



Walking for transport

Household Travel Survey

v2.0 Dec 2009

The New Zealand Household Travel Survey is an ongoing survey of household travel conducted for the Ministry of Transport. Each year, people in 2200¹ **households** throughout New Zealand were 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 walking by New Zealanders – who walks, where to, and how the patterns have changed over time. Note that this travel survey captures walking on the road / footpath environment; off-road activities such as tramping and walking around the farm or shopping centre are not included in these estimates. This fact sheet uses data from 17 389 people in 7 094 households, collected between July 2003 and June 2009, focussing on July 2006 – July 2009. The information will be updated as new data become available. From this edition onwards, **professional driver** trips² (including walking trips such as mail and pamphlet delivery) have been excluded from the analysis.

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, as periods are labelled with the start and finish year.

Highlights

- Walking makes up 13% of total time travelled and 17% of the number of **trip legs**.
- On average women spend more time walking more than men, walking 62 minutes per person per week, compared to 53 minutes per person per week for men.
- Those aged 15 – 24 years walk the most of any age group at nearly one and a half hours per person per week.
- People with no car **driver licence** spend far more time walking per person per week than those with one, for all age groups.
- People in households with no car spend more than two and a half hours per person per week walking, compared to 66 minutes per person per week or less for those in households with one car or more.
- On an average surveyed day, 74% of people reported no walking (walking on private property (e.g. farms) or tramping is not included).
- Walking by those aged 5-14 years has decreased from 1.5 hours per person per week in 1989/90 to 1 hour per person per week in 2006-09.

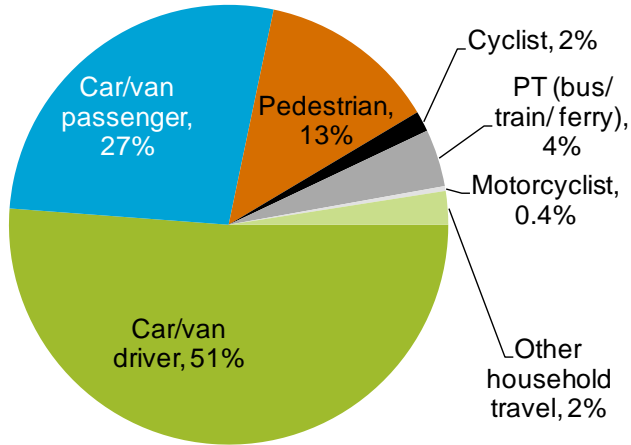
¹ From July 2008, 4600 households per year were sampled.

² Professional driver trips are those done to transport goods or people as a professional eg courier trips, taxi drivers trips, bus driver trips, mail and paper route delivery trips.

Share of transport

Figure 1: Overall mode share (2006 – 2009)

a) Share of total travel time



b) Share of trip legs

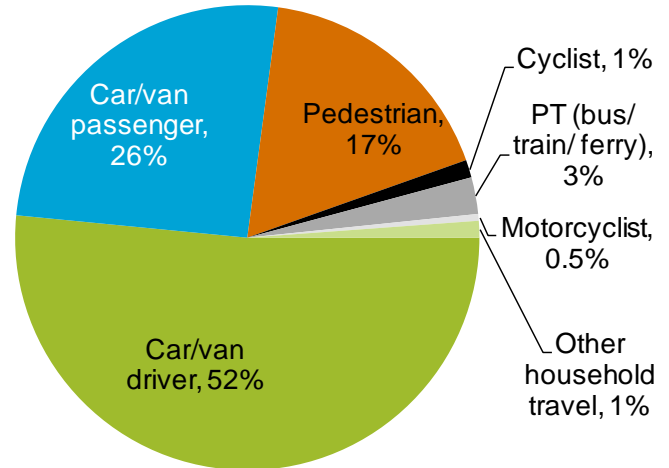


Figure 1 shows each **travel mode's** share of the total travel time and trip legs. It can be seen that walking makes up 13% (about one eighth) of total time travelled and 17% (one sixth) of the number of trip legs. Walking distances are measured from geocoded distances and in the 2% of cases where these are not available, have been imputed from time spent walking, using a conversion factor of 4.4 km/h. This is based on work done by Carolyn O'Fallon and Charles Sullivan (O'Fallon and Sullivan, 2004) using a sample of walking trips from the 1997/98 Household Travel Survey.

Table 1: 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	61 237	826	30 424	3 298
Car/van passenger	32 525	437	17 252	1 637
Pedestrian	20 412	212	934	1 116
Cyclist	1 757	24	289	79
PT (bus/ train/ ferry)	2 777	68	1 456	164
Motorcyclist	465	6	196	30
Other household travel	1 154	40	573	75
Total	120 327	1 614	51 125	6 399

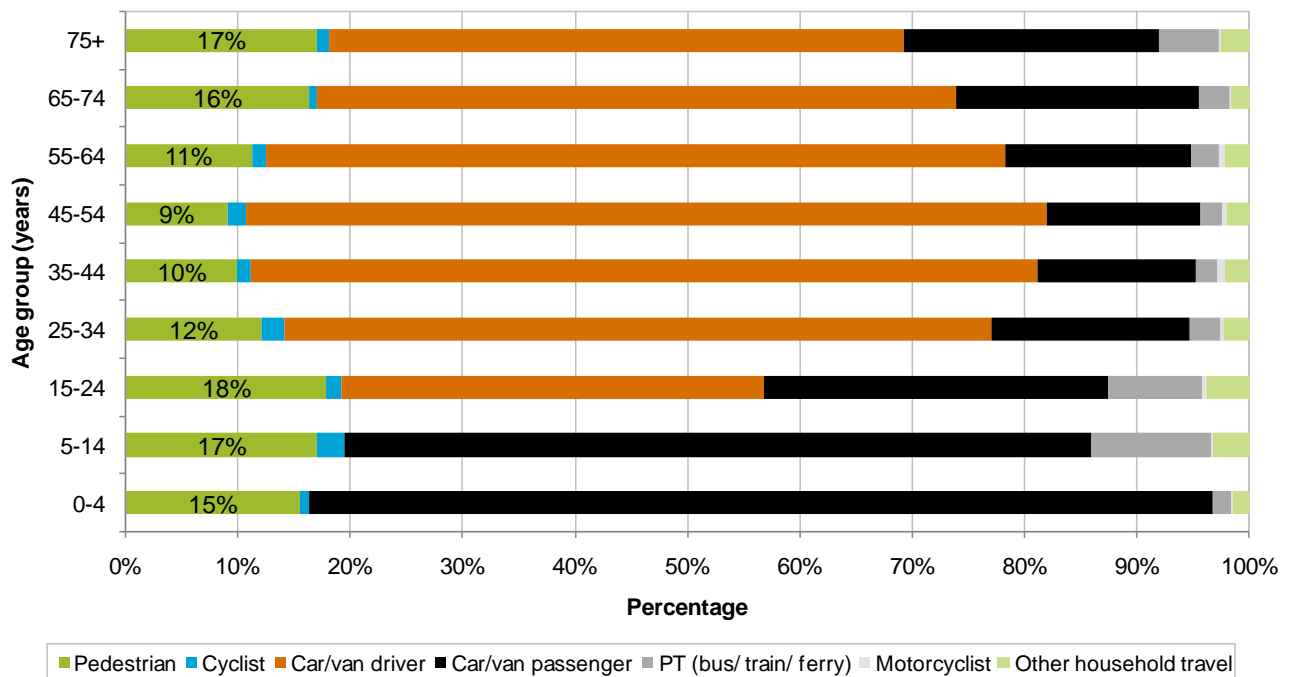
Note: Distance estimates are available for road-based modes only. Totals may not add exactly due to rounding.

Overall New Zealanders spend 212 million hours per year walking and walk an estimated 934 million km per year. This is a total of 1116 million trip legs per year.

Mode share by age group

Figure 2 shows travel patterns for various age groups. School-aged children, young adults and older road users were the most likely to choose active travel modes (walking and cycling). People 5-14 years old and 15-24 years old spend about 18% of their time walking and those 75 years old and over spend 17% of their time walking. Those 5-14 years old also spend the greatest percentage of their time cycling, at 2%. People aged 35 – 64 were the most car-dependent, with 12% or less of their total travel time spent walking or cycling.

Figure 2: Mode share (percentage of total time spent travelling by each mode of travel) (2006 – 2009)



Age groups and gender

As shown in Figure 1, walking makes up 13% of New Zealanders' total travel time and 17% of total trip legs.

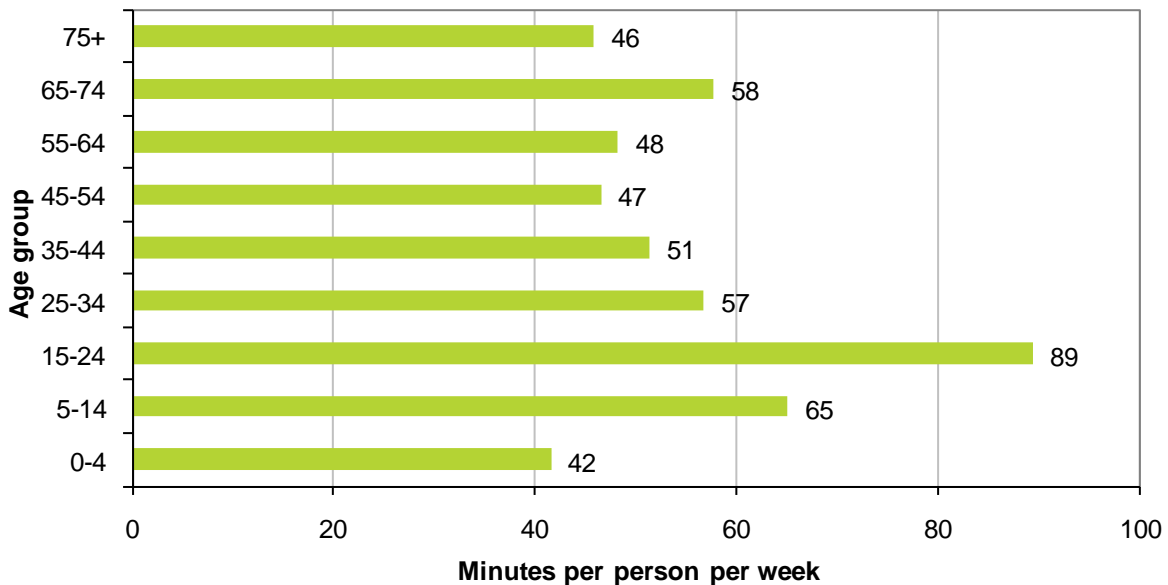
Table 2 shows the amount of time spent walking by gender and age group. On average women aged 15-24 years old walk the most, at one hour and three quarters per person per week. On the whole, women spend more time per person per week walking than men, unless over 65 years old or under 15 years old. Women spend on average 62 minutes per person per week walking, whereas men spend approximately 53 minutes per person per week walking.

Table 2: Walking trips by age group and sex (2006 – 2009)

Age group	Females			Males		
	Million trip legs per year	Million hours per year	Minutes per person per week	Million trip legs per year	Million hours per year	Minutes per person per week
0-4	25	4	36	31	6	47
5-14	81	16	65	89	17	65
15-24	124	28	105	90	20	74
25-34	94	16	64	67	11	49
35-44	89	16	56	69	12	46
45-54	78	15	57	52	9	35
55-64	60	10	53	48	8	43
65-74	39	7	52	34	8	64
75+	29	5	40	18	5	54
Total	620	117	62	497	96	53

Looking at the overall profile, people in the 15 - 24 year age group spend the most time walking (1 hour 29 minutes per week, Figure 3). This is followed by the 5-14 year olds at 1 hour and 5 minutes per person per week and the 65-74 year olds at 58 minutes per person per week.

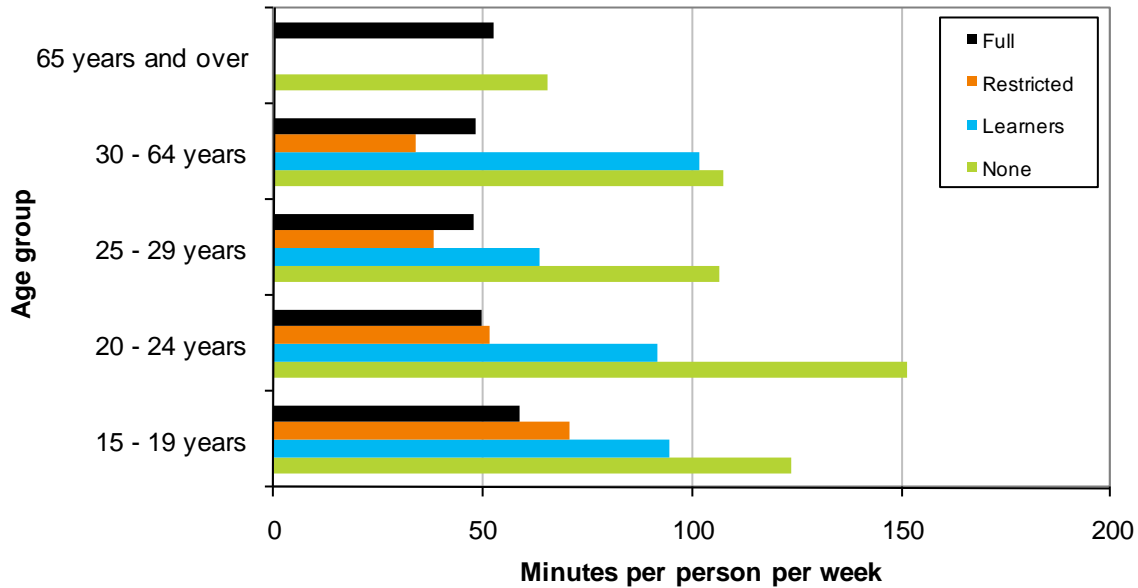
Figure 3: Time spent walking each week per person by age group (2006 – 2009)



Availability of vehicles

People without a **driver licence** or with only a learner licence spend substantially more time walking than those who can drive more freely. Figure 4 compares holders of different classes of car drivers licence with non-holders for various age groups.

Figure 4: Time spent walking by age (over 15 years only) and car driver licence held (2006 – 2009)³

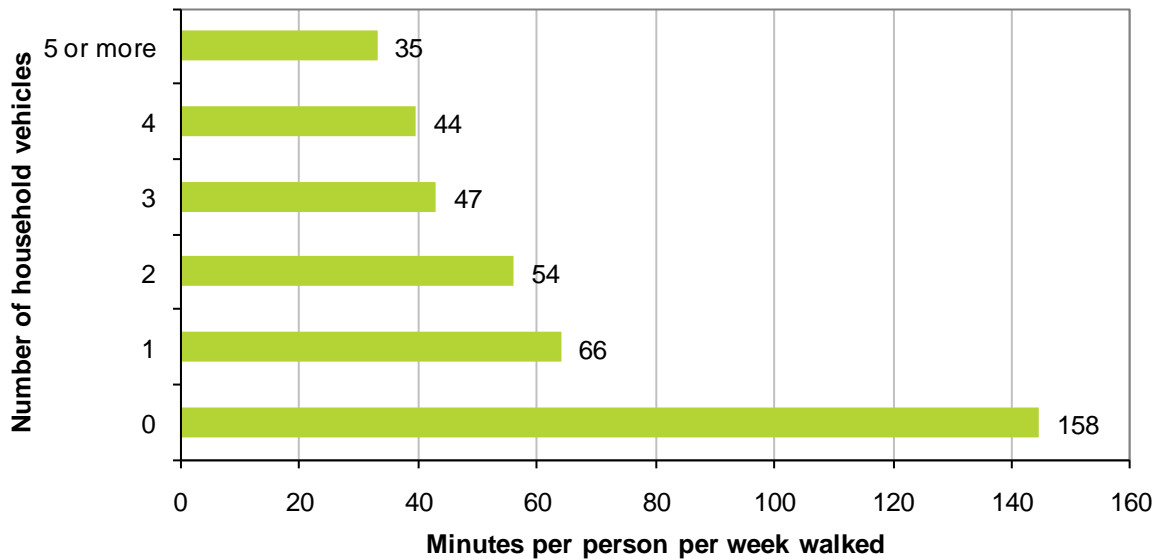


Generally people with a full licence walk for less than an hour a week, whereas those without a licence walk more than an hour and a half per week. Those who walk most are those with no licence and are aged between 20 and 24 years old (over 2 hours 31 per person per week). Those who walk least are restricted or full licence holders aged between 25 and 64 years old (about 48 minutes per person per week).

Walking patterns can also be examined in term of vehicles per household. As seen from Figure 5, those in a household with no vehicles spend nearly 2 1/2 hours per person per week walking. This rate decreases rapidly for households with vehicles. For households with one vehicle, the rate is more than halved to a little over an hour per person per week, and for households with more than two vehicles, the rate is around 40 minutes per person per week.

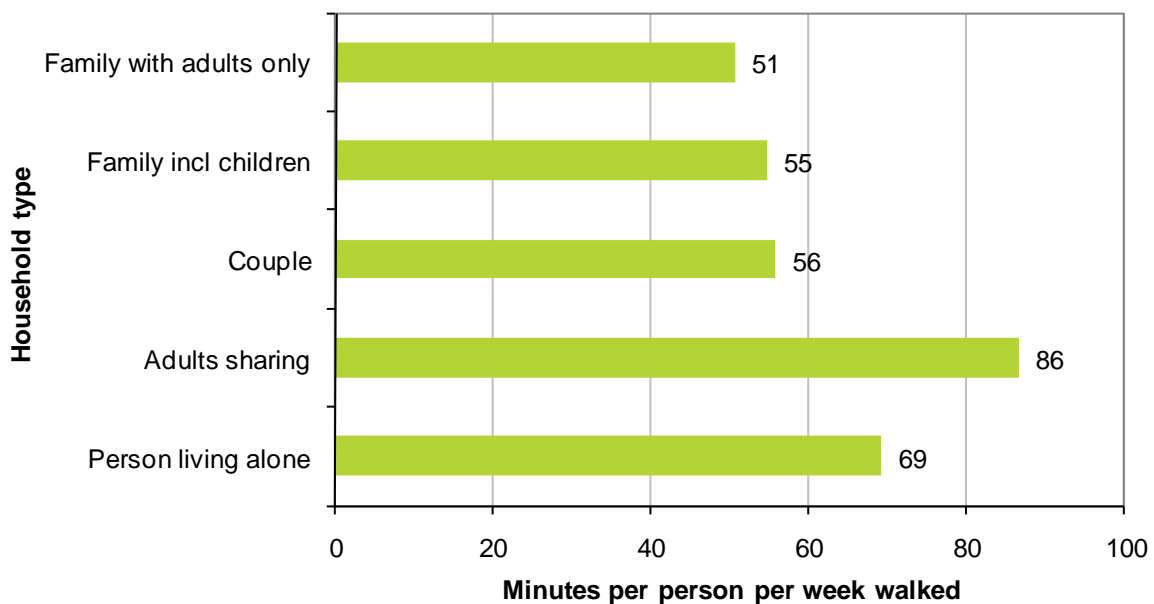
³ Learner and restricted driver data has not been displayed where the number of drivers surveyed in that age group was too small to study (less than 60 people).

Figure 5: Time spent walking by the number of household vehicles (2006 – 2009)



Family\household structure

Figure 6: Time spent walking by household type (2006 – 2009)



Adults in shared accommodation⁴ spend the most time walking (1 hour 26 minutes on average per person per week, Figure 6), followed by people living alone (1 hour 9 minutes per person per week). Families living together (including families with adult children), and couples walk least (around 50 minutes per person per week).

⁴ These are more likely to be younger people and therefore possibly non-drivers.

Urban/rural resident differences

Table 3: Time spent walking by age and area of residence (2006 – 2009)

Age group (years)	Minutes walked per person per week	
	Cities	Towns & rural areas
0-4	47	53
5-12	56	35
13-17	112	74
18+	62	37

There is also a difference in the amount of walking done per person per week depending on whether the person is based in a city or in a town or rural area (Table 3). Once over 5 years old, those in cities of over 30 000 people walk more (on public footpaths) than those outside. Primary school aged city children walk for nearly an hour each per week, whereas the town and country children reported walking for just over 30 minutes per week. A similar time difference exists between high school aged children in cities and those in towns and rural areas.

It should be noted that this survey is confined to walking on roads, footpaths and public walkways, and does not include walking on farms or private property. Hence it should be taken as indicative of the lower limit of rural walking as a form of travel.

Trip purpose / destination

For each unit of travel recorded, the respondent is asked about his or her destination or the purpose of the trip leg. These responses are coded into the categories shown in Table 4. 'Home' is used for the return leg of all travel; the categories shown include only travel to the stated destination types.

The distribution by purpose in this edition has changed from previous editions of the report due to **professional driver** trips being removed and a selection of trips being recoded from "**work**" to "**employers business**" as they had been miscoded previously.

It should be noted that professional "driver" trips includes those trips done for paper routes or by posties as part of their job, and hence will include walking and cycling trips counted in previous editions of this fact sheet.

Table 4: Walking trips by purpose/destination and age (2006 – 2009)

Age group	Purpose/destination	Trip legs in sample	Trip legs in year (million)	Time spent walking per year (million hrs)	% time walking excluding trips home
0-17 years	Return home	1844	97	22	
	Work	51	Sample too small	Sample too small	2%
	Education	900	51	11	27%
	Shopping/Personal business	441	21	4	10%
	Social visits	638	34	6	16%
	Recreational	494	26	7	18%
	Change mode of travel	656	40	5	12%
	Accompany or transport someone	682	34	6	15%
	Age group total	3862	210	39	100%
18-64 years	Return home	2768	154	34	
	Work	1960	114	16	17%
	Education	232	14	3	3%
	Shopping	1795	102	15	17%
	Personal business	666	38	5	6%
	Social visits	1032	59	12	13%
	Recreational	1408	75	23	25%
	Change mode of travel	1864	113	14	15%
	Accompany or transport someone	382	21	3	4%
	Age group total	9341	536	92	100%
65+ years	Return home	769	37	9	
	Shopping	494	22	4	23%
	Personal business	285	12	2	10%
	Social visits	199	9	2	10%
	Recreational	448	23	7	44%
	Change mode of travel	308	13	2	9%
	Accompany or transport someone	24	Sample too small	Sample too small	1%
	Age group total	1828	82	16	100%

In the above table walking may not have been the only travel mode used in achieving the final destination (as shown by the high percentage of trips related to 'change mode of travel'), however only the time spent walking has been included in the table. It should also be noted that the purpose of a trip leg is dictated by what was done at the end of that leg. This means that a walk home from work in which there is a stop to buy a paper will be coded as 2 trip legs, the first of which has a purpose of **shopping** and the second as **return home**. (Work is in progress to link trip legs into chains). The category of **change mode** relates to those trip legs which are for the purpose of getting to another form of transport. This covers trips such as travel to catch public transport e.g. walking to the bus stop or driving to a station to catch a train. It can also include walking back to the car after doing errands.

From Table 4, the three broad age groups show quite different priorities in terms of walking trip purpose. In the 0-17 year old age group, the primary purpose of walking trips is education i.e. walking to school (27%). In the 18-64 year old age group, the priority has shifted and is spread amongst recreation (25%), shopping (17%) and work (17%). In the 65 years and over age group, recreation is the dominant reason for walking (44%), followed by shopping (23%).

Examining the time per trip leg for each of the trip purposes is complicated by the fact that people often report a trip as taking 5 or 10 minutes. In general, the longest trip legs are for recreational purposes, including “going for a walk”: 10 min for 0-17 year olds, 14 min for 18-64 year olds and 15 minutes for those 65 years and older. The shortest trips are those for changing mode of transport or accompanying someone (5 minutes for all age groups).

Percentage of time spent walking by trip purpose is examined in more detail in Table 5. Overall, both shopping and recreation make up increasing percentages of walking time as the walkers increase in age. Work and education show distinct peaks: education at 5-14 years and work at 35-44 years, but tailing off more gradually. Walking for the purposes of social visits or changing travel mode are more constant and show no particular trends.

Table 5: Percentage of time spent walking by trip purpose and age (excluding the final trip for the purpose of going home) (2006 – 2009)

Trip purpose / destination	Age group (years)									Total
	0-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75+	
<i>number of people sampled in age group</i>	1147	3175	3352	2442	2901	2705	2093	1608	989	20412
Work	0%	0%	11%	18%	20%	17%	16%	5%	0%	12%
Education	4%	36%	19%	1%	2%	1%	0%	0%	0%	9%
Shopping	2%	7%	18%	15%	14%	15%	18%	18%	32%	15%
Personal business	0%	2%	4%	4%	5%	9%	8%	9%	12%	5%
Social visits	12%	18%	15%	14%	14%	11%	8%	11%	8%	13%
Recreational	28%	15%	12%	28%	25%	32%	34%	48%	37%	25%
Change mode of travel	4%	12%	18%	15%	14%	12%	15%	9%	10%	14%
Accompany or transport someone	49%	10%	2%	5%	5%	4%	2%	1%	1%	6%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

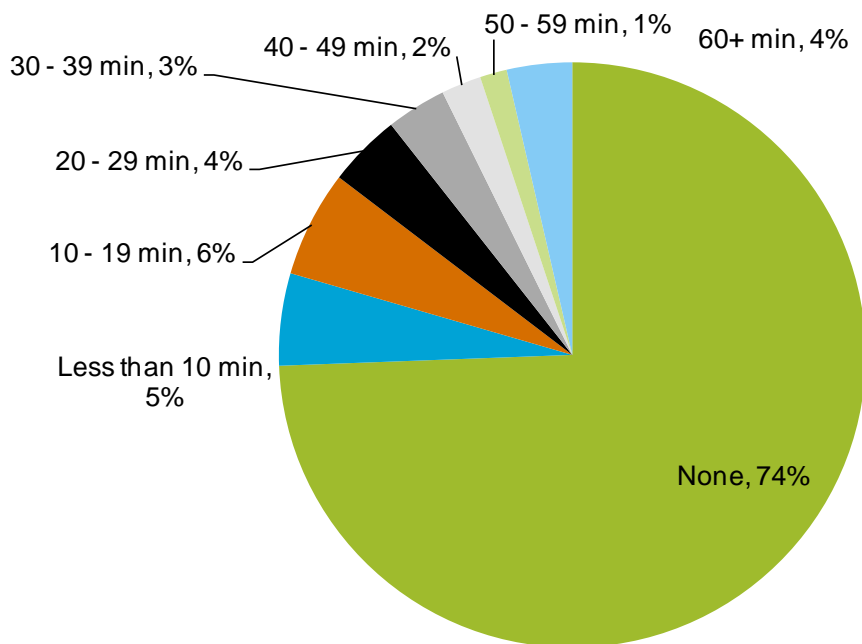
Note: Due to rounding, some columns may not add to precisely 100%.

- For children under 5 years old, the main travel purpose is dominated by “accompanying someone else” e.g. going on the parent’s errand (49%).
- For children 5 – 14 years old, the main purpose of walking is for education (36%) followed by social visits (18%) and recreation (15%).
- For people aged 15 – 24, the main purpose is for education (19%), followed by shopping (18%) and social purposes (15%).
- For people aged 25 – 34, recreation is the most common reason to walk (28%) followed by work (18%), shopping and change mode (15% each), and social (14%).

- For those aged 35 – 54, recreation becomes highest and increases from 25% to 32%. Work decreases from 20-17%.
- For those aged 55 – 74, recreation stays highest and climbs from 34% to 48%.
- For those aged over 75 years, the dominant trip purposes are recreation (37%) and shopping (32%).

Daily time spent walking

Figure 7: Percentage of people who spent the given time walking on any given day (2006 – 2009)



If the full set of people surveyed is examined, 74% of people reported no walking on a given day. This is followed by 10-19 minutes in a day (6%), 1-9 minutes in a day (5%), 20-29 minutes in a day (4%) and over 60 minutes in a day (4%).

Examining the non-walkers in more detail, we find that 62% of people reported no walking in the 2 days surveyed. Males were more likely to not have walked at all in the two days (65%) than females (59%). There were also differences based on age as only 54% of children (under 18 years old) reported no walking in the two days. Adults were least likely to walk. 69% of male adults and 60% of female adults reported no walking.

There is also variation depending on whether people are based in a **main urban centre**, **secondary urban centre** or **rural area**. People based in main urban areas such as cities were more likely to walk (only 60% didn't walk at all in the 2 days), and those in secondary and rural areas were least likely to have walked (68% each). As stated in the introduction though, this survey covers travel on the road / footpath environment, so walking on private property (e.g. farms) or tramping are not included.

Table 6: Percentage distribution of time spent walking per person per day of those who walked (2006 – 2009)

Time spent walking	Age (years)						All ages
	0-14	15-29	30-44	45-59	60-74	75+	
1-9 min	25%	17%	20%	18%	20%	14%	20%
10 - 19 min	23%	22%	22%	26%	18%	28%	23%
20 - 29 min	18%	15%	15%	14%	16%	16%	16%
30 - 39 min	13%	13%	13%	13%	12%	15%	13%
40 - 49 min	8%	9%	8%	9%	9%	10%	9%
50 - 59 min	4%	7%	6%	7%	7%	3%	6%
60+ min	9%	17%	15%	13%	18%	13%	14%

From Table 6, the most common amount of time spent walking a day is 10-19 minutes for all age groups. The next most common is 1-9 minutes for all age groups.

Figure 8: Time spent walking by personal income for those 16 + years old (2006 – 2009)

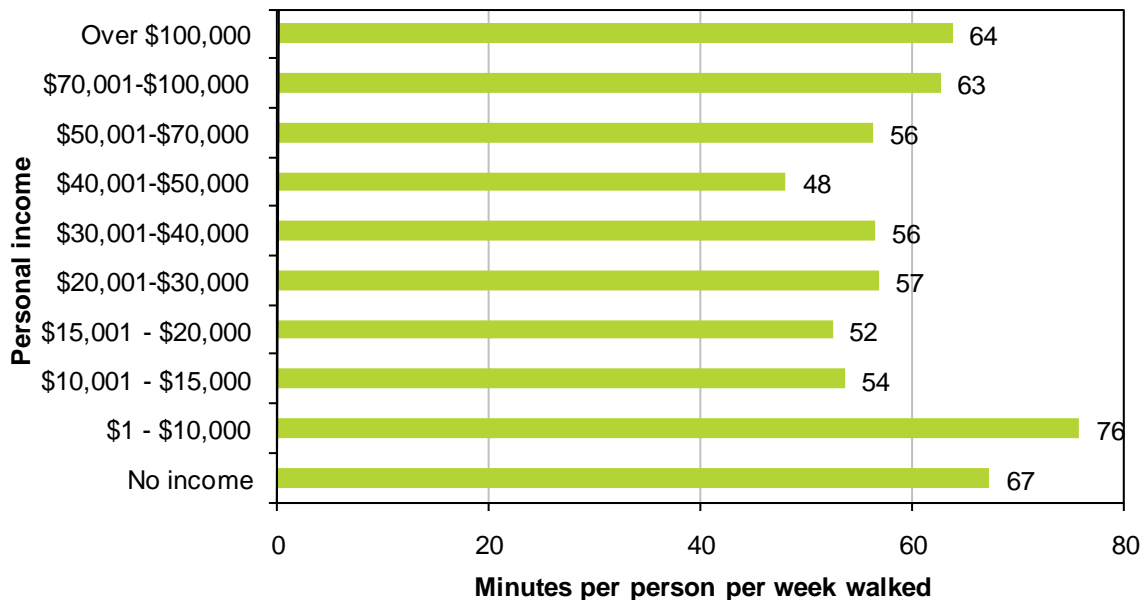


Figure 8 shows time spent walking by personal income, for people aged 16 years and over. From the graph, people who earn under \$10 000 per year income walk the most (around 76 minutes per person per week respectively). The group to do the next most walking is those with no income (67 minutes per person per week). Above \$10 000, no obvious trend is observed until the increase in walking among those earning above \$70 000.

Trends in walking

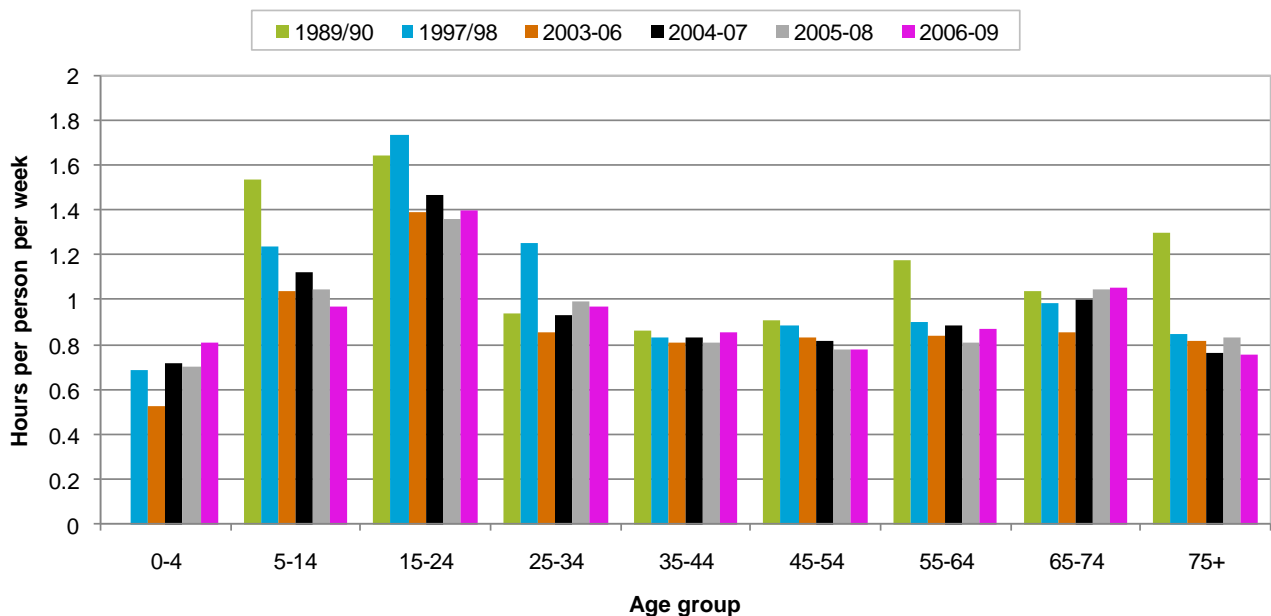
Table 7: Trends in hours spent walking each week per person by age group

Age group	Estimated minutes walking per week					
	1989/90	1997/98	2003-06	2004-07	2005-08	2006-09
0-4 [#]	#	41	32	43	42	48
5-14	92	74	62	67	63	58
15-24	98	104	83	88	82	84
25-34	57	75	51	56	60	58
35-44	52	50	48	50	49	51
45-54	55	53	50	49	47	47
55-64	70	54	50	53	48	52
65-74	62	59	51	60	63	63
75+	78	51	49	46	50	45
Total	#	66	55	59	57	58
Total age 5 or over	72	68	57	60	58	58

[#]Children aged 0-4 were not surveyed in 1989/90.

The most consistent change in the time per person spent walking has occurred in the 5-14 age group, where it has decreased from about 1.5 hours per week on average to about 1 hour per person per week between 1989/90 and 2003 – 06, but has held steady since then. No consistent trend in the amount of time per person spent walking is visible across the other age groups (Table 7 and Figure 9).

Figure 9: Historical time series of time spent walking per person per week.



Please note that this graph visually compresses the time interval between 1989/90, 1997/98 and 2003-06.

References:

O'Fallon & Sullivan (2004). Trip chaining: understanding how New Zealanders link their travel. Transfund Research Report, September 2004.

Additional information:

Transport Monitoring Indicator Framework

<http://www.transport.govt.nz/ourwork/TransportMonitoring/default/>

Pedestrian fact sheet (pedestrians involved in motor vehicle crashes)

<http://www.transport.govt.nz/research/PedestrianCrashFacts/>

Comparing Modes Fact Sheet for information about travel to school and travel to work. Regional results.

<http://www.transport.govt.nz/research/LatestResults/>

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..

Driver licences: New Zealand operates a graduated licence system. Holders of a learner licence must be accompanied by a qualified person at all times while driving. Restricted licence holders may drive unaccompanied but not at night or with passengers unless accompanied by a qualified person. For further information see <http://www.nzta.govt.nz/licence/index.html>.

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

Journey: a series of one or more trip legs where the only intermediate stops are to change to another mode.

Main urban centre: 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 eg Kapiti, Cambridge.

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

Professional driver: someone who is employed to transport goods or people, including couriers, truck drivers, bus and taxi drivers. Trips by professional drivers in the course of their work are excluded. Other travel by professional drivers (including travel from home to work) is included. If a person drives a lot for work, but this is not the primary purpose of the job (eg a plumber, real estate agent, district nurse), then all trips by this person are recorded (he or she is not a professional driver).

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

Rural area: areas with a population of less than 9999 people. (Statistics NZ definition).

Secondary urban centre: An urban centre with a population of 10 000 – 29 999 (Statistics NZ definition).

Towns and rural: this uses the Statistics New Zealand criteria of an urban centre between 10 000 – 29 999 or 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 100m 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, Play centre, 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 holidays, 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.

Prepared by the Transport Monitoring team of the Ministry of Transport, December 2009.