

# Transport and Communication

Transport and communication systems are essential to the functioning of any modern city. There have been significant advances in technology and demands for speed of travel and communication over the last twenty years, with demands for further advances. During that period there has also been an increase in the population, vehicle traffic, and economic pressures to send goods and information as quickly as possible.

In response to these changes, Waitakere City's transport and communications infrastructure is developing and changing, which in turn has impacts on the social, economic and environmental wellbeing of the city. For example, high use of private vehicles causes environmental harm in the form of air and water pollution, as well as contributing to traffic congestion and road accidents. Shifts towards working from home, using public transport and instantaneous communication via e-mail are having some positive impacts on the environment.

“... high use of private vehicles causes environmental harm in the form of air and water pollution, as well as contributing to traffic congestion and road accidents.”

This chapter highlights the following key issues:

1. **TRANSPORT INFRASTRUCTURE**
2. **TRANSPORT PATTERNS**
3. **COMMUNICATION INFRASTRUCTURE**
4. **COMMUNICATION PATTERNS**

## KEY INDICATOR

Number of motor vehicle kilometres travelled per resident on the City's roads (including the motorway) = 4,095 km per resident in the 2000 year.

**Table 1: Level of motor vehicle use in Waitakere City, 1998-2000**

Year	Number of motor vehicle kilometres travelled p.a.	Number of residents	Kilometres per resident
2000	680,000,000 km	166,024	4,095
1999	702,300,000 km	163,345	4,299
1998	578,000,000 km	160,709	3,596

*Source: Waitakere City Council transport model.*

This indicator tracks whether or not there is more use of the motor vehicle as a means of transport as the population grows. The trend is for more use, which can be a combination of

- Switch to cars instead of other transport including walking
- More trips being made such as shopping, taking children to school
- Longer distances travelled

The level of motor vehicle use in the City has impacts on air quality, water quality, traffic congestion and safety.

## 1. TRANSPORT INFRASTRUCTURE

Waitakere City's transport infrastructure comprises:

- pedestrian and cyclist facilities
- a roading network,
- a rail line,
- two airports,
- sea access.

Settlement patterns have been based around the motorways, arterial roads and the rail stations (refer to the map in City Form and Design showing these routes). The roading network is the primary method for transporting goods and people. Bus routes are established throughout the City with several operators providing a passenger transport service.

The rail line that runs through Waitakere City is used for freight and passenger transport. It forms part of the regional and national rail network.

The Ministry of Defence owns the two airports based at Hobsonville and Whenuapai and has signalled an intention to exit from these sites.

The Manukau Harbour and Waitemata Harbour provide sea access for leisure purposes, some shipping of goods and launching of newly built vessels. Currently there is no ferry service to Waitakere City, though commuter ferries are operating successfully in other parts of the region.

The Council owns and maintains the city's roads (excluding state highways, which Transit NZ is responsible for) and a wide range of related infrastructure set out in the table below.

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**Table 2: Transport infrastructure owned by Waitakere City Council**

Infrastructure	Length/Number	Comment
Length of sealed and unsealed roads	765 km	The Council has a policy of sealing arterial roads and other roads once they have a volume of 250 vehicles per day. New roads in new subdivisions are generally funded by developers. The Council is responsible for maintaining these roads.
Time-controlled on-street parking	650	These parking spaces have time restrictions varying from 10 to 120 minutes.
Council provided car parks (off-street)	1,900	Off-street parking spaces are in 17 carparks.
Other on-street parking		Most roads in the City provide for on-street parking
Length of footpaths	799 km	Footpaths encourage more walking, and also contribute to safety and access for pedestrians, particularly children and the elderly.
Length of cycleways (off road)	5.7 km	Cycleways encourage more cycling and also contribute to safety and access.
Train stations	9	The key stations are New Lynn, Glen Eden, Henderson and Swanson. Others: Fruitvale, Sunnyvale, Sturges Road, Waitakere and Ranui
Park and ride facilities	4 with total capacity of 235 vehicles.	Comprising Glen Eden (capacity of 112), Henderson (capacity of 70), Swanson (capacity of 43) and Ranui (capacity of 10).
Bus shelters	275	Bus shelters are an essential component of the bus service. Council is responsible for building and maintaining them.

Source: Waitakere City Council records 2002.

## 2. TRANSPORT PATTERNS

The dispersed nature of trips is the main feature of transport in the Auckland region. This is particularly so in Waitakere City, with 47% of workers travelling outside the City to work.

Source: Statistics New Zealand – Census 2001

Trip lengths in the region are increasing over time, with the average length of a work trip increasing by 6 per cent (to 13.9 kilometres) between 1986 and 1996.

People are making more trips per person than ever before and more of these trips are in cars. This trend is exacerbated by low car occupancy, with a peak period average of only 1.2 people per car (Source: Auckland Regional Council State of the Environment Report 1999).

Waitakere City Council's response to these trends has been to try to encourage alternatives to car use. The Council is promoting more local employment, use of public transport, working from home and buying locally. It is providing for higher density living around the three main town centres (New Lynn, Henderson and Massey North/Westgate), other rail stations and major arterial roads. Over time these changes will encourage shorter trips, more of which will be by walking, cycling and passenger transport. The Council has also focused on more direct measures such as road safety programmes, safe road design and innovative stormwater management (refer to State of our Water).

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### • MOTOR VEHICLE TRAVEL

Cars are the most important means of travel in Waitakere City both for residents and for businesses.

Access to a motorway or main road is one of the most important considerations for businesses in Waitakere City, and most are very happy with the level of access they have. Access to bus and rail services is rated as much less important. (Source: Survey of a sample of businesses in December 2000).

Most Waitakere City households own one or two cars. However, 8% of households (4,200 households) do not have access to a car at all. A further 17% of households do not have access to a car during the day while the household vehicle is being used for commuting.

**Table 3: Vehicles owned per household in 2001:**

Vehicles Per Household	Number (hholds)	Percentage
No Motor Vehicles	4,266	8.1%
One Motor Vehicle	19,815	37.7%
Two Motor Vehicles	20,349	38.8%
Three or More Vehicles	8,067	15.4%
Total	55,656	100%

Source: Statistics New Zealand- Census 2001

Most trips to work are by car. 68.5% of Waitakere City workers get to work by driving, and the proportion is increasing. However, on average 5.2% ride share to work as a passenger, 4.6% commute using passenger transport and 5.9% work from home, all of which help to reduce commuter traffic.

**Traffic**

Although population is only growing at about 2 percent a year, traffic is growing at 3 percent on average for the city as a whole.

Significant traffic growth occurred in Central Park Drive (12%) and Border Road (11%). This growth can be attributed to the on-going residential and commercial developments in these areas. Other roads with high levels of traffic growth are Edmonton Road (7%), Brigham Creek, (6%), Te Atatu Road (4.3%), and Don Buck Road (4.5%). These are balance by slower growth in other arterials such as Lincoln Road, Great North Road and Rata Street to give the overall average traffic growth of 3% a year. *(Source Waitakere City Council traffic surveys 1996 and 1999).*

With the exception of the Northwestern Motorway, the section of Great North Road between West Coast Road and Lynwood Road in Kelston is the most heavily trafficked road in the city. It now carries about 43,000 vehicles per day (vpd). However traffic on this road is decreasing by -0.43% per annum. Other roads carrying more than 40,000 vpd are Lincoln and Te Atatu roads. The section of the NW Motorway between Te Atatu and Patiki is now carrying about 94,800 vpd and growing at a rate of about 4% per annum.

**• PUBLIC TRANSPORT**

Passenger transport is not currently a popular choice. Most residents consider the current state of public transport in the city to be inconvenient and/or relatively expensive, although they have fewer concerns about safety:

- Accessible Good/Very good: 27%
  - Affordability Good/Very good: 31%
  - Safety Good/Very good: 48%
- From a survey of residents in June 2002)*

By contrast, people who actually use public transport consider it to be both accessible and safe:

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- Accessibility of bus shelters Good/Very good: 74%
- Accessibility of train stations Good/Very good: 79%
- Safety of bus shelters Good/Very good: 77%
- Safety of train stations Good/Very good: 63%

*(Source: Telephone survey of a sample of residents who use train/bus services in June 2002)*

**Use of passenger transport**

Most residents never use passenger transport, but a substantial minority use it occasionally. Only 7 percent of residents use it every day.

**Table 5: Frequency of passenger transport use, 2000**

Frequency of use	%
Every day or almost every day	7%
About once a week	4%
About once a month	7%
Less often than once a month	20%
Don't use PT at all	62%
TOTAL	100%

*Source: survey of a sample of residents in May 2000*

Substantially fewer Waitakere City residents use public transport than in the rest of the Auckland region, and much fewer than in Wellington.

**Table 6: Use of public transport throughout New Zealand regions**

City	Use PT every day (%)	Never use PT (%)
Waitakere	7	62
Manukau	9	53
North Shore	9	51
Auckland	17	36
Wellington	21	19
Christchurch	5	43

*Source: Residents survey of New Zealand's Six Largest Cities in May 2000*

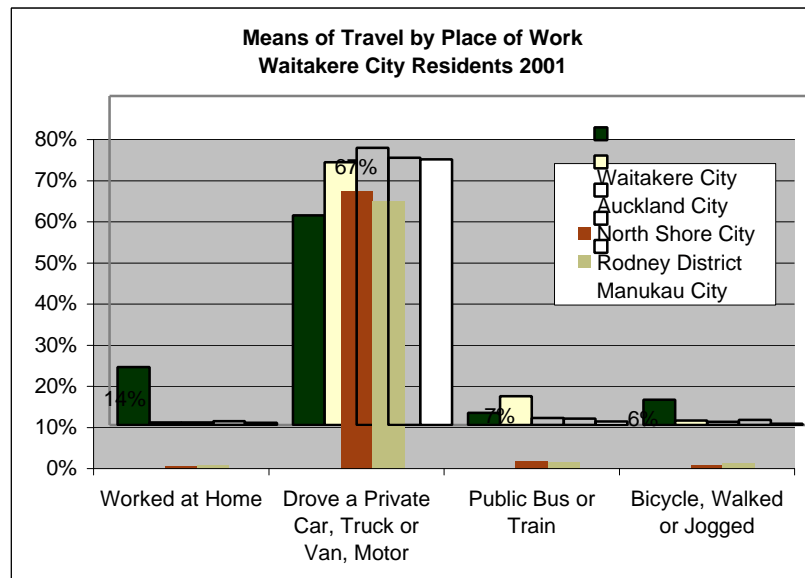
The main reasons given for not using passenger transport are:

- have a car,
- inconvenient destination,
- inconvenient times,
- car more convenient,
- no transport service available.

The graph below shows the different means of transport by Waitakere City workers to different parts of the Auckland region in 2001. Use of passenger transport was twice as high for commuting to Auckland City (7%) as to destinations within Waitakere City (3%). For other destinations in the region, it was much lower (0.8% to 1.7%).

Park and ride

“ 68.5% of Waitakere City workers travel to work by driving, and the proportion is increasing.”



Park and ride systems enable people who do not live next to a railway station to still use the train conveniently. Use of the facilities varies at different times during the year and depending on weather conditions. In 2000/01 occupancy of each facility ranged from 33% to 87%. Residents can usually expect to find a space at existing park and ride facilities.

• **NEGATIVE EFFECTS OF VEHICLE TRAVEL**

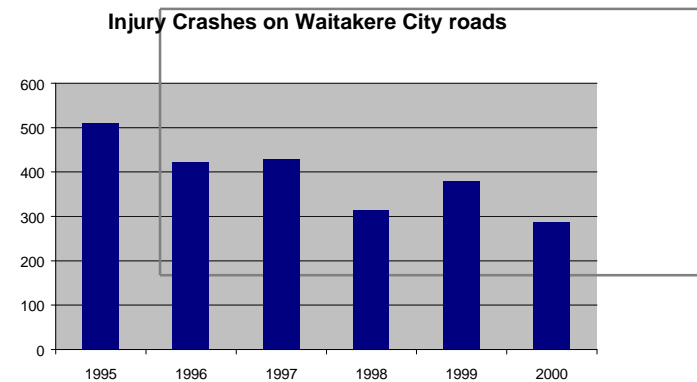
Congestion

Congestion is a significant problem in peak hours, especially on the Northwestern motorway. In 2000, average travel speed from Henderson to Auckland City on the Northwestern Motorway at peak time (7-9am) was 38.6 km/hr, less than half of the 91.8 km/hr average speed for travel from Auckland City to Henderson at the same time. (Regional Land Transport Strategy 2002). Not only do congestion and stop-start driving delay motorists, this form of driving also causes cars to run less efficiently and pollution emissions to increase significantly.

Safety

Roads are a significant barrier to people not in cars. 55% of residents consider main roads to be potentially dangerous to cross even on a pedestrian crossing. (From a survey of residents in June 2000, with a margin of error of +/- 4%) This discourages walking and cycling and creates barriers between communities.

The number of road accidents fluctuates each year, with no particular strong trend. However, only about a quarter of crashes result in injury. The number of crashes involving injuries shows an overall downward trend since 1995.



Source: Land Transport Safety Authority 2000

More than one person may be injured in a crash, however the number of people injured also shows an overall encouraging downward trend since 1995. The number of fatalities has reduced each year, and in 2000 was only 4 out of 1,381 crashes.

**Table 4: Road Statistics for Waitakere City, 2000**

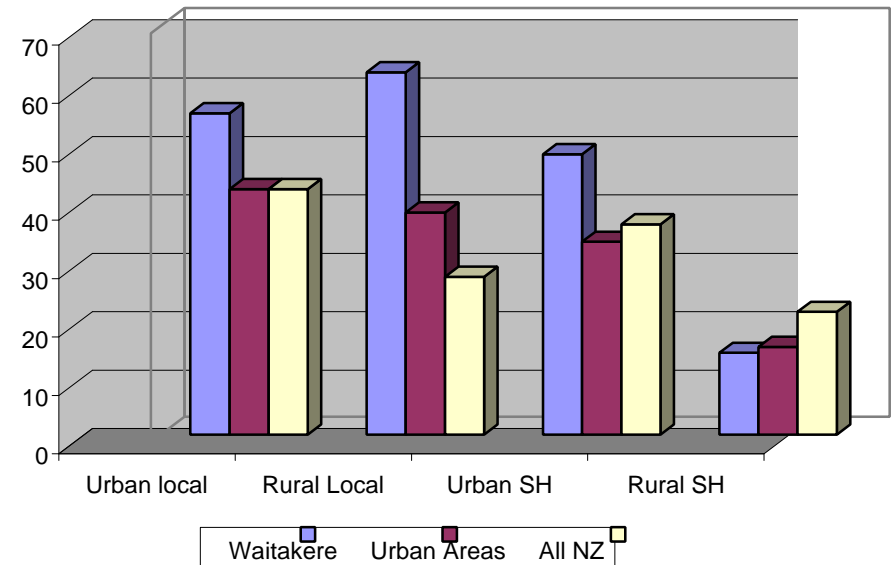
Type	Crashes	Casualties
Fatal	4	4
Serious	53	66
Minor	229	311
Non-injury	1095	-
Total	1381	381

*Land Transport Safety Authority*

In relation to vehicle kilometres travelled, the road toll in Waitakere is still higher than for other urban areas or the country as a whole. The exception is for rural state highways. The good work of recent years must continue if Waitakere City's roads are to match levels of safety found elsewhere.

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**Crashes per 100 mn vehicle-kms**



*Source: Land Transport Safety Authority*

### 3. COMMUNICATIONS INFRASTRUCTURE

Information and communication infrastructure influences the economic function and development of the City. The flow of information within, into and out of a city is potentially as important to a city's future as is the movement of automobiles, people and commodities.

Infrastructure is currently provided by the private sector to meet the demand. As new technologies move to the mass market, issues of equity and a gap between the “information rich” and the “information poor” are becoming more relevant.

Traditional information and communication infrastructure in the City comprises:

- Land telephone lines – for telephone, facsimile, internet, and other electronic communication;
- Transmission bandwidths – for the above, plus radio and television;
- Hand delivery systems – for postal, courier, and other systems transferring a physical document;
- Public meeting places (such as libraries, community centres, clubs, cafés) – for face-to-face communication.

Emerging infrastructure that has developed over the last decade includes:

- Land cables – for electronic communication;
- Wireless systems – including cellphone towers and wireless internet
- Satellite systems – for electronic communication and broadcasting.

- **EMERGING INFRASTRUCTURE**

Telstra Saturn has fibreoptic cable from the City boundary at Greenhithe Bridge along Hobsonville Road/Brigham Creek Road/Trig Road/Hobsonville Road, and from there along the Northwestern Motorway to Rosebank Road. This is part of a Greater Auckland loop from Westhaven across the Harbour Bridge to Constellation Drive/Upper Harbour Drive to the Greenhithe Bridge.

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*Emerging infrastructure that has developed over the last decade includes land cables ... [and] satellite systems*

Both Clear and Telecom have a similar fibreoptic network but did not receive permission from Transit NZ to lay cable along the Northwestern Motorway.

Telstra Saturn has junctions on the Royal Road/Lincoln Road/Te Atatu Road Motorway interchanges enabling feeders to provide fibreoptic capacity to these areas.

Telecom is constantly upgrading its capacity with cable overlays to provide improved service, particularly in outlying areas, and to assist in meeting the need for fibreoptic capacity for home businesses.

- **UNDERGROUNDING OF CABLES**

Overhead telephone and electricity wires are often considered unsightly and sometimes potentially dangerous. Council has engaged in a programme to underground wires in existing areas as the opportunity arises, with particular priority given to town centres.

Waitakere City Council has a 35 percent stake in the United Networks Shareholders Society, whose dividends of around \$8 million a year fund undergrounding of existing overhead cables in Rodney, North Shore and Waitakere City. The cost of undergrounding is approximately \$1 million per kilometre. Particular priority is given to town centres as part of the revitalisation programmes, and so far Henderson, New Lynn, Glen Eden, Titirangi, Green Bay and Te Atatu have had work done. Swanson and Ranui are expected to be next, and the programme will be re-evaluated in 2005.

Cabling in new subdivisions is required to be installed underground as a condition of resource consents. However, existing older areas mainly have overhead lines.

- **JOINT CABLE DUCTING**

There is a global trend towards including spare capacity of ducting when trenches are dug for whatever purpose. This is because the main cost of laying a fibre optic cable is digging the trench.

Auckland City Council recently engineered an agreement with the lines companies to install lines at the same time to minimise cost and inconvenience. Waitakere City Council is currently investigating ways this could be implemented in Waitakere City.

#### 4. COMMUNICATION PATTERNS

Improvements in technology have enabled more instantaneous forms of communication. The traditional communication forms of face-to-face, written, radio and television have continued to be important.

“83 percent of Waitakere City businesses have access to the Internet.”

The changes in communication patterns over the last ten years or more include:

- o More mobility of telecommunications - mobile phones, laptop computers, pagers, conference calls, video-conferencing, point of sale and data collection technologies, etc.
- o More use of the internet and e-mail communications.
- o Greater access to satellite technologies.
- o Compact discs and DVDs replacing cassette tapes and vinyl records.

Convergence of computer, communication and entertainment systems has made gradual progress. The various components are still largely embedded in separate devices. The major progress has been in computers and peripherals - such as scanners, modems (now often internal) microphones and speakers - which can now use the internet to make international telephone calls, send and receive faxes and emails, and download and play videos and music. CD-ROM burners which permanently store such information are becoming cheaper and more widespread.

At the 2001 Economic Development Conference in Waitakere City, the number one issue raised by local businesses was the technical difficulties with lack of bandwidth and high speed internet access.

#### • TELEPHONES

Nearly all households in Waitakere City have at least one telephone (as do virtually all businesses). In Waitakere City, 96 percent of households say they have a telephone.

*(Source: Statistics New Zealand 2001).*

This is slightly better than most of the region and the nation as a whole. The proportion of telephone ownership is lower for Maori and Pacific Islands households.

#### • COMPUTER AND INTERNET USE

The 2001 census indicates reasonable access to telecommunications by Waitakere City residents from their homes:

No access	3%
Telephone	96%
Fax	27%
Internet	41%

Relative to the rest of the Auckland region, Waitakere City residents have less Internet access than North Shore (52 percent) and Auckland City (46 percent) and slightly more access than Manukau City (39 percent).

Use of the Internet is higher for households with children and young adults and lower for households with one or two people, residents aged 60 years or over and residents not in paid employment.

83 percent of Waitakere City businesses have access to the Internet  
*(Source: Survey of a sample of businesses in December 2000).*

**Transport and Communication**

**CASE STUDY**

**TRANSPORT FACILITIES IN NEW LYNN TOWN CENTRE**

The retail heart of New Lynn town centre is at the nexus between Great North Road and the rail/ bus interchange, and is about a 10 minute drive from the Northwestern Motorway. As well as substantial through traffic, it is a key origin and destination point for trips. Lynnmall is a significant destination in its own right, as are (to a lesser extent) the shops, offices and entertainment on and near the mainstreet, and the commercial and industrial premises to the southeast and northeast. There is a by-pass to the northwest comprising Rata and Ash Streets.

Although the bulk of trips are made in private cars, New Lynn town centre is also fairly well served by a variety of other alternative modes. The dominant form of public transport is buses: each day, 380 buses pass through the town centre. In the morning peak period alone, 48 buses carry 1311 passengers in both directions.

New Lynn is a key railway station, which shows unusually high patronage levels considering the current half-hourly train service. The New Lynn railway station handles 692 passengers per day in the morning peak, with 10 trains passing through before 9 am. Almost as many rail passengers (328) are getting off there as boarding (364). A total of 40 trains stop at New Lynn each day. The single-track line is already at capacity and needs to be upgraded, as does the station. There are also plans to improve integration of the bus and rail systems by shifting the bus station further to the south.

Updated as at 1 September 2002  
 Updates @ [www.waitakere.govt.nz](http://www.waitakere.govt.nz)



New Lynn has ample open-air parking for shoppers, most of it at the mall or on-street in the form of 30 minute parking. There is currently no dedicated park-and-ride facility for commuters, but the Council proposes to provide one in conjunction with the rail upgrades.

Pedestrians are catered for with well-maintained footpaths, verandahs and pedestrian crossings protected by traffic lights, but busy roads and roundabouts are still a barrier to foot traffic. Memorial Avenue was recently “pedestrianised” (closed to vehicles), and Council has built a footbridge across the Rewarewa Creek, but the special needs of pedestrians from new medium density housing estates are still not explicitly catered for. Similarly, there are currently no cycle lanes.

Freight connections are by road alone, not only to supply local retailers, but also to serve the manufacturing sector. Also running through New Lynn is the Whau River, which was used for transport many years ago and was the main “portage” – the point where waka and cargo boats were transferred between the Manukau and Waitemata Harbours - but not any more. There are no longer any direct air or water transport links in New Lynn, but there are connections via land, to sea and airports located elsewhere.

## WHAT THE COUNCIL IS DOING:

The following are some of the actions the Waitakere City Council is taking:

- o Making it easier to work from home through the District Plan rules.
- o Promoting local employment, walking, cycling and passenger transport.
- o Encouraging higher density living close to passenger transport.
- o Integrated planning for roading, passenger transport, walking and cycling.
- o Construction and maintenance of roads, footpaths, cycleways, park and rides, and bus shelters.
- o Payment of levies to the Auckland Regional Council to help subsidise regional bus, rail and ferry services.
- o Road safety initiatives such as slow streets and safety awareness programmes.
- o Developing an 'e-government' strategy to improve access and communications via the Council's internet site.
- o Hosting an Economic Development Conference for local businesses with an emphasis on internet developments.

•• *Road safety initiatives such as slow streets and safety awareness programmes.*”

## WHAT YOU CAN DO:

- o Drive your car less – walk, bike, bus, or car pool, especially during congested periods, and combine many chores with each car trip – for example, do the shopping, post the mail, and collect the kids from their recreational activities.
- o Tune your vehicle to reduce air pollution.
- o Use public transport and park and ride facilities.
- o Use local schools and encourage the kids to walk or bike to school.
- o Shop locally.
- o Work from home.

•• *Drive your car less ... and combine many chores with each car trip*”