

4 Cycling Characteristics and Trends

Information on cycling demand and trends is necessary for developing a comprehensive cycle plan. Key information includes:

- Type of cyclists
- Census Journey-to-Work data
- Bicycle traffic counts
- Results from the "Bike-It!" cycling survey
- Cycle accident reports.

4.1 Type of Cyclists

Cyclist's needs and the means of meeting them are related to cyclist characteristics and journey purpose. The following groups of cyclists have been identified:

Inexperienced cyclists

- Children
- Inexperienced adults

Utility cyclists

- Commuter cyclists
- Other utility cyclists

Sports and leisure cyclists

- Cyclists who train on road
- Leisure cyclists
- Mountain bikers

The following subsections help provide an understanding of the distinctive requirements of each of the different types of cyclists.

Inexperienced Cyclists

This entire group of cyclists has characteristics that make them vulnerable. For some, this state may only exist for short period of time.

a. Children

Young children take time to develop skills that progressively allow them to use footpaths, cross roads safely, and ultimately mix with general traffic. Overall, these children make short trips, such as to school, and they cycle for pleasure on local roads and in parks and reserves.



b. Inexperienced Adult Cyclists

Inexperienced adult cyclists may initially look for off-road areas to learn to ride. Although more quickly able to mix with general traffic compared to young children, this group still can take some time to learn how best to cope with traffic hazards and become familiar with relevant traffic rules.

Utility Cyclists

Utility cyclists use their bicycle as a mode of transport to travel from “a” to “b”.

a. Commuter Cyclists

Commuter cyclists are those who cycle to work, university and school. They generally travel medium to longer distances and prefer routes that are direct, convenient and safe. They are the predominant group of cyclists during peak weekday periods, particularly along arterial roads. Commuter cyclists not only look for quality cycle routes, but also seek safe storage for their bicycles, ability to carry their bicycles on public transport and to shower and change clothes at their destination.



b. Other Utility Cyclists

Other utility cyclists use their bicycle as a mode of transport for other kind of purposes, such as local shopping or social visits. The bicycle can be a popular transport mode for shorter distances in local areas, in particular when convenient routes and short cuts are available. Safe parking facilities are important for these cyclists.

Sports and Leisure Cyclists

a. On-Road Cycle Training

On-road cyclists who train for competition or exercise seek longer distance road circuits that suit their training needs. They cycle on average between 30 and 40 km/ph and particularly want good road surfaces. Traffic separation is less critical than for other groups as much of the training occurs during the weekend and early morning when traffic volumes are comparatively light. However, safety is still an issue. An example of a well-used cycle circuit is the anti-clockwise loop around Lake Pupuke – via Shakespeare Road, Northcote Road, Killarney Street and Kitchener Road.

b. Leisure Cycling

Leisure cycling is undertaken for pleasure and general exercise. This tends to be at off-peak times and is more localised in nature. It may involve cycling on-road as well as on cycle paths within parks and reserves. The condition of cycle paths, route connectivity and the ability to pass pedestrians safely is important to this group.

c. Mountain biking

Mountain biking on challenging and rough cycling circuits is a very popular form of leisure cycling and is usually undertaken during the weekends. Mountain bikers require off-road routes in parks and reserves.



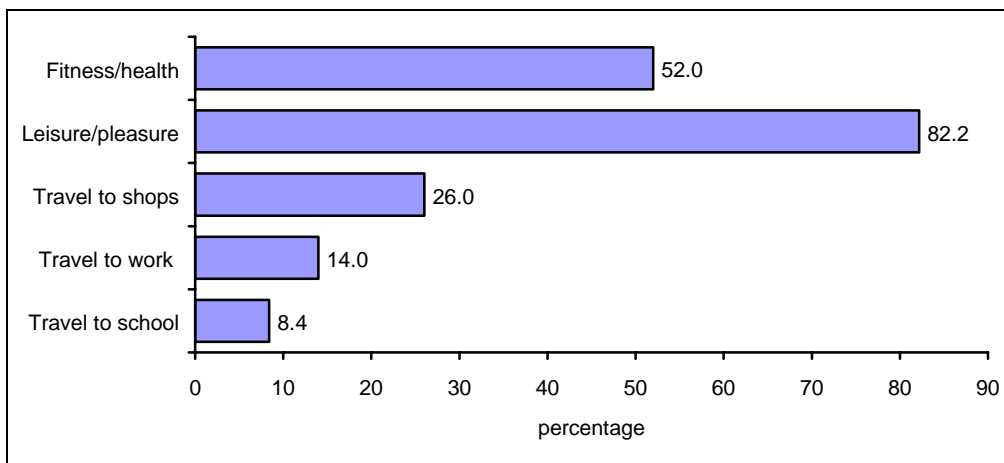
"Bike-It!" Cycling Survey: Reasons for Cycling

The "Bike-It!" Cycling Survey shows that leisure cycling is more popular among respondents than utility cycling. The survey form asked respondents to indicate why they, and members of their household, had used a bicycle in the previous 12 months. They were asked to choose, for each person, as many options as applicable.

Many respondents chose more than one option – for example, many used a bicycle to travel to work, but also for fitness / health.

The most frequent response was that people used bicycles in the previous 12 months for leisure / pleasure (82%). Over half also used a bicycle for fitness and health reasons.

Figure 4.1: Reasons for bicycle use (of those who used a bicycle in the last 12 months) (n=3565)

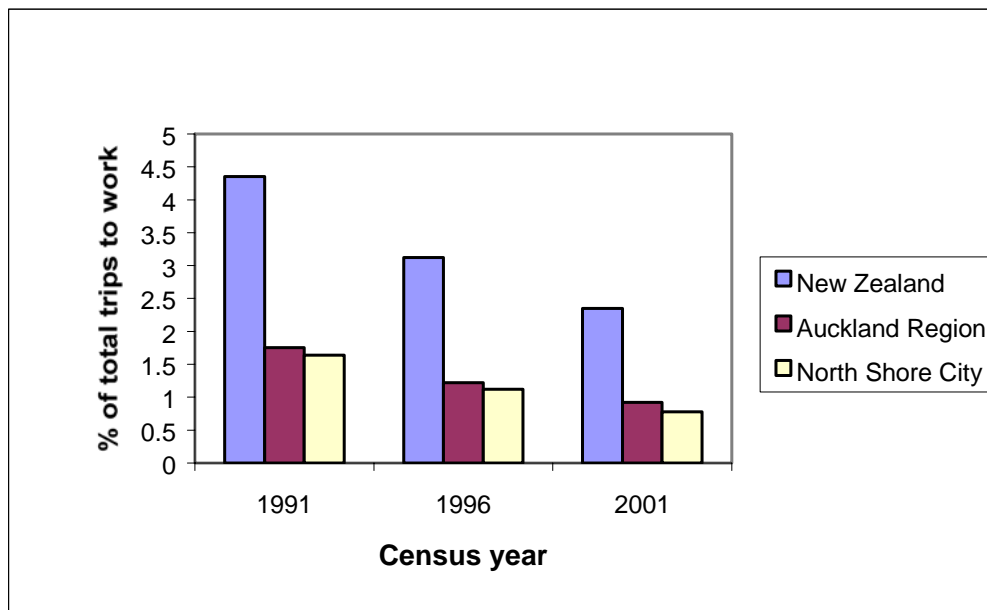


4.2 Journey-to-Work Census Data

The Census data from 1991, 1996 and 2001 show an overall decline in cycling to work for New Zealand, the Auckland Region and the North Shore. Moreover, the percentage of people that use their bicycle to travel to work is lower on the North Shore than on a regional and national level. The 2001 figures show that the percentage of cyclists on the North Shore is only one third of the national percentage. On the North Shore the percentage of commuter cyclists has gone from 1.64% in 1991, to 1.12% in 1996 and 0.78% in 2001.

The main destinations of commuter cyclists were Stanley Bay, Westlake, Takapuna Central, Glenfield North and North Harbour (Albany). Most residents who cycle to work live in Devonport.

Figure 4.2 Journey-to-Work Census data



4.3 Bicycle Traffic Counts

Bicycle traffic counts were conducted in October 2002 at several key locations in the city during a weekday and weekend (see Figure and Graph 4.3). The bicycle counts illustrate cycle frequencies and times on the main arterial roads at these locations.

Frequencies

On Wednesday 23 October a total of 744 cyclists were counted, with 299 cyclists in the morning peak (from 7 till 9 am) and 445 cyclists in the afternoon peak (from 3 till 6 pm).

During the weekend cyclists were counted for 8 hours, from 7 am till 3 pm. On Saturday 19 October, 941 cyclists were counted and on Sunday 20 October 1052 cyclists, 12% more. The majority of cyclists were found at similar locations as during the weekday, with exception of the junction on Albany Highway – Upper Harbour Drive, which is well known for being on an important route for sports cyclists.

Overall, significant numbers of cyclists were recorded at:

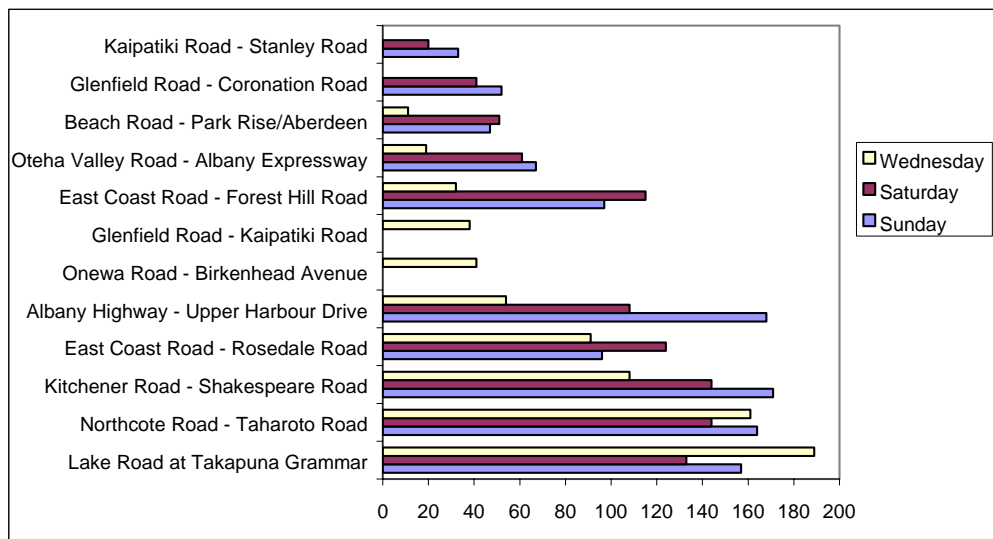
- Lake Road
- Junction Kitchener Road – Shakespeare Road
- Junction Northcote Road – Taharoto Road.



Figure 4.3: Results of Bicycle Traffic Counts, October 2002

Counting Point	Wednesday 23-10-02 7-9 am, 3-6 pm	Saturday 19-10-02 7 am - 3 pm	Sunday 20-10-02 7 am - 3 pm
Lake Road at Takapuna Grammar School	189	133	157
Northcote Road – Taharoto Road	161	144	164
Kitchener Road – Shakespeare Road	108	144	171
East Coast Road – Rosedale Road	91	124	96
Albany Highway – Upper Harbour Drive	54	108	168
Onewa Road – Birkenhead Avenue	41	n.a.	n.a.
East Coast Road – Forest Hill Road	32	115	97
Glenfield Road – Kaipatiki Road	38	n.a.	n.a.
Glenfield Road – Coronation Road	n.a.	41	52
Kaipatiki Road – Stanley Road	n.a.	20	33
Oteha Valley Road – Albany Expressway	19	61	67
Beach Road – Park Rise/Aberdeen	11	51	47
Day Total	744	941	1052

Graph 4.3: Results of Bicycle Traffic Counts, October 2002



4.4 Bicycle Usage

Respondents of the "Bike-It!" Cycling Survey provided information on the frequency of bicycle use by themselves and members of their household over the previous 12 months.

The total number of people that respondents identified as having used a bicycle in the previous 12 months, was 3565 or 83% of the total number of people identified in the survey. Of these 3565 people a large proportion were frequent cyclists: respondents indicated that 811 people cycled 'every weekday', a further 1207 people cycled 'weekly' and 557 people cycled monthly (see Figure 4.4).



Figure 4.4: Frequency of bicycle use in previous 12 months

	Frequency	%
Daily/every week day	811	23
Weekly	1207	34
Monthly	557	16
A few times	990	27
Total	3565	100

4.5 Cycle Accidents on the North Shore

The Land Transport Safety Authority (LTSA) recorded 149 accidents on the North Shore for the years between 1997 and 2001. Roads with the most accidents were Lake Road (13%), East Coast Road (9 %) and Wairau Road (5%). On the loop around Lake Pupuke 10% of all accidents were recorded. This loop includes sections of Taharoto Road and Kitchener Road, both of which have high traffic volumes and many cyclists.

It is important to note that 58% of all cycle accidents occurred at junctions. 53% of the accidents on Lake Road happened at junctions. For East Coast Road this was 85% and for the loop around Lake Pupuke 60%.

An overview of accidents on important cycle routes is given below. Appendix III shows the map with all reported accidents between 1997 and 2001.

Figure 4.5: Accidents on Cycle Routes, 1997 – 2001 ¹

Cycle route	Accidents	Intersections	
		Number	%
Lake Road	19	10	53%
Lake Pupuke Loop	15	9	60%
East Coast Road	13	11	85%
Glenfield Road + Birkenhead Ave	9	5	56%
Wairau Road	8	4	50%
Birkdale – Beachhaven Loop	5	3	60%
Northcote Road to Glenfield Rd	5	5	100%
Oteha Valley Road	4	3	75%
Forest Hill Road	3	1	33%
Albany Highway	3	1	33%
Constellation Drive – Upper Harbour Highway/Drive	2	2	100%
Bush Road	2	2	100%
Rosedale Road	1	1	100%
Greville Road	1	1	100%

Published LTSA information on cycle accidents originates from police reports. However, the full number of cycle accidents is known to be under-reported. For an incident to become a statistic three things have to coincide. An accident has to include a cyclist, a vehicle, and the police have to be notified. If any one of these three things is missing the event is not recorded as a cyclist accident.

¹ LTSA figures 2002



4.6 Opinions on Cycle Routes

"Bike-It!" Cycling Survey respondents were asked to indicate where they would like to see cycle routes developed. The majority of respondents provided an answer (1469 people or 82%). All suggestions were coded into routes (corridors and loops) and destinations (e.g. schools). Many people suggested more than one route (75%).

Several key findings were:

- 27% of the respondents suggested developing cycle routes between Devonport and Takapuna
- 21% suggested developing a cycle route between East Coast Bays and Takapuna via East Coast Road
- 22% suggested having cycle lanes on all main roads
- 11% of the respondents mentioned cycle routes to primary schools and 13% mentioned routes to higher educational establishments
- Recreational cycling loops and/ or routes were mentioned by 8% of the respondents.

An overview of all suggestions for cycle routes is in Appendix IV.

4.7 Key Factors in Cycling

Surveys of cyclists' needs and issues point to the areas where improvements can be made that will encourage people to cycle more and attract new cyclists.

The number of people that may start cycling or increase cycling under improved circumstances is not known for the North Shore. However, the Bike-It!" Cycling Survey showed that almost all respondents (93%) said that cycling would be more appealing to them if quality cycle routes were provided. The availability of quality cycling infrastructure can therefore be regarded as one of the key factors.

A United Kingdom survey of 1000 motorists, who already cycle or might start cycling in the future, were asked if they would cycle (more) for utility purposes under improved cycling circumstances. One third of the respondents answered positively, which indicates a substantial opportunity for potential growth.² There are no details regarding what can be considered as "improved circumstances" for cycling.

A cycling survey in Colorado, USA³ showed that that the total number of miles cycled for commuting had the potential to increase by 120%. The actions to achieve this increase were to:

- Increase cycle safety
- Provide cycle paths
- Provide parking and shower facilities at work.



A national survey on cycling in the USA⁴ supported these conclusions.

Safety issues are well recognised as being a major influence on cycling numbers. Cyclists feel they are more exposed or vulnerable to injury compared with the occupants of motor vehicles. Auckland Regional Transport

² Dr. Steve Lawson: "The Wheel Deal" in Surveyor, 17 February 2000

³ Investigation of the determinants of bicycling in Colorado, USA, 1999

⁴ National Bicycling and Walking Study, US Department of Transportation, Federal Highway Administration, 2000



Research on public perceptions noted that the road is an unsafe cycle environment and safety is a key issue for cyclists⁵.

In the "Bike-It!" Cycling Survey respondents commented on safety issues. A large number referred to safety concerns when cycling on the road (24%). Many felt that North Shore City roads are unsafe due to traffic volume, speed or driver behaviour. Some had safety concerns about sharing a cycle lane with pedestrians. They felt that sharing a path with pedestrians could cause conflicts with cars pulling out driveways.

4.8 Conclusion

Based on cyclists concerns and from widespread experience, the actions that will best achieve the Council's vision for cycling on the North Shore focus on:

Establishing Cycle Networks, comprising:

- Strategic citywide cycle network, to serve utility trips in particular
- Local cycle networks, including safer routes to schools and routes from residential areas to shopping centres
- Recreational cycle routes
- Cycle parking facilities
- Integration with public transport.

Improving Cycle Safety through:

- Applying quality cycle design standards
- Maintaining cycle infrastructure to a good standard
- Training and education of drivers and cyclists
- Improving traffic conditions.

The following chapters cover each of these areas of action.



⁵ Auckland Regional Cycling Strategy, July 2002

