



## Public Transport

## Household Travel Survey v1 January 2010

The New Zealand Household Travel Survey is an ongoing survey of household travel conducted for the Ministry of Transport. Each year, people in 4600<sup>1</sup> **households** throughout New Zealand are invited to participate in the survey by recording all their **travel** over a two-day period. Each person in the household is then interviewed about their travel and is also asked about their alcohol consumption and other travel-related information.

This fact sheet looks at public transport (PT) use by New Zealanders – who uses it, why, and how often. This fact sheet uses data from 17,389 people in 7094 households, collected between July 2003 and June 2009, focussing mainly on the time period between July 2006 and June 2009. The information will be updated as new data become available.

For this fact sheet, **public transport** is defined to be local bus, train and ferry passenger travel. For this purpose, 'local' bus and train trips are defined as single legs of 60 kilometres or less, local ferry trips as trips of 1 hour or less.

Words shown in **blue** (and not headings) are defined in the glossary at the end of this sheet. Click on the word or phrase to go directly to the glossary.

As the survey covers periods starting July in a given year and finishing in June, it should be noted that 2006 – 2009 refers to a three year time period (July 2006 – June 2009), as periods are labelled with the start and finish year.

### Highlights

- 37% of people in New Zealand have used local public transport in the last year<sup>2</sup>.
- Nearly half of people living in main urban areas have used local public transport in the last year, compared to 13-19% of people in secondary urban areas and rural areas.
- Nearly three quarters of people in the greater Wellington area have used local public transport in the past year.
- 13-17 year olds are the most likely to have used public transport in the last year.
- People with a personal income of above \$60 000 per year are just as likely to have used public transport in the past year as those earning less.
- More than half of public transport travel is commuting to work or education.
- Train trips tend to be longer than bus trips.
- Passengers in cars and vans are 9 times more likely than bus passengers to be killed or injured in a motor vehicle crash for the same time spent travelling.

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<sup>1</sup> Prior to 2008, 2200 households per year were sampled.

<sup>2</sup> Data collected July 08 – June 09.

## Share of transport

Figure 1: Overall share of mode of travel (2006 – 2009)

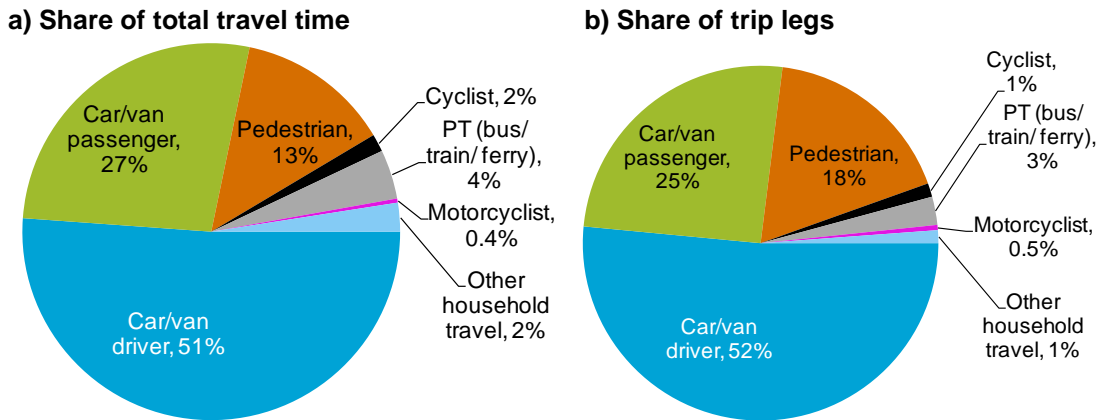


Figure 1 shows each travel mode's share of the total travel time and trip legs travelled. Public transport makes up 4% of total time travelled and 3% of all trip legs and total distance travelled. Table 1 shows the time, distance and number of trip legs travelled using each major mode of travel.

Table 1: Travel mode share of time, distance and trip legs (2006 – 2009)

Travel mode	Trip legs in sample	Million hours per year	Million km per year	Million trip legs per year
Car/van driver	61 158	824	30 390	3 275
Car/van passenger	32 470	437	17 240	1 619
Pedestrian	20 412	212	930	1 116
Cyclist	1 757	24	290	79
Public transport (bus/ train/ ferry)	2 777	68	1 460*	164
Motorcyclist	465	6	200	30
Other household travel	1 154	40	570	75
Total	120 193	1 612	51 080	6 359

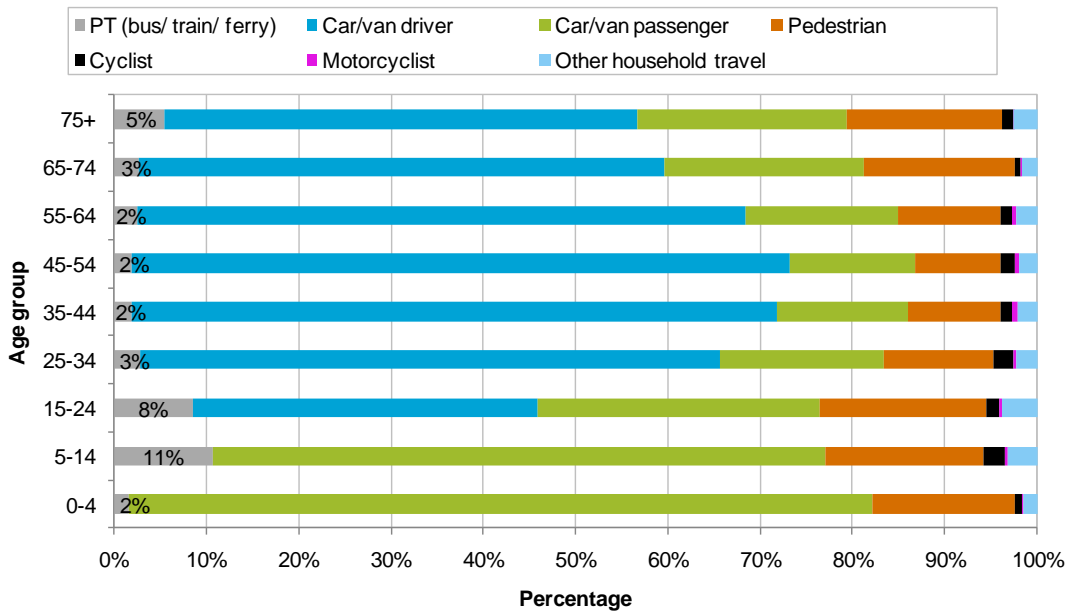
\*Note: Distance estimates are available for road and rail-based modes only. Totals may not add exactly due to rounding.

Overall New Zealanders spend 68 million hours per year using public transport, covering at least 1460 million km per year (excluding ferry travel), and making 164 million trip legs per year.

## Travel mode share by age group

Figure 2 shows travel patterns for various age groups. The greatest use of public transport is by school-aged children and those 15-24 years. Those 5-14 years old spend the greatest percentage of their time travelling by public transport, at 11%. People aged 25-64 were the most car-dependent, with 3% or less of their total travel time spent on public transport. Examining by distance travelled for travel mode share gave similar trends by age.

**Figure 2: Percentage of total time spent travelling by each mode of transport for different age groups (2006 – 2009)**



**Table 2: Public transport travel per person per year by age (2006 – 2009).**

Age	Time per person (hours per person per year)	Distance per person (km per person per year)
0-4	4.45	94
5-14	31.59	658
15-24	34.45	778
25-34	11.70	257
35-44	8.72	199
45-54	8.29	186
55-64	10.02	219
65-74	9.21	191
75+	12.58	142
Total	16.05	343

Table 2 shows public transport use per head of population by age group. 5-14 year olds and 15-24 year olds spend more time on public transport and travel further than any other age group. They spent more than twice as much time and travel more than twice as far as those of other ages on average. However even 15-24 year olds spend only 40 minutes per week travelling by public transport.

### Who uses public transport?

The two-day sampling period of the survey means that there are quite high odds that someone may use public transport regularly, but just has not done so in the sampled period. In July 2008, a new survey question about public transport use over the past year was introduced. People were asked if they had used public transport to travel in

their local area at all in the past year. If they had, they were then asked how often they had used it in the last month. Table 3 shows the results.

**Table 3: Public transport usage in the past year (2008 – 2009).**

	Sample number	Population in category <sup>3</sup>	Percentage
Not at all in last year	5 088	2 654 600	63%
Not at all in last month but in the last year	1 229	634 400	15%
On 1-4 days	808	471 200	11%
On 5-9 days	234	122 500	3%
On 10-19 years	226	140 900	3%
On 20 days or more	309	208 700	5%
Total	7 894	4 232 400	100%

Almost two thirds (63%) said that they hadn't used public transport in their local area in the past year. 15% had used it in the last year, but not in the last month and only 22% had used it in the last month.

**Figure 3: Public transport use in last year by age group (2008 – 2009).**

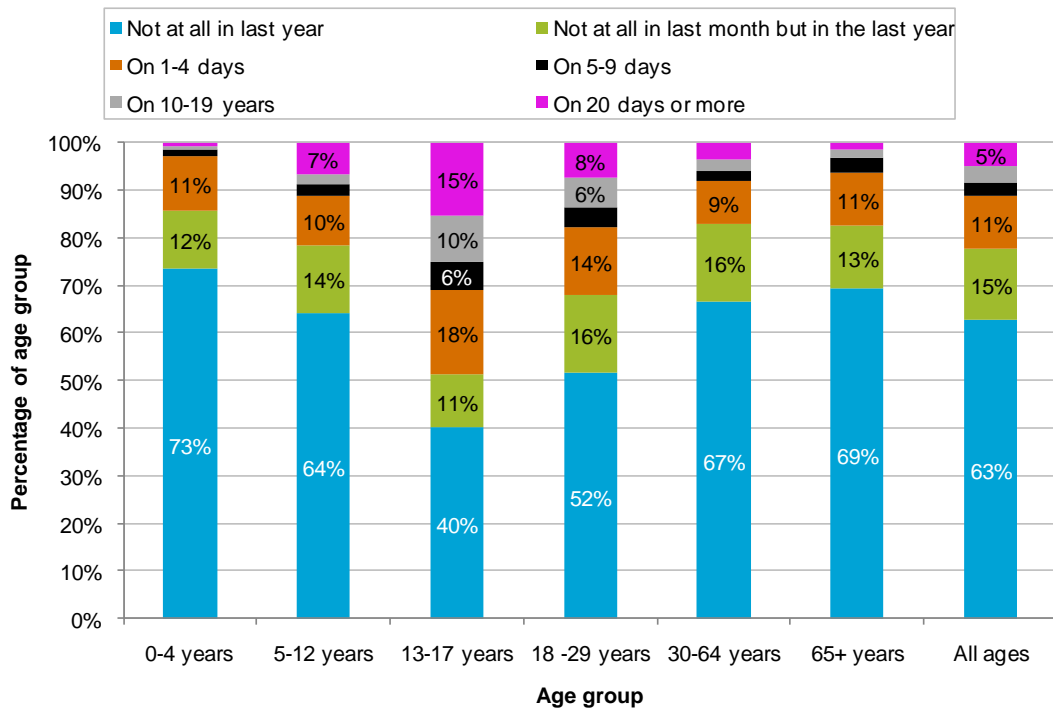


Figure 3 shows public transport use in the last year by age group. 13-17 year olds (i.e. those of secondary school age) were most likely to have used public transport in the last month (49%), followed by those 18-29 years old (32%). 15% of 13-17 year olds had used public transport on 20 days or more in the last month, implying it was used regularly on weekdays.

<sup>3</sup> May not exactly add to Total due to rounding.

Women were slightly more likely to have used public transport in the last year (40% of women, compared to 35% of men). Otherwise, there is little difference in the patterns of frequency of usage.

A greater effect than gender is location and therefore proximity to public transport.

**Table 4: Public transport usage by residential area (2008 – 2009).**

	% of population			
	Main Urban Area	Secondary Urban Area	Rural	Total
Sample size	5 681	506	1 707	7 894
Not at all in last year	54%	81%	87%	63%
Not at all in last month but in the last year	18%	9%	6%	15%
On 1-4 days	14%	3%	3%	11%
On 5-9 days	4%	0%	0%	3%
On 10-19 days	4%	0%	1%	3%
On 20 days or more	5%	7%	3%	5%
Grand Total	100%	100%	100%	100%

46% of those in **main urban areas** (30,000 people or more) have used local public transport in the past year, whereas only 13% of those in rural areas have used it. Usage in secondary urban areas is closer to that observed in rural areas than in main urban areas, due to a low likelihood of population centres of 10,000 – 29,999 people being able to sustain high levels of public transport.

**Table 5: Public transport use in past year by urban area (2008 – 2009).**

	Urban area					
	Auckland	Hamilton	Wellington (including Kapiti)	Christchurch	Dunedin	National
People sampled	1715	369	642	1216	319	7894
<b>Used public transport...</b>						
Not at all in last year	53%	66%	27%	48%	52%	63%
Not at all in last month but in the last year	17%	17%	27%	18%	22%	15%
On 1-4 days	16%	9%	19%	19%	15%	11%
On 5-9 days	4%	3%	4%	5%	8%	3%
On 10-19 days	3%	3%	12%	6%	1%	3%
On 20 days or more	7%	2%	11%	5%	2%	5%
Grand Total	100%	100%	100%	100%	100%	100%

People from the greater Wellington area were most likely to have used public transport, with nearly three-quarters of them having used it in the past year (Table 5). Over half the people in Christchurch have used public transport in the last year. Of

the five main centres examined, people from Hamilton were least likely to have used public transport in the last year (34%).

Care should be taken when comparing public transport use by location, as different areas have quite different levels of access to public transport. For instance only 49% of the people in Waikato live within 500 metres of a bus route<sup>4</sup>, compared to 90% of the people in the greater Wellington area.

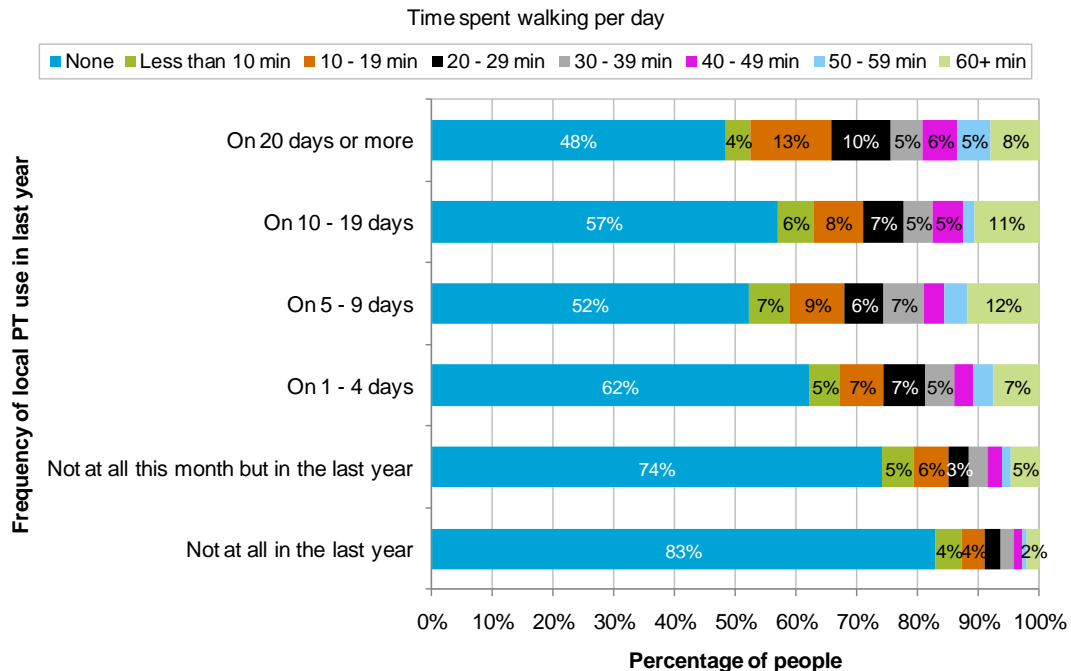
Income and frequency of public transport use were also examined, but no pattern was observed: 40% of those earning over \$60,000 per year used public transport in the past year compared to 38% of those earning \$60,000 or under.

### Walking by public transport users

If we examine how much time people spent walking as a function of their public transport use (Figure 4), those who used public transport most often (on 20 days or more in the last month) were most likely to report some time walking per day (52%). 13% of the regular public transport users walked for 10-19 minutes per day, 10% 20-29 minutes per day and 8% walked for over an hour a day. Of those who had not used public transport in the last year, 83% reported no walking on New Zealand roads on a surveyed day.

This correlation may reflect a conscious choice on the part of users, because walking is often necessary to access public transport, or both could result from lack of access to a vehicle.

**Figure 4: Time spent walking per day by frequency of public transport use (2008 – 2009).**



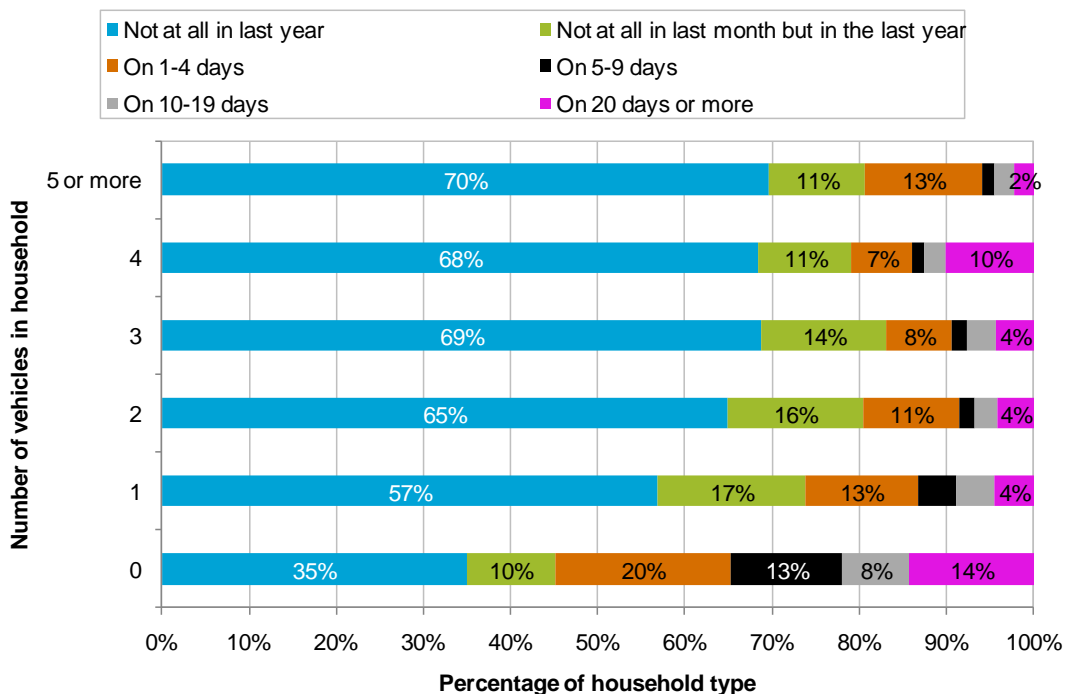
<sup>4</sup> From Transport Monitoring Indicator Framework indicator [AM015 Percentage of the population living within 500 metres of a bus route](#) (accessed 7.1.10)

### Household characteristics

Examining public transport use by the number of motor vehicles in the household (Figure 5), 65% of people in households with no vehicle used public transport in the last year. For households with two or more cars, this drops to 35% of people or less using it in the last year.

Household type was also examined to see if that correlated with public transport use, but no particular trends were observed. Households consisting of **adults sharing** (not family) were most likely to have used public transport in the last year (53%), whereas **families** (with and without children) or people living alone were less likely (37-38%). Married or de facto **couples** with no children were least likely to have used public transport in the last year (33%).

**Figure 5: Frequency of public transport use by number of vehicles in household (2008 – 2009).**

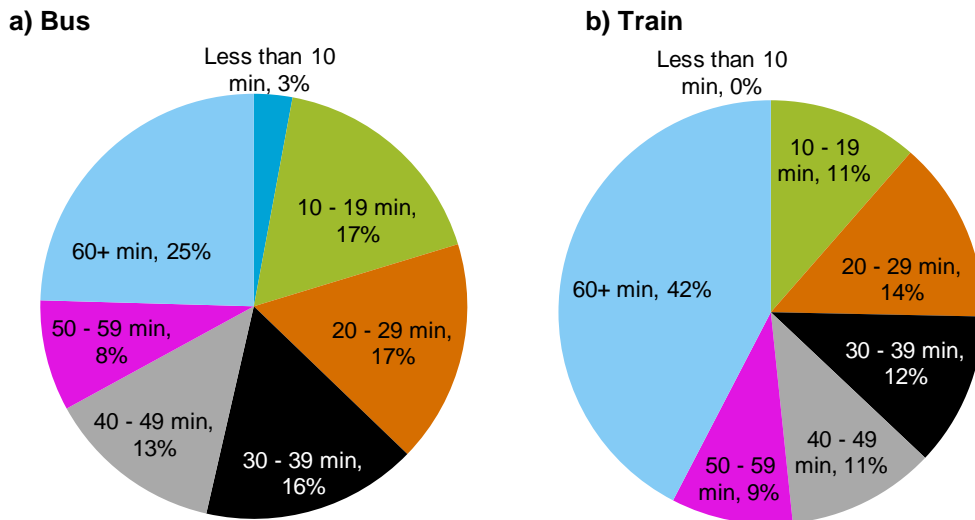


### Characteristics of public transport use

Train travel tends to be longer, with a median trip leg duration of 26 minutes covering approximately 17 kilometres, compared to the bus median trip leg duration of 20 minutes but covering only 5.5 kilometres.

Figure 1 shows time spent travelling on public transport per day by bus and by train. This may involve a number of individual public transport trips.

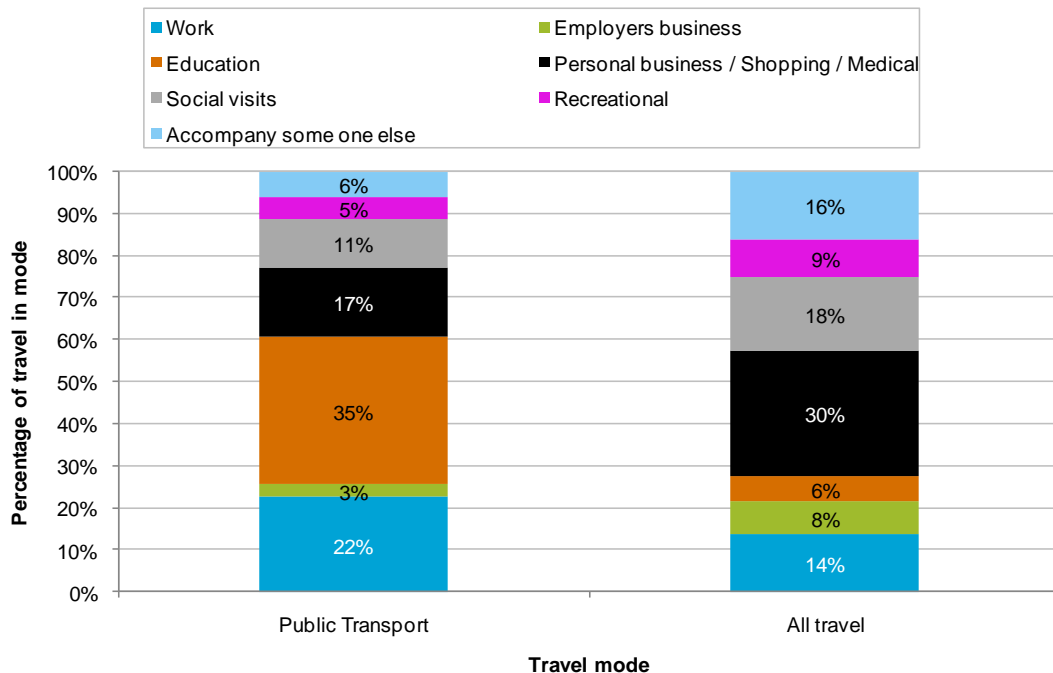
**Figure 6: Time spent travelling by public transport per day (2006 – 2009).**



**Reasons for travel**

People’s **purpose/destination** for travelling when using public transport follows a quite different pattern compared to their reasons for travelling in general (Figure 7).

**Figure 7: Destinations travelled to by public transport (percentage excluding travelling home) (2006 – 2009).**

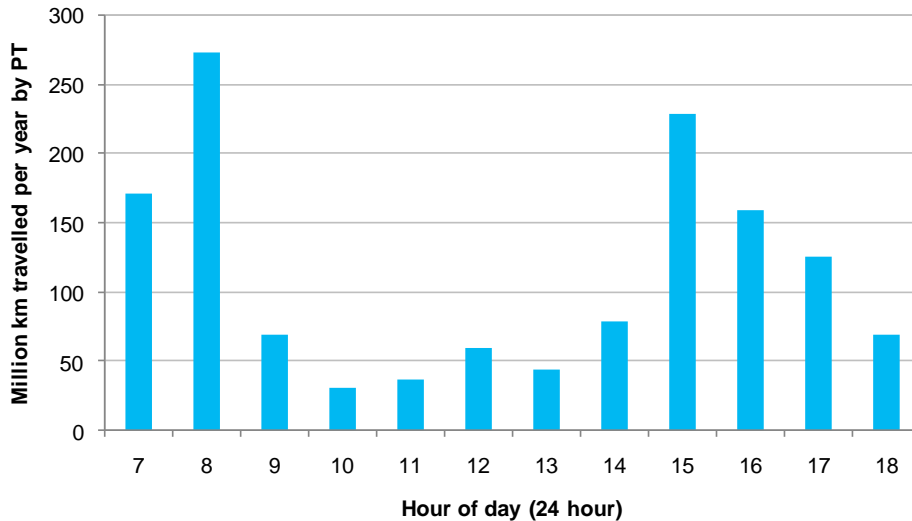


Excluding travel home, 57% of travel by public transport is commuting to education or work: 35% to get to a place of education and 22% to get to work. This compares to 6% for education and 14% to get to work for all travel.

This reflects the age group breakdown, with those of secondary school age being most likely to have used public transport (Figure 3). This also reflects the trends in

the amount of travel by time of day (Figure 8). Travel peaks occur around 8am and 3pm, with the morning peak being higher and narrower and the afternoon peaking at 3pm and slowly declining through the late afternoon. This indicates that the work and education trips are commuting and are regular trips at peak times for which public transport is readily available, compared to off-peak times such as late at night. Car drivers show similar morning and afternoon/evening peaks for weekday travel<sup>5</sup>, but the second peak of the day for car drivers increases from 3pm and peaks around 5pm.

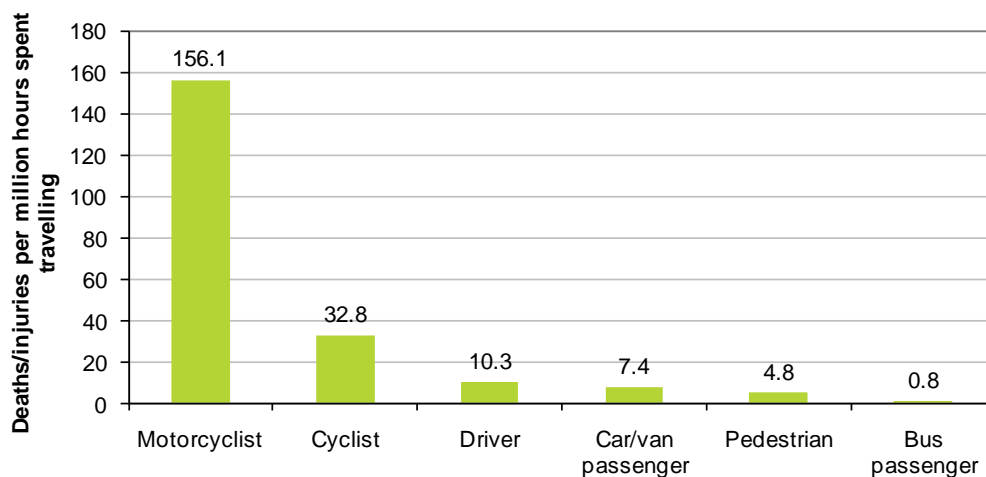
**Figure 8: Distance travelled by hour of day for travel on public transport (excluding ferry) (2006 – 2009).**



Hours before 7am and after 6pm not shown due to too small a sample size.

### Comparative risk

**Figure 9: Deaths / injuries per million hours spent travelling (2004 – 2008).**



<sup>5</sup> Figure 9, Driver Travel fact sheet linked off <http://www.transport.govt.nz/research/Pages/LatestResults.aspx>

Figure 9 compares risk for common travel modes as expressed in deaths or injuries per million hours spent travelling. Of the commonly used travel modes on New Zealand roads, bus travel is the least risky form of transport. Car/van drivers are 10 times more likely to be killed or injured in a motor vehicle crash than bus passengers for the same amount of time spent travelling. Overall, passengers in cars and vans are 9 times more likely to be killed or injured than bus passengers.

### Other sources of public transport data

A variety of public transport data is available. The Transport Monitoring Indicator Framework includes a variety of public transport-related indicators. Some of these are directly measured from the Travel Survey, however others use other sources such as council records of boardings or surveys of respondents' travel perceptions. These indicators include:

- Access to the transport system
  - **Percentage of the population living within 500 metres of a bus route (AM015)**
  - **Travel perceptions for bus AM012**
  - **Travel perceptions for train AM013**
  - **Travel perceptions for ferry AM014**
  - **Travel perceptions for public transport (general) AM021**
- Travel patterns
  - **Public transport mode share of all trip legs TP003**
  -
- Transport Volume
  - **Total public transport boardings TV020**
  - **Total public transport boardings per capita TV021**

### Additional information:

*Transport Monitoring Indicator Framework*  
<http://www.transport.govt.nz/ourwork/TMIF/Pages/default.aspx>

*For more information about the background to the survey see the Ministry of Transport website at <http://www.transport.govt.nz/research/TravelSurvey/>*

## Glossary

**Driver:** in this fact sheet includes all drivers of private light 4-wheeled vehicles such as cars, utes, vans, SUVs etc.

**Household:** group of people living at the same address, sharing facilities but not necessarily financially interdependent. May be an individual, couple, family, flatmates or a combination of these (e.g. family plus boarder).

### Household types:

*Family* includes any configuration: multi-generational, cousins, step parents, de facto partners with own, step or foster children, same sex partners with children etc. This is further divided into *Family with adults only* and *Family including children*.

*Couple* includes same sex couples.

*Adults sharing* includes couples living with boarders or flatmates.

*Person living alone*

**Main urban area:** a very large urban area centred on a city or major urban centre. This uses the Statistics New Zealand criteria of an urban centre with a population of 30,000 or more and includes satellite areas, e.g. Kapiti, Cambridge.

**Passenger:** passenger in a private vehicle (car, van, ute, SUV, truck). Passengers in buses, trains and taxis are coded under those categories. Aircraft and boat passengers are included in the 'Other' category.

**Public transport:** (PT). Passenger in local bus, train or ferry. Distances are currently only available for bus and rail trips. Local bus and train trips have been defined to be 60 kilometres or less, local ferry 1 hour or less. Bus/train/ferry trips of longer than this distance/duration have been coded to 'other household travel'.

**Secondary urban area:** this uses the Statistics New Zealand criteria of an urban centre of between 10,000 – 29,999 population.

**Rural:** this uses the Statistics New Zealand criteria of a rural area with a population of less than 10,000, including satellite areas.

**Travel:** includes all on-road travel by any mode; any walk which involves crossing a road or walking for 100 metres or more along a public footpath or road; cycling on a public road or footpath; some air and sea travel. Excludes off-road activities such as tramping, mountain biking, walking around the mall or around the farm.

**Travel mode:** the method of travel. Includes vehicle driver, vehicle passenger, pedestrian, cyclist, motorcycle rider or passenger, bus or train passenger, ferry or aeroplane passenger and so forth.

**Trip distance:** For road-based trips, distances are calculated by measuring the distance from the start address along the roads to the finish address. If an unusual route was used, the interviewer records an intermediate point to indicate the route; otherwise, the journey is assumed to follow the quickest available route.

**Trip leg:** a single leg of a journey, with no stops or changes in travel mode. For example, driving from home to work, with a stop at a shop, is two trip legs; one ending at the shop and one ending at work. This does not include trips where people walk less than 100 metres without crossing a road, trips on private property that start and end at the same place without crossing a road, and off-road round trips.

### Trip purposes / destinations:

**Return home** includes any trip to the home address or any trip returning to the place they are going to spend the night.

**Work** includes travel to main place of work and travel to any other jobs.

**Employer's business:** includes work-related travel other than to and from work (e.g. travelling to meetings or clients).

**Education** is for travel by students only and includes institutions such as primary and secondary schools, universities, etc. It does not include preschool education such as kindergarten, playcentre, crèche, kōhanga reo etc, which are included under *social visit / entertainment*.

**Shopping** is entering any premises that sells goods or hires them for money. A purchase need not be made.

**Social visit / entertainment** includes entertainment in a public or private place, e.g. eating out at a restaurant or food court, picnics etc.

**Recreational** includes active or passive participation in sporting activities and travel for which the main goal is exercise.

**Personal business** includes stops made to transact personal business where no goods were involved. This includes stops made for medical or dental needs and for dealing with government agencies involved with social welfare.

**Accompany or transport someone** covers when the reason of the travel is to go somewhere for someone else's purpose.

**Change mode of travel** covers when the purpose of the stop was only to change to another mode of transport.

**Walk:** Includes walkers, joggers, users of mobility scooters and children on tricycles.

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*Prepared by the Transport Monitoring team of the Ministry of Transport, February 2010.*