more balanced transport system.

Three particular goals have been established to assess the success of the Strategy. By 2006:

- Census results will show the proportion of the workforce cycling to work has increased to 10%
- the number of bikes in intermediate and secondary school cycle racks will show that 25% of all students bike
- the number of cycle crashes will average no more than ten per year.

Council is committed to establishing a human resource within Council to ensure that this Strategy is brought to fruition and that these initial goals are their underlying objectives and methods are met.

Also, two yearly attitudinal surveys of the community will show improved:

- satisfaction with the provision made for cyclists
- driver courtesy and responsibility towards cyclists
- numbers of cyclists who feel safe cycling on the road
- numbers of non-cyclists who consider cycling on the roads is safe.

The Strategy will be reviewed and updated as appropriate every five years. The next review is timed for 2006.

With the establishment of a cycle network throughout the city and the encouragement of the community to cycle, Bike It! will aid the sustainable management of the transportation network and provide for the general enjoyment and wellbeing of the community.