



Ministry of **Transport**
TE MANATŪ WAKA

Raising the Profile of Walking and Cycling in New Zealand

A GUIDE FOR DECISION-MAKERS





ACKNOWLEDGEMENTS

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This section sets out links to resources that regional and local government can use, to encourage walking and cycling in their towns and cities.





Executive Summary

Encouraging more walking and cycling has many benefits, both for our communities and for us as individuals. Evidence suggests that increased numbers of walkers and cyclists can stimulate economic activity, promote accessibility and community cohesion, reduce congestion, improve safety, reduce transport emissions and improve public health¹.

These aspirations are reflected in the *New Zealand Transport Strategy 2008* (NZTS). A key target in the strategy is to see an increase in walking, cycling and other active modes to 30 percent of total trips in urban areas by 2040. Achieving this target will also contribute to other key NZTS targets, in particular to halve per capita greenhouse gas emissions from transport by 2040 and to reduce single occupant vehicle travel (in major urban areas on weekdays) by 10 percent by 2015.

The Government Policy Statement on Land Transport Funding sets out an intermediate target to increase walking and cycling by one percent per year to 2015. It is hoped that early progress on the NZTS targets will set in place a trajectory towards a safer, more integrated, responsive and sustainable transport system.

This guide shows how the benefits of encouraging and providing for walking and cycling can improve the liveability and sustainability of New Zealand towns and cities. It discusses these benefits, provides a 'snapshot' of the current walking and cycling picture, and considers the many initiatives that can be implemented to increase the numbers of New Zealanders using these active modes for safe and convenient transport. Case studies of walking and cycling initiatives and practical 'how to do it' information for regional and local government illustrate the guide.

The principal audiences for this guide are decision-makers and key influencers in government, particularly at the regional and local level. These audiences include elected officials, managers, planners and road safety engineers². Members of the public who are interested in participating in regional or local transport planning will also find this guide useful.

The historical pattern of land-use and the development of our transport system to favour motorised mobility have meant that fewer of us walk and cycle as a means of transport as much as we potentially could. That said, there is considerable potential to raise the profile of walking and cycling. Recent urban data indicates that walking and cycling may be undergoing a revival for transport, particularly in light of recent petrol price increases. Although this gives grounds for some optimism, there is still much that needs to be done to make walking and cycling as forms of transport more convenient, safe and enjoyable.

A shared commitment at national, regional and local levels is required that puts design of vibrant, liveable urban areas at the forefront of encouraging walking and cycling; integrates walking and cycling into regional and local transport planning; and has a comprehensive range of initiatives to encourage walking and cycling that are self-reinforcing, integrated and designed for local conditions. This guide highlights some of the ways these objectives can be met.

Benefits of walking and cycling

There are many benefits to our towns and cities from increasing walking and cycling. This section considers how these active modes improve the liveability of our communities by increasing economic activity and reducing congestion, improving safety and personal security and increasing community accessibility and cohesion. Increased walking and cycling, particularly for short trips, also helps to reduce transport emissions and improve public health.

IMPROVES THE LIVEABILITY OF OUR COMMUNITIES

"Liveability refers to the environmental and social quality of an area as perceived by residents, employees, customers and visitors. This includes safety and health (traffic safety, personal security and public health), local environmental conditions (cleanliness, noise and air quality), the quality of social interactions (neighbourliness, fairness, respect, community identity and pride), opportunities for recreation and entertainment, aesthetics and existence of unique cultural and environmental resources (eg historic structures, mature trees and traditional architectural styles).

Liveability directly benefits people who live in, work in or visit an area, increases property values and business activity, and can improve public health and safety. Liveability is largely affected by conditions in the public realm, places where people naturally interact with each other and their community, including streets, parks, transportation terminals and other public facilities, and so is affected by public policy and planning decisions"³.

The interplay between designing for liveability and increasing walking and cycling is self-reinforcing. A liveable community forms the conditions that encourage people to walk and cycle, while more people walking and cycling help to create a more liveable community.



Photo courtesy of Cycle Advocates Network

GOOD FOR THE ECONOMY

A liveable community that encourages walking and cycling contributes to the local economy in a number of ways. People in liveable communities tend to increase the amount of time they spend walking or cycling to and around local destinations. Various studies have revealed up to a 10 percent increase in the rate of walking for shopping trips and improved access to public transport relative to the rate in car-oriented developments.



Pedestrian-friendly environments can also encourage greater 'dwell times' in retail centres. A Melbourne study found that more than 50 percent of expenditure in the Acland Street Precinct was from walkers, while only 26 percent was from motor vehicle drivers. Walkers also spent more per annum compared with those who drove or were driven⁴.

A \$4.5 million investment in streetscape and pedestrian improvements on School Street in Lodi, California, helped to attract 60 new businesses, decreasing the vacancy rate from 18 to six percent and increasing downtown sales tax revenue by 30 percent. These findings contravene conventional wisdom about shopping being necessarily 'heavily auto-oriented'⁵.

Other studies revealed that a package of traffic-calming measures reduced the amount and the speed of traffic, and increased residential property values by around 20 percent⁶. There is also strong evidence that people are willing to pay more to live in neighbourhoods where there is a combination of mixed land-use, good public transport and good street design⁷.

Traffic congestion affects quality of life and imposes a burden on businesses and residents alike through delays, unreliable journey times and the time spent sitting in traffic jams.



Substituting a motor vehicle trip with walking or cycling, or walking/cycling to a bus/train station and taking the bus or train to a destination, will help reduce this congestion and the consequent negative economic impact⁸.

A community that encourages walking also attracts tourists. In Dunedin, surveys indicate that for 80 percent of visitors, walking is the most popular activity⁹.

Cycle tourists are also good for the local economy. Research in Victoria found that backpacker tourists (of which cycle tourists are a subset) spend less per day than the average overseas tourist, but stay longer and tend to spend about double the average per capita¹⁰. A New Zealand study states that due to their pace of travel and length of stay, bicycle tourists in the South Island spend considerable amounts of time and money in regional areas¹¹. Regional cycling events, such as the Lake Taupo cycle challenge, have a positive impact on local economies¹² while infrastructure created for the events will also benefit local recreational and commuter cyclists.

IMPROVES SAFETY AND PERSONAL SECURITY

Attractive walking and cycling networks encourage more people-centred activity in neighbourhoods. If more people are out-and-about in their neighbourhood, less crime (and fear of crime) is likely and those neighbourhoods become safer and more secure. At the neighbourhood level, patterns of burglary are strongly linked to the street structure. Studies show that areas that are well-connected and visible have significantly fewer burglaries¹³. Connectivity allows people and places to benefit more from natural surveillance where, because of 'eyes on the street', people feel safer and criminals feel exposed¹⁴.

Providing safe and convenient facilities for walking and cycling helps make the transport network safer for everyone, including motor vehicle drivers¹⁵.

COMMUNITY ACCESSIBILITY AND COHESION

Walking and cycling give people the opportunity to independently explore and experience the environment and communities in our cities, towns and countryside. The ability for children to walk and cycle to and from school is particularly important. An increase in children walking and cycling will help to reduce congestion¹⁶ and encourage children to become more physically active, as well as gain independence by learning to negotiate roads safely.

Trips to school make up around a third (36 percent) of all morning peak trips in Auckland, and just over half (54 percent) of these trips are made by car¹⁷.



Photo courtesy of NZTA



Walking and cycling are often part of a multi-modal trip that involves combinations of walking, cycling, passenger transport and driving motor vehicles. This is particularly so for walking as the vast majority of us are pedestrians at some point during the time that we travel. Walking and cycling are also important modes of transport for people who do not own or have access to a motor vehicle¹⁸.

Pedestrian-friendly streets create opportunities for people to meet and interact, helping to create community networks. Residents of lower traffic volume streets are more likely to know their neighbours and show more concern over their local environment than residents of streets with higher traffic volumes and speeds¹⁹.

PART OF CLIMATE CHANGE SOLUTION

Walking and cycling are the most sustainable forms of transport as they use no fossil fuels. Currently, a high proportion of our motor vehicle trips are less than two kilometres. These short trips are the most polluting per kilometre travelled because the distances are too short for engines to warm up to their most efficient temperature. As petrol prices increase, substituting walking and cycling for these short trips can save money and help reduce emissions.



HEALTH BENEFITS

Substituting walking and cycling for short motor vehicle trips also benefits the health of the community by improving air quality²⁰.

The health benefits of walking and cycling to the individual are well recognised but often under-appreciated. They are accessible forms of exercise for improving cardio-vascular fitness, reducing the risk of heart disease and controlling obesity. According to the World Health Organisation, a total 30 minutes brisk walking and cycling on most days of the week, even if carried out in 10-15 minute episodes, is effective in providing these health benefits²¹. Recent research from Australia conservatively estimated that cycling for recreation and commuting saves over A\$220 million per year in health costs²².

Adults who walk for exercise two and a half to four hours or more each week tend to have less than one-half the prevalence of elevated total cholesterol as those who do not walk or exercise regularly.

American Journal of Public Health, 1990

Getting on your bike can yield much the same health benefits as doing a specific training programme. Cycling for an additional 30 minutes on most days of the week, can achieve weight loss comparable to that achieved by doing three aerobic classes a week.

Journal of the American Medical Association, 1999

SUMMARY

Walking and cycling have many potential benefits, both for our communities and for us as individuals. To realise these benefits, people must have safe and convenient choices to change their current pattern of travel. Achieving this requires attention to the way we plan our transport systems for active modes and how accessible we can make our communities. Before looking at ways to encourage walking and cycling, the current situation is assessed in the next section.



Photo courtesy of NZTA

Current situation in New Zealand

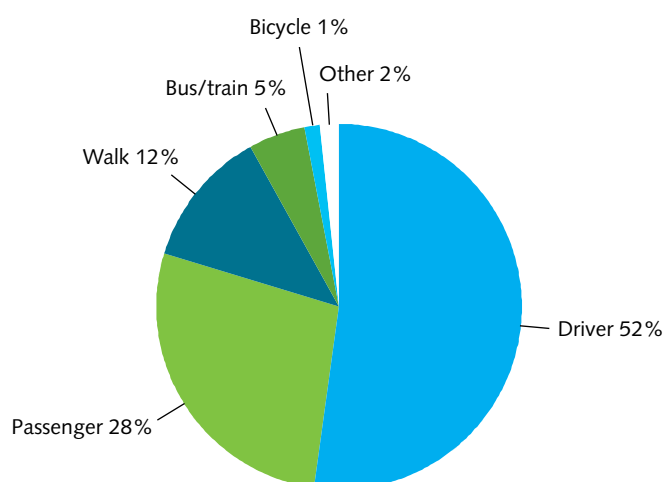
This section considers current walking and cycling activity with a 'snapshot' of national statistics. A fuller set of walking and cycling 'indicators of progress' at the national level is under development. The indicators reviewed in this section are presented in the table below.

TRAVEL BEHAVIOUR	Modal share Modal share by trip purpose Combination mode share travel to school (Ages 5-12) Combination mode share travel to school (Ages 13-17)
WALKING AND CYCLING	Time spent walking per person Distance cycled per person
SAFETY	Fatalities and injuries for pedestrians and cyclists
TRAVEL PERCEPTIONS	Travel perceptions for walking and cycling

MODAL SHARE

The prevalence of the motor vehicle as the preferred mode of transport is reflected in statistics from the New Zealand Household Travel Survey (NZHTS), a national survey conducted annually²³.

Figure 1: Overall mode share – share of total travel time

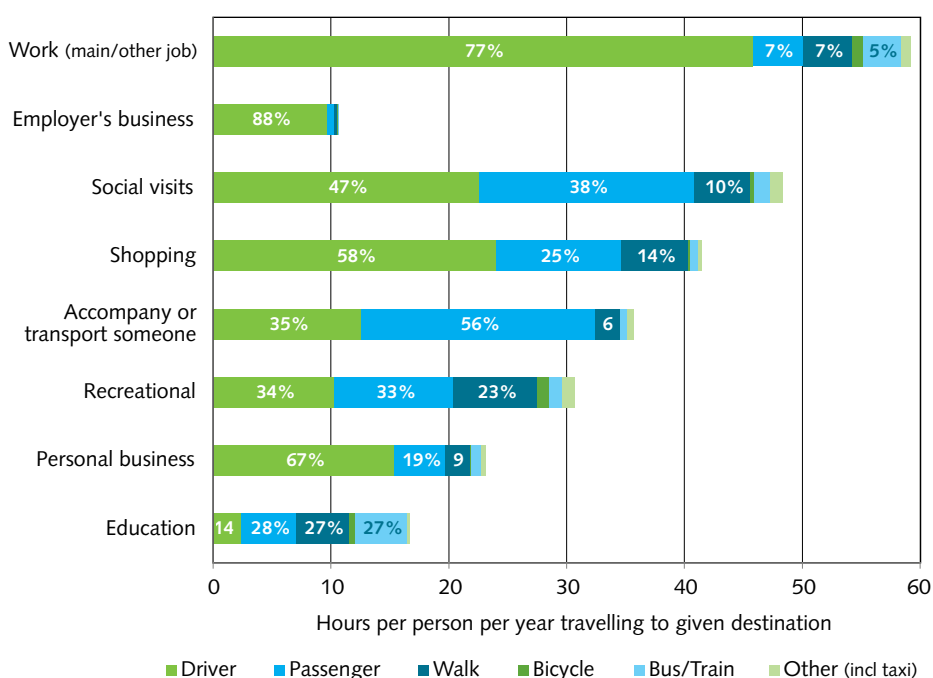


From 2008, regional information will be available from the NZHTS that will be a valuable resource for transport planners in regional councils and unitary authorities. For more about the survey see <http://www.transport.govt.nz/ongoing-travel-survey-index/>

More than half of New Zealanders' travel time is spent driving. In comparison, 12 percent of time is spent walking, five percent on public transport and only three percent by other modes of transport (eg bicycle, plane or boat)²⁴.

Travel to work is the largest travel category and also the most dependent on driving. Seven percent of the population walk to work and two percent cycle. It is also notable from Figure 2 below that walking is more popular for other purposes, notably recreation, shopping and other social activity.

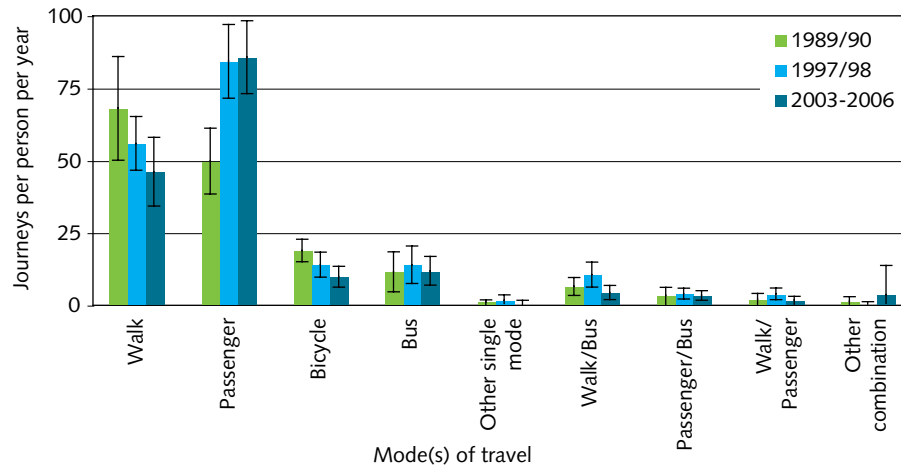
Figure 2: Mode share of time spent travelling, for each trip purpose/destination type



TRAVEL TO SCHOOL

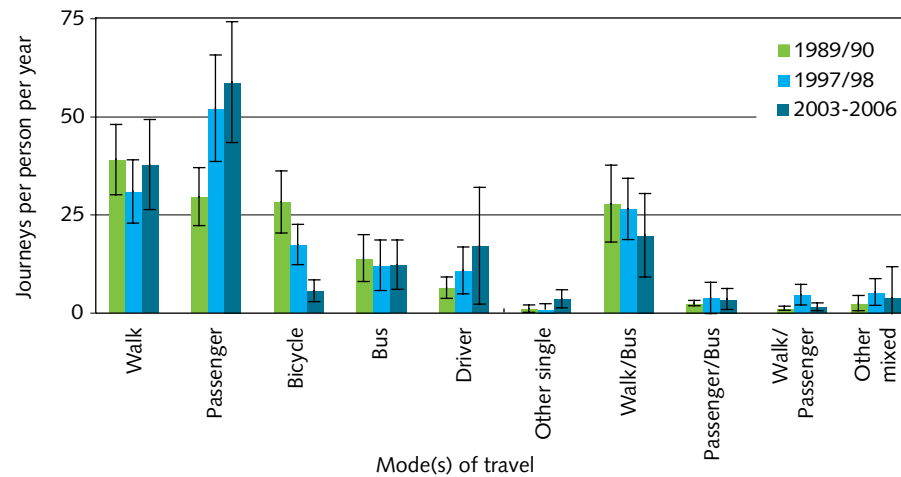
Figure 3 below shows that the number of primary school-aged students being driven to school increased sharply between 1989-90 and 1997-98, and has increased only slightly since 2003-06. Walking has declined, from the most commonly-used mode of transport to school, to be only just over half as common as being driven.

Figure 3: Travel to school – ages 5-12



Among secondary school students, cycling has fallen quite significantly compared to younger children (see Figure 4 below). The number of walking journeys has remained fairly constant, although it increased slightly among 13-17 year olds and declined slightly for 5-12 year olds.

Figure 4: Travel to school – ages 13-17



SHORT TRIPS

Short trips make up a large proportion of household travel. For the period 2003-06, 37 percent of trips under two kilometres were made on foot and four percent by bike. For trip chains (ie combining several errands in one trip) between two and five kilometres, the respective figures were 11 percent on foot and just over two percent by bike²⁵.

WALKING

Walking declined by 24 percent between 1989-90 and 2003-06 (see Figure 5 below). The only significant change in the time per person spent walking occurred in the 5-12 age group, where it decreased from 1.5 hours per week on average to 1.1 hours per person per week (see Figure 6 below).

Figure 5: Time spent walking per person per week (ages 5+)

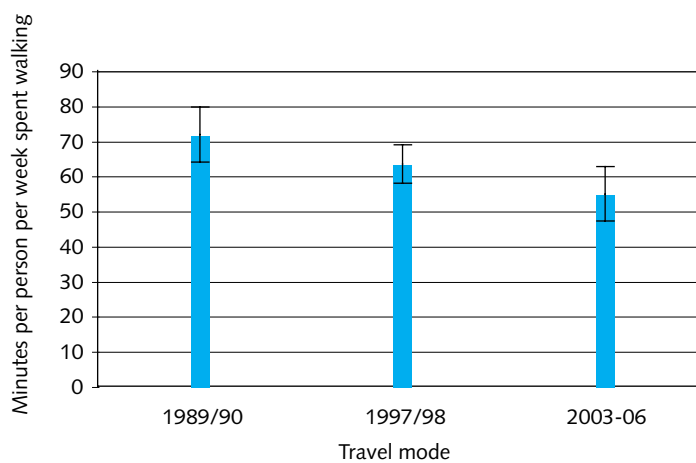
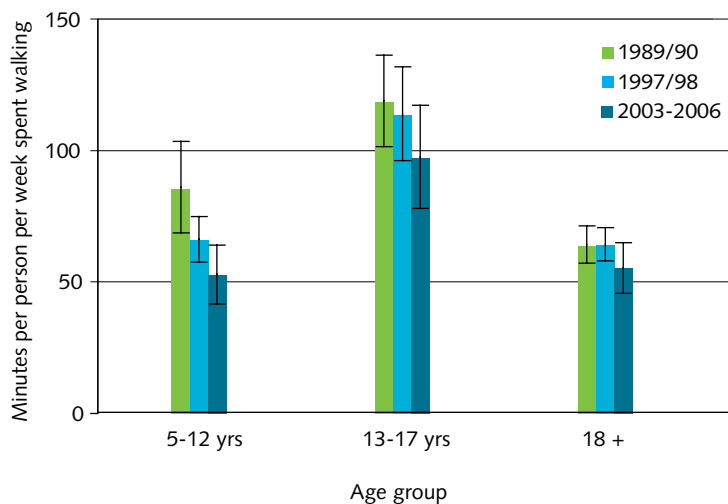


Figure 6: Time spent walking per person



CYCLING

The distance cycled per person dropped by a quarter between 1997/98 and 2003-06 (see Figure 7 below). Most of the decrease came from primary and secondary-aged children (see Figure 8 below). For adults, both the distance cycled and the time spent cycling have not changed significantly.

Figure 7: Distance cycled per person per week (ages 5+)

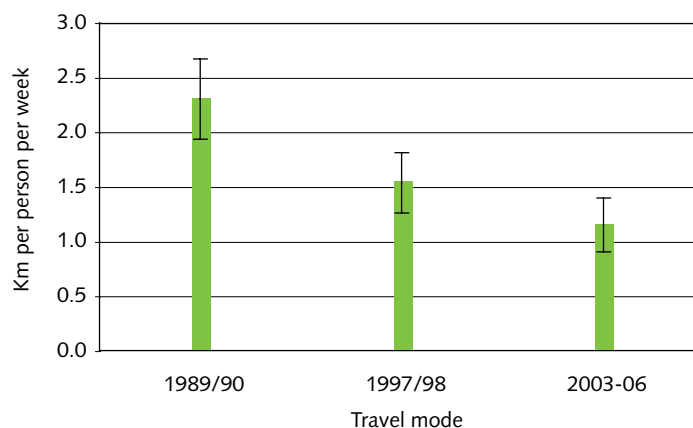
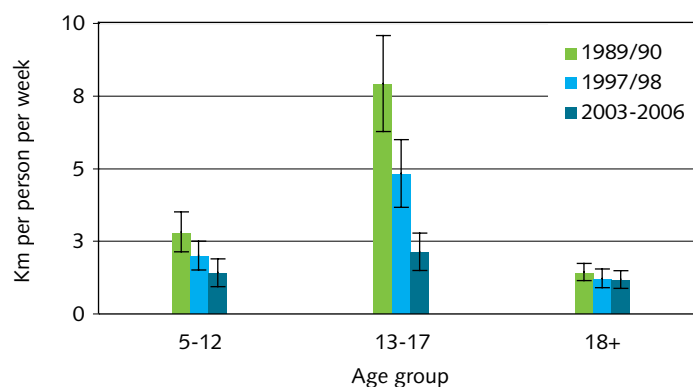


Figure 8: Kilometres cycled per person per week by age group



RECREATIONAL CYCLING

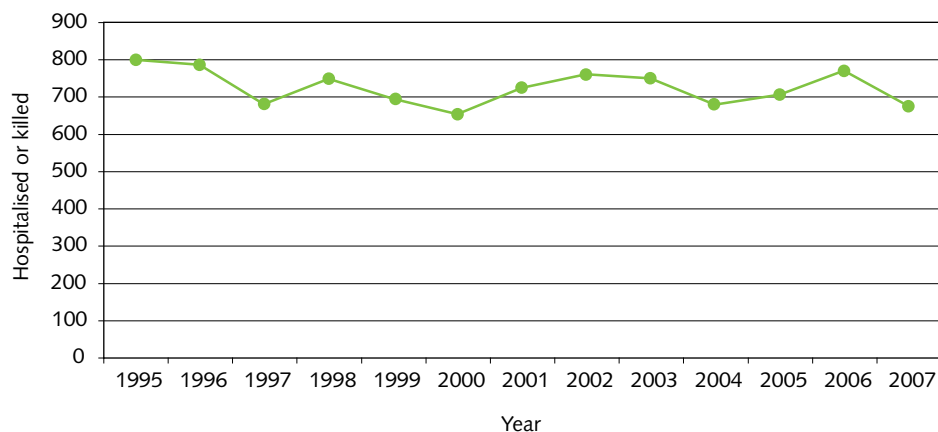
The NZHTS suggests that the distance cycled per person has decreased since 1989/90. However, it should be noted that over one-third of New Zealanders own a bike (1.25 million people), 750,000 of whom ride at least once a month. Over 10 percent of cyclists use their bike every day (approximately 140,000 people) and about 38,000 (or 2.5 percent of commuters) ride to work.

Walking and cycling safety

PEDESTRIANS

From 1995 to 2007, pedestrians accounted for about 10 percent of all road deaths in New Zealand. In the main urban centres, on roads subject to urban speed limits, about one in three road deaths were pedestrians. As Figure 9 below reveals, the total number of pedestrians hospitalised or killed has dropped since 1995²⁶.

Figure 9: Pedestrians hospitalised or killed from crashes involving motor vehicles on public roads (1995-2007)



At a national level, crashes involving pedestrians occur mainly:

- in built-up areas
- within one to two kilometres of the pedestrian's home
- on relatively main roads rather than minor roads
- near residential and commercial land-use
- away from intersections
- away from formal pedestrian crossings
- when pedestrians are most likely to be out and about²⁷.

If the number of hours spent walking (based on the NZHTS) for different age groups is combined with police-reported crashes, children (up to 14 years) and older pedestrians (80 and above) appear to be the 'at-risk' groups. Older pedestrians as a potential 'at-risk' group will be influenced by issues of their relative fragility. They are also likely to be a growing and active group of pedestrians given predicted future demographic changes in New Zealand²⁸.

Pedestrian crashes and injuries that do not involve a motor vehicle or another road user, or that happen away from the roadway (eg falls due to poorly maintained footpaths) often go unreported. Approximately 400 people are admitted to hospital in New Zealand each year due to slips, trips and stumbles on the same level in the road environment. They tend to be elderly and are more likely to be seriously injured if they fall²⁹.

CYCLISTS

From 1995 to 2007, cyclists accounted for about two percent of all road deaths in New Zealand. Over this period, an average of 11 cyclists were killed per year on New Zealand roads. The number of cyclists killed or injured has been trending upwards since 2004, at a time when the total distance spent cycling as a means of transport has fallen (see Figure 10 below).

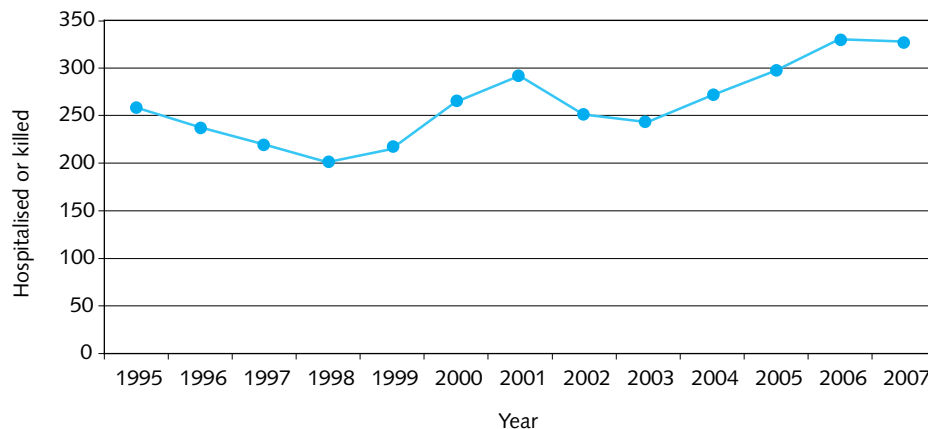
At a national level, crashes involving cyclists and a motor vehicle occur mainly:

- on urban roads (speed limit of 70 km/h or less)
- on major urban roads rather than minor urban roads
- in the morning and late afternoon/early evening

Over 50 percent of fatalities involving cyclists occur on the open road due to the high impact speeds associated with crashes on this type of road.

If the number of hours spent riding for different age groups is combined with police-reported crashes, then adult cyclists in the 15-29 year age group appear to be more at-risk of being in a collision with a motor vehicle than younger or older cyclists. They tend to ride further in a given time than younger cyclists and may also ride in heavier traffic (eg on major commuting routes in cities and on the open road). These statistics suggest that improving safety for cyclists should be a priority³⁰.

Figure 10: Cyclists hospitalised or killed from crashes involving motor vehicles on public roads



A study of cycle-only crashes on New Zealand roads, between 1999 and 2000, shows that:

- road features accounted for 28 percent of the crashes
- of the individual road features, loose gravel caused the greatest proportion (34 percent) of crashes
- of the grouped road features, surface irregularities accounted for 39 percent of crashes
- the majority of the crashes were in urban areas (ie $\leq 50\text{km/h}$)
- most of the crashes in urban areas involved cyclists using their cycle as a means of transport (ie commuting to work, school or shops)
- most of the crashes in 100 km/h speed zones involved cyclists who were out sports training³¹.

Overall, between 1989 and 2003 the rate of fatal and serious crashes reduced significantly, suggesting that the environment for walking and cycling was becoming safer. However, an increase since 2004 suggests greater commitment is needed to improve safety for cyclists.

PERCEPTIONS OF WALKING AND CYCLING IN CONTEXT

Many of our urban areas are characterised by sprawling low-density land-use patterns, which can make it inconvenient to walk and cycle due to the long distances involved, or if there is a lack of connectivity³² to desired destinations³³. Some pedestrians and cyclists may feel intimidated by high traffic volumes and speeds, as well as intersections, crossings and roundabouts, which can be difficult to negotiate. Negative perceptions and experiences may discourage people from using a particular route or encourage them to drive instead of walk or cycle, especially if the walking and cycling infrastructure is poor.



Photo courtesy of NZTA

Speed

The faster that people drive, the more difficult it is for them to avoid hitting a cyclist or pedestrian in their path. An alert driver travelling at 50 km/h will travel 37 metres before stopping. The same driver travelling 100 km/h will move five metres further than this before they can even react. Even once they start braking, they will travel a further 69 metres before coming to a full stop.

The speed at which a cyclist or pedestrian is hit strongly determines how seriously they will be injured. A cyclist/pedestrian hit at 32 km/h has a 95 percent chance of survival. If they are hit at 48 km/h, their survival chance decreases to 55 percent. Once the impact speed reaches 70 km/h, the survival chance is virtually zero. The risks speed pose to the elderly and children is likely to be even higher due to their natural fragility³⁴.

Although travel to school makes up only six percent of journeys in New Zealand, the child health implications and the timing of school travel within the morning peak make it important. In the first few years of school, children's preferences are clear – most want to walk, cycle or catch passenger transport. However, at this age, most children travel to school by car – a choice which is made by their parents³⁵. This raises concern about children's loss of independent mobility, the number taking part in regular exercise and the potential effect on rates of childhood obesity.

A 2006 Wellington regional council transport perception survey found that 88 percent of respondents would allow children to walk unsupervised near their homes while only 59 percent would allow them to walk to school. The main reason given for not allowing children to walk to school unsupervised related to 'stranger danger' issues (35 percent of respondents). Other reasons given included the volume of traffic and main roads the children would need to contend with (21 percent), as well as the distance involved (19 percent). While the actual recorded occurrence of 'stranger danger' incidents is very low, media over-reporting can lead to an overstated perception of the danger³⁶.

Perceptions of safety influence whether people view walking and cycling positively or negatively. Walking and cycling are not inherently dangerous, nor are pedestrians and cyclists usually a danger to each other. Most risk is a result of walking and cycling on transport networks that are designed for motor vehicles, combined with the speed and volumes of the motor vehicles themselves. However, studies strongly suggest that the health benefits of walking or cycling vastly outweigh the risk of being hit by a motor vehicle³⁷. If safety of walking and cycling is given due priority in transport planning, there is no good reason not to promote these modes.



There is also a perception that walking or cycling are not viable travel/commuter options because they are slow³⁸. Commuter challenges – where cyclists, car drivers and bus passengers try to reach a central area first during peak hour traffic – have been held in both Auckland and Christchurch, and cyclists have been the consistent winners³⁹.

A LOCAL WALKING AND CYCLING REVIVAL?

Recent evidence suggests that both cycling and walking have increased in some urban areas. In Auckland, commuter cycling increased by 15 percent from 2005-07⁴⁰. In Wellington, cyclists crossing the Central Business District (CBD) cordon in the morning peak increased by over 50 percent in 2007, while pedestrian numbers rose by 17 percent and lunchtime pedestrian numbers between the CBD and waterfront showed an eight percent increase⁴¹. In Hamilton, cycling was up 10 percent in 2007 breaking a 27 year declining trend⁴². Nelson, Christchurch and Palmerston North are also experiencing growth in cycling.



SUMMARY

This overview indicates that, until recently, walking activity has remained steady and commuter cycling has declined. However, recent data from some of the main urban centres indicates that walking and cycling may be undergoing a revival in some of these areas. Although this regional data is grounds for some optimism, there is still much that needs to be done at national, regional and local levels to make it safer and much more convenient for people to walk and cycle. The next section discusses initiatives that can be undertaken to promote walking and cycling.



How to encourage walking and cycling

Increasing the numbers of New Zealanders walking and cycling will require a shared commitment by national, regional and local government to long-term strategic planning, coupled with initiatives that can be implemented over the short to medium-term.

Strategic Planning

DESIGNING FOR LIVEABILITY IN OUR URBAN AREAS⁴³

It is crucial to strongly link urban design and liveability with encouraging walking and cycling. An urban environment has a number of design characteristics that need to be integrated effectively for it to be deemed liveable⁴⁴. Of particular importance for walking and cycling are connectivity, density, mixed use, safety and high quality public spaces⁴⁵.

NZ Transport Agency best-practice guides

The NZ Transport Agency (NZTA) has published planning and design guides for both walking and cycling infrastructure. These guides promote a consistent 'world's best-practice' approach to planning, designing, operating and maintaining walking and cycling infrastructure and networks. They outline the processes for deciding on the type of provision that should be made for pedestrians and cyclists, and are an invaluable resource for road controlling authorities.



Pedestrian Planning and Design Guide

<http://www.ltsa.govt.nz/road-user-safety/walking-and-cycling/pedestrian-planning-design-guide/index.html>

Cycle Network and Route Planning Guide

<http://www.ltsa.govt.nz/road-user-safety/walking-and-cycling/cycle-network/index.html>

CONNECTIVITY

A well-connected network of neighbourhood streets generally encourages walking and cycling. Most people will walk or cycle a limited distance, particularly if the network of streets allows a greater range of destinations to be within comfortable walking or cycling distance from any point in the neighbourhood. Combining connectivity and sensitive public space design encourages people to change their mode of transport, especially for local trips⁴⁶.



Providing connections that allow through-access for walkers and cyclists needs to be combined with improving the quality of the environment if these connections are to attract use. Connections must be visible, and integrated with traffic-calming strategies that reduce traffic volumes and speeds to create safer conditions for walking and cycling. People are less likely to walk where there are poor footpaths and bad lighting, or a perceived lack of safety (from both accident and crime), and particularly for women and children. The importance of safety – both perceived and actual – is vital if walking and cycling are to be encouraged⁴⁷.

DENSITY

Higher densities allow a greater number of public amenities and transport facilities to be located within walking and cycling distance, thus reducing the need for the car. Higher densities promote active travel and reduce distance driven per household. Shortening distances between destinations, although necessary to increase walking and cycling, needs to be combined with other variables such as connectivity and the quality of the transport network⁴⁸.

MIXED USE

Mixed use occurs where a variety of different activities co-exist in close proximity, allowing living and working to be integrated. In combination with micro-scale design conditions that support walking and cycling (including connectivity and safety), mixed use leads to a reduction in car use, especially for local trips. Mixed use is also directly related to an increase in the number of people walking or cycling to work⁴⁹. Many major New Zealand urban areas are now focusing their land-use planning on improving densities and mixed use environments.

HIGH QUALITY PUBLIC SPACES

Public spaces comprise all parts of the physical environment that the public can experience or have access to⁵⁰. Micro-scale urban design factors such as building orientation, street connectivity and design, and building design contribute to the relative friendliness, desirability, safety and convenience of an area⁵¹. There is conclusive evidence that a 'high-quality' public environment, with an appropriate combination of area-specific conditions, leads to a significant increase in occupation and activity, including walking and cycling⁵². Improving the quality of the environment includes improvements to street amenities (such as shade trees or street lighting) and providing complementary and end-use facilities (such as rest benches, sign-posting of pedestrian links for walkers, safe off-road facilities for new cyclists and secure cycle parking).



Botany Downs, South-east Auckland

Botany Downs is a new and rapidly growing urban area in Manukau City. A residents' survey in four medium-density housing developments found that people with reasonable access to local services and shopping will tend to access these on foot, and a reasonable proportion walk to do supermarket shopping. Proximity of the Botany town centre was cited by almost half the respondents as the most positive aspect of living in Botany Downs. Asked how their lifestyle had changed following moving to Botany Downs, the most common responses were an increase in walking and exercising more. In addition "Businesses and service providers are generally very positive about the developments, with many feeling that they had attracted more people and money into the area."

Ministry for the Environment, 2005, Value of Urban Design, p. 42.

INTEGRATED TRANSPORT PLANNING

Integrated transport planning is a strategic approach to identify current and future access needs for people, places, goods and services to enable decision-makers to manage the transport system multi-modally⁵³. Integrating transport planning with land-use planning is critical to utilise the full range of benefits. For example, pedestrian-oriented design creates both health and environmental benefits, because walking and cycling can substitute for private vehicle use. If local walkability is not complemented by regional initiatives such as accessible public transport, then the health benefits may be under-realised because local walking trips will simply continue to complement longer-range car use, rather than replace any component of car trips.

Integrated transport planning integrates the elements of the transport system by drawing on the strengths of each mode. This requires the integration of walking and cycling into general road construction and maintenance, rather than retrofitting in response to an identified safety issue after the road is completed.

It is also vital to incorporate walking and cycling with passenger transport through integrated planning and ticketing to encourage a modal shift from motor vehicles. Links to public transport can be critical to cyclists and pedestrians to ensure the viability of longer trips (especially for cycle tourists), in hilly terrain and where there are poor, hazardous or non-existent road options. The potential for multi-modal travel involving cycling is demonstrated in The Netherlands, where 35 percent of train travellers cycle to the station⁵⁴. The viability of linking cycling to public transport depends on cycle parking at bus or train stations and the ability for cyclists to take their cycles on buses and or trains.

Other necessary forms of integration include:

- cycling and public transport with car travel through park and ride schemes
- planning between different agencies within a region
- council activities with relevant public health and sport/recreation agency programmes to identify synergies to encourage walking and cycling (eg Healthy Eating–Healthy Action).

The NZTA will fund regional transport studies (eg multi-modal package studies) and system use studies (eg travel demand management/travel behaviour change studies and strategies) that can demonstrate how walking and cycling can be integrated into a multi-modal approach⁵⁶.



Photo courtesy of NZTA

Bike Central at Britomart

Bike Central is located at Britomart, in the heart of Auckland's CBD. It offers secure indoor bike storage, showers, a washing machine and dryer, personal lockers, a cycle repair service, a range of bikes for hire, as well as food, drink and free wireless internet.

Creators of Bike Central, ex-courier cyclists Paul Sumich and Clinton Jackson, believe more people would cycle to work if offered secure storage and warm showers at the end of their trips. "We've heard hundreds of people ask where can I go in town to leave my bike," Mr Sumich said.

Bike Central website (<http://www.bikecentral.co.nz/>) and NZ Herald online 25 February 2008.



Public Transport Accessibility Levels (PTAL)

Christchurch City Council commissioned Abley Transportation Engineers to develop a high level assessment framework of transport accessibility to commercial centres. The aims were to better integrate transport planning into council policy on city-wide commercial centres and to give developers guidance when submitting resource consents. Access to public transport is important when considering the development of commercial activities.



Public Transport Accessibility Levels (PTALs) were developed to assess the quality of access to a commercial centre by public transport, taking into account walking times and service availability and quality.

PTALs were developed by the London Borough of Hammersmith and Fulham, then adopted by Transport for London (TfL) for

implementation across London. The method measures access to the public transport network at any point, and incorporates:

- the catchment area for public transport, based on walking times
- the accessibility of particular locations
- access points (bus stops, ferry terminals or rail stations) within the catchment area
- the frequency of public transport services (ie average waiting time)
- the number of services available.

PTAL levels for Christchurch were calculated, identifying areas of high public transport access and gaps in the public transport and walking network where small enclaves of poor service exist. This technique could be applied to other New Zealand cities and include trains and ferries.

WALKING AND CYCLING STRATEGIES

The NZTA will provide financial assistance to territorial authorities for the cost of the preparation (including reviews of strategies to promote walking and/or cycling). Territorial authorities are more likely attract funding if they have an integrated walking and cycling strategy backed by an implementation plan. Local walking and/or cycling advocacy groups and the NZTA must be consulted during the preparation of the strategies. Strategies must be consistent with the appropriate regional land transport strategy and the national walking and cycling strategy⁵⁷.

Councils need consistent quality information about walking and cycling within their local authority area if walking and cycling strategies are going to be successful. Consistent quality information involves having data on the numbers of people walking and cycling. It also includes having a good understanding about the types of people that may begin to walk and cycle for transport if certain conditions improve as a result of, for example, a reduction in motor vehicle speeds or the creation of new facilities. Good quality local and regional information on walking and cycling activity is therefore very important to assess the effectiveness of interventions.

Currently many councils tend to rely on nationally held datasets (eg New Zealand Census⁵⁸, NZHTS⁵⁹, Crash Analysis System (CAS)⁶⁰ and hospitalisation data⁶¹) or their own pedestrian/cyclist counts or standalone surveys of their residents, which cover the full range of local authority activities⁶².

SAFETY IN NUMBERS

Some consider that if more people transfer from driving to walking, or cycling in particular, the road toll could rise. However, overseas evidence suggests this need not be the case if due attention is given to improving safety.

- York, UK, increased the modal share for cyclists and halved the number of cyclists killed and seriously injured⁶³.
- In Copenhagen during 1990-2000 the level of cycle traffic increased by 40 percent and the number of accidents fell by 25 percent.
- In Germany between 1975 and 1998 the modal share of cycling rose from eight percent to 12 percent while cycle fatalities fell by 66 percent⁶⁴.
- Portland, USA, has also increased cycling modal share and reduced casualties⁶⁵.



An explanation for the results above is the 'safety in numbers effect'. This is the well documented phenomena that the more cyclists riding down a road, or pedestrians crossing at a pedestrian facility, the safer it is for each person. This effect is due to a number of reasons including drivers taking more care, improvements in behavioural expectations of users (drivers, cyclists and pedestrians), safer route selection by users, and increased user numbers increases the demand for facilities. Crash rates for cycling and walking are lower in cities and countries where more walking and cycling takes place⁶⁶. The safety in numbers effect works best when combined with reprioritising efforts to improve safety for cycling through better infrastructure, management of motor vehicles and driver education.

SAFE SYSTEMS APPROACH

A systematic approach to improving safety for pedestrians and cyclists concentrates on minimising risk across three spheres:

- risks posed by the physical environment (includes roads, pavements and vehicles)
- risks posed by the behaviour of other road users
- risks posed by the behaviour of pedestrians and cyclists.

A package of engineering, education and enforcement initiatives addresses these risks systematically. The government's Pedestrian and Cyclist Safety Road Framework outlines the factors road controlling authorities should implement to improve safety.



Odense

Odense, in Denmark, was appointed the National Cycle City between 1999 and 2002. The campaign focused on creating extra room for cyclists by developing new infrastructure, establishing new rights for cyclists, and concentrated marketing campaigns. The results include:

- cycle accidents have decreased by 20 percent
- 2,131 living years are obtained
- every male citizen lives 5 months longer
- death rates for 15-49 years is decreased by 20 percent
- 8 million NZ\$ saved on health expenses.

Refer to www.cyclecity.dk where 50 sub-projects were run during the four year campaign.

EXPERTISE AND INFORMATION

Having staff in regional councils and local authorities who have expertise in planning for and encouraging walking and cycling is crucial. This guide contains links to information about NZTA programmes, resources and references that can be used to successfully encourage walking and cycling. Regional cycling coordinators should ideally be appointed for their knowledge and understanding of the bigger picture, as well as their skills in organising events.

Fundamentals of planning and design for cyclists



Photo courtesy of NZTA

Nearly 500 New Zealand transport professionals have now trained in the fundamentals of planning and design for cycling from a tailor-made one-day course. The Via Strada-run course, developed with the NZTA, is intended for those planning, designing and reviewing facilities used by cyclists. It is typically attended by engineers, planners, road safety practitioners and cycling advocates, and it explains the complexities and subtleties of planning and designing for cyclists. Participants are encouraged to go for a 10 km bike ride before the course.

For more details about upcoming training courses, visit www.viastrada.co.nz/fundamentals

A fundamentals of planning and design for walking is expected to be available by 2009.

Walkability tools research website <http://www.levelofservice.com/>

This website collects walkability data from Community Street Review surveys and from physical and operational variable surveys, providing a central store for New Zealand's walkability surveys and a conduit for creating Community Street Review reports.

A Community Street Review is a new survey technique combining a Community Street Audit with a numerical rating system.



Photo courtesy of Christchurch City Council

A Community Street Audit is a walkability assessment technique that was developed by Living Streets UK in 2002. They are used for "*evaluating the quality of public spaces – streets, housing estates, parks and squares – from the viewpoint of the people who use it, rather than those that manage it.*" A numerical rating system enables problem environments to be identified and compared with other walking environments. Thus, funds can be targeted where they have most value. NZTA provides assistance for community and commercial organisations interested in undertaking Community Street Reviews and collecting operational and physical data.

ACTIVE PROMOTION

Walking and cycling should be actively promoted as viable and safe forms of transport, particularly for short trips. This requires the integration of a number of interventions that are discussed below so that they reinforce and complement each other.

Sustainable travel demonstration towns in UK

The UK's Sustainable Travel Towns Projects – Darlington, Worcester and Peterborough – were set up to demonstrate what a comprehensive and sustained smarter travel programme could achieve. Darlington and Worcester have populations of 100,000 and Peterborough 160,000.

In just over two years, these towns achieved an 11-13 percent reduction in car trips, a 13-22 percent increase in public transport use, a 17-29 percent increase in walking, and a 25-79 percent increase in cycling⁶⁷. These impressive results were largely due to a refocusing of effort to favour public transport, walking and cycling, and the promotion of travel demand management such as travel planning, car sharing schemes and marketing to bring about individualised travel behaviour change.



Photo courtesy of NZTA

For more about the Sustainable Travel Towns see <http://www.dft.gov.uk/pgr/sustainable/demonstrationtowns/>

NETWORK APPROACH

It is critical to create coherent connected walking and cycling networks that take pedestrians and cyclists directly to where they want to go and in a timely fashion. These networks should include the use of parks and reserves. Pedestrian and cycle networks should be safe, comfortable, direct, coherent and attractive.



Napier and Hastings Rotary Pathway Trusts

The Rotary Pathways project was started in 2002 by Rotary Clubs in Hawke's Bay to link the area's cities and coastal towns via a regional network of recreational walkways and cycleways. The Rotary Pathway Trust focuses on the off-road component of the network, whilst the Territorial Local Authorities cover on-road. So far, there are approximately 55 km of off-road Rotary Pathways plus many kilometres of on-road cycle lanes and unmarked cycle routes.

Rotary clubs in Hastings and Napier fundraise and work with their local councils, who oversee the design and construction of the pathway within their respective boundaries. The project is also supported by the Hawke's Bay Regional Council, which undertakes the design, construction and long-term maintenance of any pathways that traverse council land.

Consistent signage has been erected along the pathways, as well as plaques, seats, viewing points and other information. The project is supported by the community and provides opportunities for commuter and recreational cyclists and walkers.

From Clive Squire's presentation to the 2007 Cycling Conference, titled 'Rotary Pathways Hawke's Bay: The Napier Experience' and Hawke's Bay Regional Council and Hastings District Council web pages:

<http://www.hbrc.govt.nz/GetIntolt/Recreation/Pathways/tabid/881/Default.aspx#involved> and <http://www.hastingsdc.govt.nz/projects/pathway/>

MANAGING MOTOR VEHICLES

Reducing the speed and volume of traffic improves safety for all road users. Various techniques can restrict or remove motor vehicle traffic including narrowings, traffic islands, platforms, one-way streets/entrances and road closures. Specific cycling and walking facilities are not always the best solution. Where speeds are compatible with walking and cycling, it may be that no special walking and cycling facilities will be needed⁶⁸. The benefits of 30 km/h (20 mph) zones are proven – the city of Hull, UK, has put in over one hundred 20 mph zones (covering over 26 percent of the city's road network) and this is credited with reducing all road casualties by 26 percent⁶⁹.

School zones where traffic speeds are reduced to 40 km/h benefit children who are walking and cycling to and from school⁷⁰. These zones should cover not just the school gate area, but also the main routes children use, as it is the roads and intersections children have to negotiate that present the greatest risk.

Pedestrian crashes are concentrated on busy roads and only one in five is on the local roads. Priority for traffic-calming should therefore be given to CBD and main street situations. These engineering measures should be backed with education, such as speed awareness initiatives and 'share the road' campaigns, which stress that road safety is a shared responsibility and that most crashes are preventable.

Changes to traffic management practices – intersection and crossings treatments, longer pedestrian phases at traffic signals, raising parking charges, limiting car parking numbers and removing pinch points such as narrow bridges, lack of kerb ramps, pathway barrier rails – will all support safer access for pedestrians and cyclists.

The reallocation of space within the whole carriageway or roading corridor provides more space for walking and cycling facilities. Under-used or over-sized traffic and parking lanes can be reallocated to walking and cycling, shared use spaces created (eg bus/bike lanes) and streets can be converted to pedestrian-only streets. Counterflow pathways or short off-road sections help cyclists at difficult points.

As noted earlier, and contrary to a perception held by some people, the removal of kerbside parking can actually improve access to retail areas, if complementary attention is given to improving the streetscape and accessibility for pedestrians.

Living Streets

The concept of 'living streets' recognises that, as a priority, streets should be primarily designed for living and community interaction. The aim is to recognise and provide for the needs of residents, businesses, pedestrians and cyclists, and thereby encourage a better quality of life and a greater range of community and street activity. Living streets incorporate traffic-calming measures, hard and soft landscaping areas, places for social activities, children's play areas, seating, lighting improvements, a better interface between the street and housing, and public art. Peveral Street in Christchurch and Tennyson Street in Napier are examples of 'living streets'.



Photo courtesy of NZTA

Shared zones

The Home Zone concept, called 'woonerf', is a residential or retail street that is designed to strike a balance between vehicle traffic and everyone else who uses the street – pedestrians, cyclists, business people and residents. It was pioneered in the 1970s in The Netherlands, and since then many countries have successfully created their own safe Home Zones.

Home Zones work through physically altering roads in an area. Alterations such as landscaping, structures and tight turning circles, with no delineation between the footpath and roadway, compel motorists to drive with greater care and at lower speeds. Road safety also improves which benefits residents and shoppers, and streets become open spaces for walking, sitting, playing and talking. Both amenity value and house prices usually increase too.

Pedestrian and Planning Design Guide, p. 5-3 to 5-5 and Home Zone website:
<http://www.homezones.org/index.html>



Photo courtesy of Celia Wade-Brown

ENFORCEMENT

This involves Police enforcement of speed limits, particularly in urban areas, and road rules, particularly those significant to pedestrians and cyclists (eg failure to give way at pedestrian crossings and motor vehicle use of cycle lanes).

Many motorists do not understand the effects of their own speeds, nor do they appreciate how far a cyclist can travel in a given time span. This often results in motorists cutting cyclists off when turning.

Enforcement also includes local authority enforcement of illegal parking on footpaths or in cycle lanes, both of which inconvenience and endanger pedestrians and cyclists. Enforcement of clearways and cycle lanes during peak periods should be a priority for local road controlling authorities.

INFRASTRUCTURE PROVISION

User-friendly best practice pedestrian and cyclist facilities include underpasses, over-bridges, cycle lanes and shared paths. Following construction, it is important to ensure that regular best practice maintenance is carried out so pedestrians and cyclists can safely use the facilities. Pedestrians should not have to walk through car parks to get access to a footpath.



Matai Street, Christchurch

Christchurch City Council and consultancies Via Strada and MWH designed an innovative approach for cyclists on Matai Street in Christchurch. The cycle path is unusual in that it is a two-way facility along one side of a road. The usual problem with a two-way facility is that it doesn't work well for people wanting to travel in the contra-flow direction, as you have to cross the road to get to the facility, and where it ends, you have to cross the road again. However, the Matai Street facility starts at an intersecting pathway alongside a railway line and it links to a level crossing, so cyclists are more likely to come from the other pathway or have used the railway level crossing. At the other end, the pathway links into an existing signalised crossing, so again there is no need to cross to the 'correct' side of the road at the end.



Photo courtesy of Christchurch City Council

A unique feature is the Harakeke and Matai Street intersection. The four road approaches are all stop-controlled, and since the cycleway approaches are uncontrolled, cyclists have right of way over other traffic at this intersection. To make it safer, the intersection is on a raised platform, and the cycleway crossing is on another raised platform within that platform.

STATE HIGHWAYS

Provision for cyclists on State highways (SH), particularly where there are no alternative routes between district towns, is very important. The following factors are relevant for cycle safety and access on State highways:

- adequate shoulders with regard to both surface and width, prescribed by best practice guidelines
- monitoring of work carried out on State highways, that is, are the shoulders the required width and is the surface smooth (no loose gravel or ridges)
- signs for alternative off-State highway routes for tourist cyclists and commuters
- parallel off-State highway facility where the State highway provides the only routes between towns in a district
- best practice maintenance
- speed reduction signs at pinch points.

NEIGHBOURHOOD ACCESSIBILITY PLANS

Neighbourhood accessibility planning uses data collection and community consultation techniques to identify pedestrian, cycling and shared mode users, as well as safety and access



Photo courtesy of Nelson City Council

problems (including perceived barriers). The end product is a list of actions, specifically tailored to the neighbourhood's issues, which are prioritised and agreed to by the community. The list of actions can include new pedestrian and cycling facilities, promotional initiatives, education and enforcement campaigns, environmental improvements, policy changes or any other remedial actions that will improve or increase the use of active and shared forms of transport⁷¹.

Papatoetoe Neighbourhood Accessibility Plan

This project in Papatoetoe, Manukau City, began as a Safer Routes trial project in January 2004. Community consultation identified a number of issues for pedestrians and cyclists including traffic speed and congestion; unsafe passage through intersections; concerns about getting across certain roads safely and feeling unsafe when using walkways; a lack of lighting; cars parked on footpaths; a real fear of crime; fear of vandalism to cycles and a lack of cycle parking. The council and the community together developed an action plan with the following initiatives:

- one-day education event for school cyclists and pedestrians
- 'Look out!' media campaign and speed enforcement
- installation of pedestrian splitter islands at a number of locations throughout Papatoetoe
- installation of signalised crossing to replace pedestrian crossing in Papatoetoe town centre
- maintenance and upgrading of road and pedestrian/cycle infrastructure
- initiation of a school travel plan at Papatoetoe Intermediate School
- vehicle speeds reduced during campaign.

Territorial authorities wanting to know more should contact the NZTA's Neighbourhood Accessibility Planning Coordinator: Neighbourhood.Accessibility@nzta.govt.nz

Information from NZTA website: <http://www.ltsa.govt.nz/road-user-safety/walking-and-cycling/neighbourhood-accessibility-planning.html>

Travel behaviour change programmes

Travel behaviour change programmes have an important role to play in influencing travel choices. A travel plan enables schools, workplaces and communities to better understand current travel choices, and to find ways to make sustainable transport choices more attractive.

SCHOOL TRAVEL PLANS

There are a number of school programmes that encourage students to walk or cycle to school – School Travel Plans, Feet First Walk to School Week⁷², Walking School Buses⁷³, Walking Wednesdays⁷⁴ and cycle trains.



Photo courtesy of NZTA

A school travel plan involves children, parents, teachers and the whole school community to give more children the option of a safe, healthy and sustainable journey to school. More than 150 schools in New Zealand are actively developing travel plans. To date there has been an average decrease in car trips to schools with travel plans of 3.4 percent. Schools that have been part of this programme for a longer period generally have better results.

Education interventions include programmes for schools, cyclist training, 'share the road' campaigns, walking and cycling promotional events and providing information about walking and cycling in communities and neighbourhoods. Again, these interventions should be combined with physical changes that create safer routes for children to walk or cycle. Walking school buses and cycle trains are intermediate measures to eventually ensure that children have safe and convenient routes to walk and cycle to school.

WORKPLACE TRAVEL PLANS

A workplace travel plan sets out steps to encourage staff to travel to and from work by public transport, on foot, by bike or by car share, and to improve access for a particular workplace.

Travel planning: Travel Wise in Auckland

The Auckland travel plan programme (Travel Wise) is managed by Auckland Regional Transport Authority in partnership with the regional councils, and has won both national and international awards. Since Travel Wise began in 2004, three universities, one district health board and 31 workplaces totalling over 65,000 participants have developed travel plans.

Information from ARTA website: <http://www.arta.co.nz/what-we-do/working-for-walking-and-cycling/travel-plans.html>

CYCLIST TRAINING

Guidelines have been developed for cyclist training in NZ⁷⁵. The guide, which comprehensively outlines a consistent best practice approach to cyclist training, caters for a range of trainees learning in either a school or an adult training environment. It also includes a number of outcomes to ensure that demonstrated ability is achieved at each skill level.



Photo courtesy of Nelson City Council

Trainees completing a programme are more likely to become confident and capable cyclists, thus are more likely to lead to continuing cycling for transport and recreation purposes. A nation of confident and capable cyclists is a major step towards increasing the number of cyclists.

Cycle Safe Christchurch

Cycle Safe Christchurch is an intensive cycle education programme developed to improve safe cycle skills and encourage cycling among young people. Running since 1997, it focuses on Year 6 primary school pupils, and is usually spread over three to four days per group of 24 students. The course involves a mix of classroom, playground and on-road instruction delivered by dedicated teams of instructors. This approach is in line with best practice recommended by international research.

There are five course modules: cycle maintenance, clothing and cycle check, riding skills, road rules and simulations, on-road riding in groups, and an individual on-road test. All students receive a certificate to the level of competency achieved. Parental involvement is encouraged in the on-road components and in marking the practical road test. Analysis by the Injury Prevention Unit at Auckland University concluded that the skills are learnt and demonstrated and the parents of children that pass the test are more likely to permit them to ride to school.

'SHARE THE ROAD'

'Share the road' programmes encourage the development of a culture where motor vehicle drivers, cyclists and pedestrians respect each other's differing needs, thereby effectively sharing the available road space. Emphasis needs to be placed on patience and due care.

Many road users are unaware of road rules relating to cyclists. Examples are: motorists thinking that cyclists have to use shared paths and cycle lanes when they do not; not realising that cyclists may ride two abreast subject to some restrictions; and that cyclists are not allowed to ride on the footpath (except for delivering newspapers and post). At times cyclists frustrate other road users by ignoring road rules, for example riding through red lights at an intersection.

Guidelines for 'Share the road' campaigns and best practice examples are available on the NZTA's website

<http://www.ltsa.govt.nz/road-user-safety/walking-and-cycling/share-the-road/index.html>

'Share the Road' awareness' campaign

The Wellington Regional Land Transport Strategy 2007-2016 aims to move walking and cycling into the mainstream by promoting the growth of a transport culture in which these active modes become increasingly safe, accessible and pleasant. 'Share the road' is one way this objective can be highlighted.

The latest road safety figures for the Wellington region show that 94 percent of crashes between motor vehicles and cyclists occurred on urban roads during daylight hours. 55 percent were at intersections, with the most common crash type being a crossing or turning movement.

The aim of Wellington's 'share the road' campaign held between mid-February and mid-April 2008 was to educate drivers and cyclists about sharing the road safely. This campaign involved raising drivers' awareness of the need to give cyclists a safe amount of space on the roads, and to encourage motorists to look for cyclists at intersections, when turning and when opening doors. The campaign also highlighted to cyclists the need to obey the road rules and to be visible.



These messages were set out in newspaper advertisements and backed by a media release. Newspaper advertising is an effective means of communication as the audience can be effectively exposed to the simple messages for the duration of the campaign. Public awareness of the 'Don't burst their bubble' campaign in 2004 was 80 percent.

PROMOTIONAL EVENTS

Events to promote walking and cycling can encourage people to start walking and cycling for recreation and commuting to work, for example, Bikewise⁷⁶, cycle commuter challenges⁷⁷ and Feet First Walk to School Week. It is important though, that the impact of these short-term initiatives is backed with concrete actions over the medium and long-term, otherwise their effectiveness will be diluted.



Photo courtesy of NZTA

INFORMATION PROVISION

Information needs to be readily accessible for walkers and cyclists on local walking and cycling networks and facilities, for example, Wellington walking maps⁷⁸ or ARTA's cycle maps⁷⁹. These maps should be available on council websites, or even better sprinkled throughout the town or city in visible public places.

Pedestrian wayfinding in Timaru CBD

Timaru District Council commissioned international walking expert, Rodney Tolley, to undertake a review of pedestrian signage in the CBD of Timaru. It emerged there was virtually no wayfinding signage in Timaru CBD, no pedestrian aids to finding shops, civic services, restaurants and landmarks, and that visitors to the CBD would probably get lost.

In response, the Timaru District Council is developing a wayfinding system for Timaru CBD that will provide specification/location of signage with the intention of encouraging more walking. Signage will consist of a master walking map, information panels and directional signs. There will be 16 information panels at entrance points to the CBD and four information panels at the entrance to the heart of the commercial/retail activity centre. There will also be additional street name signage for walkers, and walking times will be shown on the master walking map and each of the information panels.

From presentation of Andrew Dixon, Land Transport Manager, Timaru District Council to Canterbury Active Transport (CAT) Forum 15 May 2007
<http://www.ecan.govt.nz/NR/rdonlyres/E35976FA-7D9B-4AC4-84ED-4E32D72F7A55/0/PedestrianWayFindingStrategyTimaruDistrictCouncilAndrewDixon.pdf>



LOOKING FORWARD

No one initiative undertaken on its own is likely to increase the numbers of people walking and cycling in our towns and cities. Rather, a shared commitment at the national, regional and local level is required that:

- puts designing for liveability in our urban areas at the forefront of encouraging walking and cycling
- integrates walking and cycling into regional and local transport planning
- has a comprehensive range of specific initiatives to encourage walking and cycling that are self-reinforcing, integrated and designed specifically for local conditions.

Resources

Data

- New Zealand Household Travel Survey and Road Safety statistics – <http://www.transport.govt.nz/research-index/>
- NZTA's sustainable and safe land transport trends – <http://www.ltsa.govt.nz/performance/search.html?region=&territory=&topic=11&year=>
- NZ Census – <http://www.stats.govt.nz/census/default.htm>
- Crash Analysis System – <http://www.landtransport.govt.nz/research/cas/index.html>
- Cycle counting guidelines – <http://www.ltsa.govt.nz/road-user-safety/walking-and-cycling/docs/cycle-counting-in-nz.pdf>

Designing for walking and cycling

- Pedestrian Planning and Design Guide – <http://www.ltsa.govt.nz/road-user-safety/walking-and-cycling/pedestrian-planning-design-guide/index.html>
- Pedestrian Planning and Design Guide resources – <http://www.ltsa.govt.nz/road-user-safety/walking-and-cycling/pedestrian-planning-design-guide/resources.html>
- Walkability research – <http://www.levelofservice.com/>
- Cycle Network and Route Planning Guide – <http://www.ltsa.govt.nz/road-user-safety/walking-and-cycling/cycle-network/index.html>

Walking and cycling promotion

- NZ walking resource database – <http://walkit.info/>
- Living Streets Aotearoa – <http://www.livingstreets.org.nz/>
- Walk 21 – <http://www.walk21.com/>
- Cycling Advocates Network – <http://can.org.nz>
- Cycle Friendly Employers – <http://www.sparc.org.nz/partners-programmes/active-communities/active-workplaces/cycle-friendly-employer>
- Bikewise – see website on <http://www.bikewise.co.nz/>

Education

- Share the Road – <http://www.ltsa.govt.nz/road-user-safety/walking-and-cycling/share-the-road/index.html> and <http://www.ltsa.govt.nz/road-user-safety/walking-and-cycling/share-the-road/project-examples/index.html> for national and international examples.
- Feet First Walk to School Week – <http://www.ltsa.govt.nz/feet-first/>
- Walking School Buses – <http://www.ltsa.govt.nz/travel/school/walking-school-buses/index.html>
- Walking Wednesdays – <http://www.ltsa.govt.nz/travel/school/walking-wednesdays/index.html>

Funding

- NZTA Programme and Funding Manual <http://www.landtransport.govt.nz/funding/programme-and-funding-manual/3/programme-funding-manual-amendment1.pdf>

Integrated transport

- NZ Integrated Approach to Planning Project (IAP) – http://www.transport.qld.gov.au/home/Projects_and_initiatives/Plans/Integrated_transport_plans/Integrated_transport_planning_framework/
- Commission for Integrated Transport, UK – <http://www.cfit.gov.uk/>
- Department for Transport, UK – <http://www.dft.gov.uk/about/strategy/whitepapers/previous/aneewdealfortransportbetterfo5695>

- Queensland Integrated Transport Planning Framework – http://www.transport.qld.gov.au/home/Projects_and_initiatives/Plans/Integrated_transport_plans/Integrated_transport_planning_framework/

Liveability

- Victoria Transport Policy Institute, 2007. TDM Encyclopaedia – Community Liveability: helping to create attractive, safe, cohesive communities. <http://www.vtpi.org/tdm/tdm97.htm>
- Local Government Commission, Centre for Liveable Communities. <http://www.lgc.org/center/index.html>

Safety and personal security

- Crime Prevention through Environmental Design – <http://www.lgnz.co.nz/projects/CPTED/>
- Pedestrian and Cyclist Road Safety Framework – <http://www.transport.govt.nz/pedestrian-and-cyclist-road-safety-framework-2/>

Strategic context

- New Zealand Transport Strategy 2008 – <http://www.transport.govt.nz/new-zealand-transport-strategy-2/>
- Getting there – on foot, by cycle – <http://www.transport.govt.nz/getting-there-index/>
- Road Safety Strategy – <http://www.transport.govt.nz/road-safety-2010-index/>
- NZ Energy Efficiency and Conservation Strategy – <http://www.mfe.govt.nz/publications/energy/energy-conservation-strategy-sep01.html>
- Urban Design Protocol – <http://www.mfe.govt.nz/issues/urban/design-protocol/index.html>
- NZ Health Strategy – <http://www.moh.govt.nz/publications/nzhs>
- Healthy Eating Healthy Action – <http://www.moh.govt.nz/healthyeatinghealthyaction>
- NZ Injury Prevention Strategy – <http://www.nzips.govt.nz/>
- NZ Active Communities Programme – <http://www.sparc.org.nz/investment/active-communities/overview>

Training

- Cyclist training guidelines at: <http://www.ltsa.govt.nz/road-user-safety/walking-and-cycling/docs/cyclist-skills-training.pdf>
- Fundamentals of Planning and Design for Cyclists Training Course – <http://viastrada.co.nz/fundamentals>

Travel behaviour change programmes

- Neighbourhood Accessibility Planning – <http://www.ltsa.govt.nz/road-user-safety/walking-and-cycling/neighbourhood-accessibility-planning.html>
- School travel plans – <http://www.ltsa.govt.nz/travel/school/walk-to-school/travel-plans.html>
- Work place travel plans – see NZTA Work place Travel Plan Co-ordinators Guide on <http://www.ltsa.govt.nz/sustainable-transport/guidelines/workplace-travel-plan.pdf>

Urban design

- Urban Design Protocol, Ministry for the Environment. An excellent CD Rom of Urban Design publications can be requested from the Ministry for the Environment – <http://www.mfe.govt.nz/issues/urban/design-protocol/index.html>

References

- 1 This guide is focused on walking and cycling for transport but recognises the importance of walking and cycling for recreation, particularly the opportunity for current recreational walkers and cyclists to also walk and cycle for transport journeys.
- 2 It has been informed by a survey of local government decision makers, commissioned by the Ministry of Transport in 2007, that identified barriers and issues for local government when providing for walking and cycling.
- 3 Livability refers to the environmental and social quality of an area as perceived by residents, employees, customers and visitors. This includes:
 - safety and health (traffic safety, personal security, public health);
 - local environmental conditions (cleanliness, noise, dust, air quality, water quality);
 - the quality of social interactions (neighborliness, fairness, respect, community identity and pride);
 - opportunities for recreation and entertainment;
 - aesthetics; and
 - existence of unique cultural and environmental resources (eg historic structures, mature trees, traditional architectural styles) From Victoria Transport Policy Institute, 2007. TDM Encyclopaedia: Community Liveability: helping to create attractive, safe, cohesive communities. Victoria Transport Policy Institute: Victoria, Canada. <http://www.vtpi.org/tdm/tdm97.htm>
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- 60 The data is continuous and ongoing but reported annually and available is at a national and regional level. CAS is restricted to accidents attended by Police on public roads that usually involve a motor vehicle. It misses those incidents not involving a motor vehicle, eg cycle only crashes & pedestrian falls, driveway accidents, accidents on pathways connecting to roads or off-road.

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- 62 For guidance on pedestrian and cycle counting methodologies see <http://www.ltsa.govt.nz/road-user-safety/walking-and-cycling/docs/cycle-counting-in-nz.pdf> for cycle counting and Chapter 19 of the Pedestrian Planning and Design Guide at <http://www.ltsa.govt.nz/road-user-safety/walking-and-cycling/pedestrian-planning-design-guide/post-design-issues.html>
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