

Results of the 2011 National Cycling
Participation Survey

Australian Cycling Participation

Reporting for the National Cycling Strategy 2011-2016



Australian Cycling Participation 2011

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Published August 2011

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Australian Cycling Participation 2011

ISBN 978-1-921709-93-7

Austroads Project No. SB19526

Austroads Publication No. AP-C91-11

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Australian Cycling Participation 2011



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The Australian Bicycle Council is supported by Austroads.

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SUMMARY

The National Cycling Strategy 2011-2016 sets out the objective to double participation in cycling by Australians between 2011 and 2016. In order to establish a baseline against which to measure performance towards this target the Australian Bicycle Council commissioned Sinclair Knight Merz (SKM) to design and implement a survey to obtain baseline data on cycling participation in Australia.

The survey was a telephone interview conducted with a random selection of households across Australia. The interviews were conducted during March and April 2011. A total of 9,661 households consisting of 24,858 individuals were interviewed, consisting of around 0.11% of the Australian resident population. Respondents were asked when they and other members of their household had last ridden a bicycle, and if in the past week, how often and for what purposes they had ridden.

Population statistics were estimated using weights derived from the ABS estimated resident population for 2010.

Key findings from the study were as follows:

- 17.8% (95% CI: 17.0% - 18.6%) of the Australian population had ridden in the previous week and 39.6% (38.6% - 40.6%) had ridden at least once in the previous year (Figure EX.1).
- 10.5% (95% CI: 9.8% - 11.3%) of the Australian adult population, aged 18 and over, had ridden in the previous week and 29.7% (95% CI: 28.6% - 30.8%) had ridden at least once in the previous year.
- Young children have the highest levels of cycling participation: 46.2% (41.1% - 51.3%) of 2 to 4 year old children had ridden in the previous week, increasing to 63.0% (59.0% - 66.8%) of 5 to 9 year olds and decreasing to 33.6% (31.0% - 36.3%) of 10 to 17 year olds (Figure EX.2).
- Those who had ridden in the past week spent an average 204 minutes (95% CI: 179 – 238 mins) riding in total. The average riding time for adults was 209 minutes (95% CI: 179 – 238 mins) and for children aged under 18 was 188 minutes (95% CI: 156 – 220 mins).
- 34.8% (95% CI: 32.1% - 37.6%) of those who rode in the past 7 days did so for transport purposes rather than solely for recreation, leisure or sport. For adults the proportion was marginally higher at 37.8% (95% CI: 34.5% - 41.3%). Of those adults who had ridden for transport purposes, an average of 276 minutes (95% CI: 200 – 351 mins) was spent riding over the course of the week. For those adults who had ridden solely for recreation, leisure or sport the average time spent cycling in the past 7 days was 175 minutes (95% CI: 146 – 204 mins).
- Males are more likely to participate in cycling than females: 22.1% (21.0% - 23.2%) of males and 13.5% (12.6% - 14.5%) of females had ridden in the previous week.
- The average Australian household has 1.46 bicycles in working order, although 44.3% (43.1% - 45.5%) of households do not have any bicycles in working order.

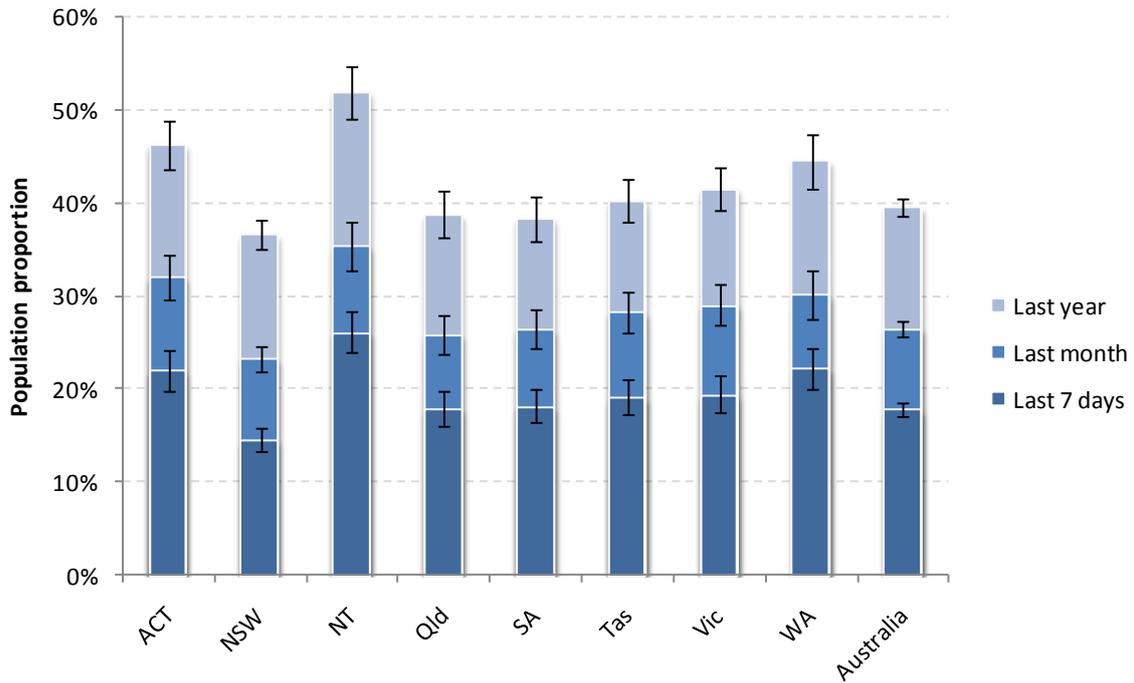


Figure EX.1: Cycling participation as a proportion of resident population (95% confidence intervals shown as error bars)

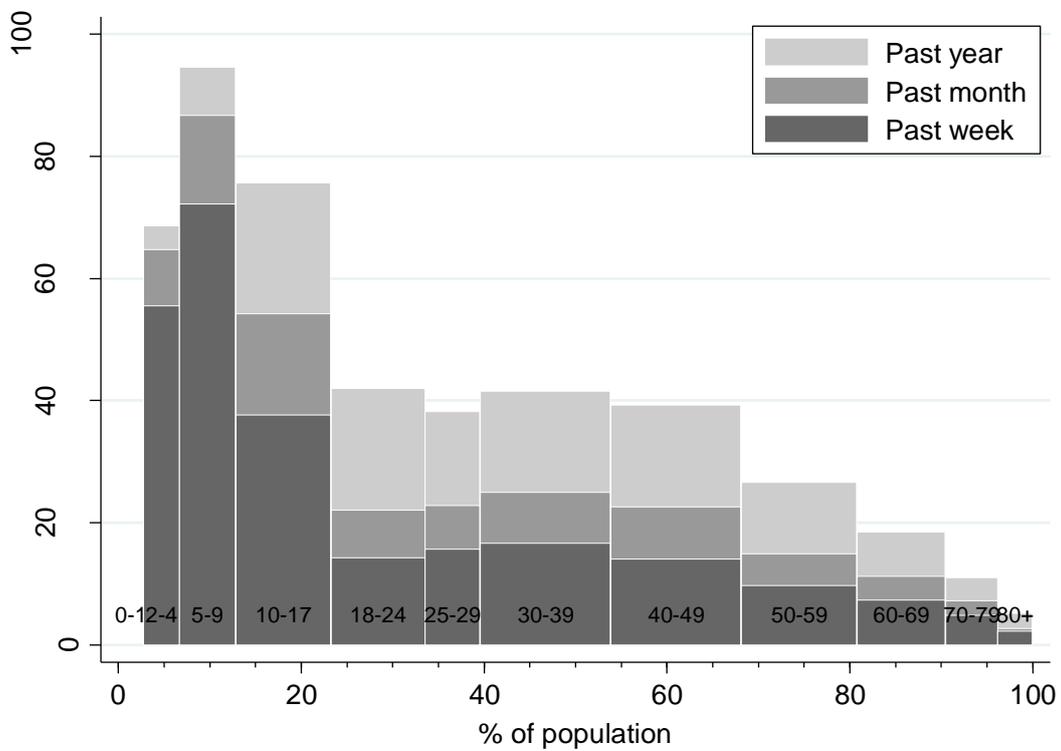


Figure EX.2: Cycling participation by age group in Australia

1 INTRODUCTION

1.1 PURPOSE

The recently released National Cycling Strategy 2011-2016 establishes a target to double cycling participation in Australia between 2011 and 2016. Priority 5 (Monitoring and Evaluation) states:

States and territories will agree a baseline and target for measuring progress against the goal to double cycling participation. This target should be structured as a composite indicator, reflecting cycling for the purpose of travelling to work/study, recreational cycling and bicycle ownership.

(National Cycling Strategy 2011-2016, p25)

To set a baseline against which to evaluate performance towards this target, Sinclair Knight Merz (SKM) was commissioned by the Australian Bicycle Council to develop and implement a survey to measure cycling participation. As such, the primary objective of this research was to measure the base level of participation in Australia, with secondary objectives of identifying how cycling participation varies across regions of Australia and across gender and age groups.

1.2 DEFINITIONS

In this survey we consider cycling *participation* and cycling *travel* to be two related, but distinct, terms. Cycling participation is generally defined as whether an individual participates in cycling over a specified time period. We have adopted this definition in this report. It does not measure how much cycling travel is undertaken over that period; for example, one individual who had cycled in the past week may have made multiple trips on every day whereas another may have only made one short trip over the week. A participation measure will not differ between the two; how often cycling is undertaken is termed cycling travel.

Measuring cycling travel is significantly more complicated than measuring participation. The preferred approach to measuring travel is to use travel diary surveys. Travel diaries provide detailed information on all travel which occurs (typically) over one day. Examples include the Household Travel Survey (Sydney) and South East Queensland Household Travel Survey. However, these surveys are expensive to administer (typically over \$100 per interview) and the one day travel nature of these surveys will miss travel by bicycle which does not occur on the survey day. For travel by minor modes, and particularly where such travel is often infrequent, these surveys will record only a small number of cycling trips.

While in this survey we do ask about the number of cycling trips undertaken over the previous week, we would urge caution with such a measure of cycling travel. Specifically, our view is that respondents will be unable to accurately recall all their cycling travel over a one week period. Furthermore, there will be definitional issues which respondents may find confusing. For example, in travel diaries a change of purpose designates a change of trip. So a bicycle trip from work to home, where the cyclist stops at the supermarket on the way home, is classified as two cycling trips. A bicycle trip where there is no change of purpose, such as riding from home around the block, is considered as two trips (where the farthest point is used to divide the trip).

1.3 REPORT STRUCTURE

This report is structured as follows:

- **Section 2** describes the design of the survey instrument, including the sampling methods.
- **Section 3** provides descriptive statistics of the unweighted sample.
- **Section 4** provides population statistics from the weighted survey results.

2 SURVEY DESIGN

2.1 OVERVIEW

The survey methodology is predicated on two principles:

1. The methodology should produce *unbiased* estimates which are *sufficiently reliable* to predict changes in cycling participation nationally and at a regional level.
2. The methodology must be *cost effective* (or more correctly, must produce a sufficiently reliable estimate at minimum cost) and *repeatable* (it should be able to be readily replicated in future years).

The method that has been adopted was as follows:

- a cross-sectional¹ computer-assisted telephone interview (CATI) survey,
- use a stratified random sampling method using states and statistical divisions as stratification units²,
- speak to any person in the household aged 15 or older (to ensure compliance with market research guidelines),
- ask that person to provide basic demographic characteristics of all members of their household (including themselves) and when those individuals last rode a bicycle,
- expand the survey sample to population estimates using 2010 ABS resident population estimates³.

We describe the design of the survey in more detail in the following sections.

¹ A cross-sectional survey is a survey that interviews individuals (or, in this case, one individual on behalf of households) at one point in time. Ideally, one would repeat the survey with the **same** individuals/households over time to explore their changes in behaviour. Such a survey is a longitudinal survey, but for various reasons would be prohibitively expensive for this activity.

² Stratification is a process of dividing the population of interest into non-overlapping groups within which units are then (typically) randomly sampled. There can be a number of advantages to such an approach, including lower standard errors for a given sample size.

³ The most recently available resident population estimates at a state/territory level available at the time of this study were for 30 June 2010. The equivalent estimates at a LGA level were for 30 June 2009.

2.2 SURVEY METHOD

Computer-assisted telephone interviewing (CATI) was chosen as the most cost effective survey method, offering timely data delivery while retaining control over sampling biases. The survey was conducted in three waves:

1. A pilot of 97 households (consisting of 236 persons) from a sample of households in Victoria, NSW and Queensland was undertaken on Monday 28 February, 2011.
2. Main fieldwork for the national sample of 6,727 households⁴ (consisting of 17,611 persons) was undertaken from 20 March to 5 April, 2011.
3. Additional sampling of six local government areas: Cairns, Gladstone, Toowoomba, Redland, Ipswich and Townsville in Queensland and the City of Sydney in NSW were undertaken from 1 April to 13 April, 2011.

The additional six local government area samples are not discussed further in the main body of this report.

The interview fieldwork was conducted by Market Solutions in Melbourne on behalf of the project team. All interviewers were experienced in conducting telephone interviews and had been subject to training on the subject matter of the survey, particularly with regard to definitions (see Section 2.9). The following quality control procedures were adopted for the fieldwork:

- Interviewers were subject to a briefing by SKM and Market Solutions before commencement of fieldwork, outlining the objectives of the research and definitions.
- One or several supervisors were present during interview sessions to answer questions of clarification from interviewers and to listen in to interviews in real-time,
- For the main fieldwork phase, Market Solutions monitored progress towards the quotas and ran data checks on a regular basis. SKM were provided with data approximately weekly to verify the data collection was proceeding as planned.
- Five attempts at recontacting non-responding telephone numbers were made and each was undertaken at different times of day and days of week (in order to minimise the likelihood of contact loss and non-response bias).

Interviews were conducted between 5 pm and 8.30 pm local time on weekdays and between 10 am and 5 pm on weekends.

⁴ These numbers refer to the sample after data cleaning was undertaken.

2.2.1 NSW metropolitan area

A survey of cycling participation and travel in the Sydney Greater Metropolitan Area had previously been undertaken by the NSW RTA in October and November of 2010 (SKM, 2011). The sampling methodology and relevant parts of the survey instrument were essentially identical to the current survey activity. As such, it was deemed unnecessary to repeat the survey in metropolitan Sydney. Instead, the subset of data from the Sydney Statistical Division was pooled with the present dataset (which covered regional NSW outside the Sydney Statistical Division) to provide an indication of cycling participation and travel within metropolitan Sydney. This provided 6,505 individuals across 2,473 households in the Sydney Statistical Division⁵. Hereafter in this report the Sydney sample is treated as pooled with the current survey data.

2.3 SAMPLING FRAME

A sampling frame is a database from which the sample is selected. The frame was a commercially available database of landline telephone numbers (both listed and unlisted) for the study area. Such a database excludes households that do not own a landline telephone⁶, or those who have only obtained a landline recently (the database is updated in waves, but is fairly representative for 2009). This latter issue may limit the sample in areas where significant residential construction has occurred in recent times.

2.4 SAMPLING UNIT

The sampling unit for the survey was *households*⁷. Within each household one person aged 15 or over was asked to report on the characteristics of their household and the persons usually resident within that household.

2.5 SAMPLE SELECTION

In sample surveys the statistical uncertainty can be reduced by *stratifying* the sample. Stratification is the process of dividing a population into non-overlapping, homogenous groups of households or individuals and then specifying the number of samples to be obtained within each group (i.e. *quotas*). In this survey Australia was stratified into 15 areas; the 8 states and territories and the regional and capital city areas within each (except for the ACT, which was treated as one area). An equal allocation method was used for the states and territories, with allocation proportional to the 2010 estimated resident population within each state or territory capital city and regional area. In this way the sampling fractions were approximately constant within each state or

⁵ An additional 71 individuals across 31 households were sampled in the present survey due to either mis-recording in the sampling frame of home postcodes or the household having moved address to within the Sydney SD (and taken their phone number).

⁶ The Australian Communications and Median Authority (ACMA (2011) *Convergence and Communications: Australian household consumers' take-up and use of voice communications services*) estimates that 88% of Australian households have a landline telephone.

⁷ We assume here that a single landline telephone number is analogous to a household. There will be some households with multiple landline numbers, but we consider this proportion to be small.

territory between capital city and regional areas (but not between states and territories). No quotas were set on household or person demographics; the probability sampling method used would, in principle, ensure that a population representative sample would be selected. Cycling participation for those aged under 2 was not asked as it was assumed children below this age do not ride bicycles (these individuals are nonetheless included in the participation statistics provided later in this report).

2.6 GEOGRAPHY

The survey strata conform to states and the capital city statistical divisions within each state. Statistical divisions are set by the ABS and represent an area that covers the built-up areas of capital cities and adjacent rural and regional areas. For reference the extent of these statistical divisions in each capital city are shown in Appendix B.

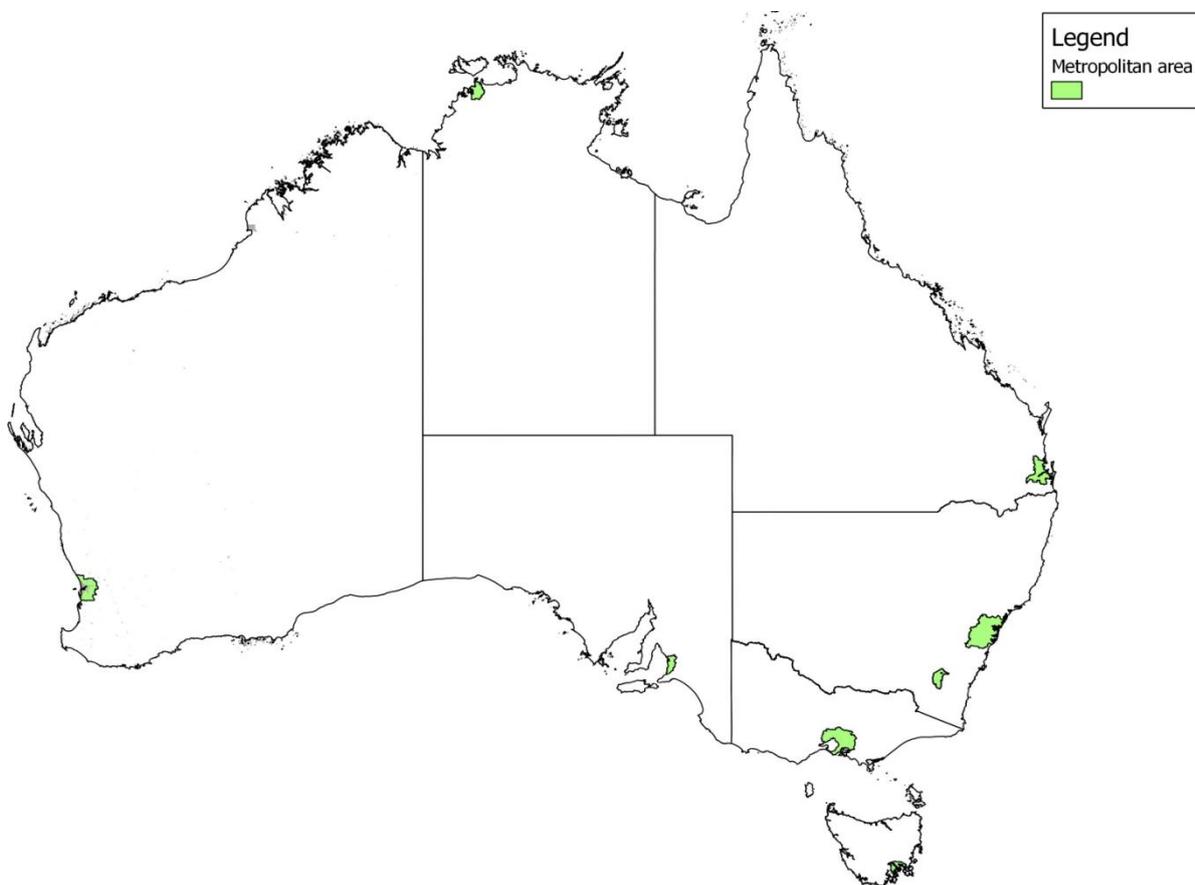


Figure 2.1: Metropolitan areas

The sampling frame provided residential telephone numbers classified by postcode. Postcode boundaries do not necessarily concord with ABS geographies. Where a postcode boundary did not lie completely with a defined region (state, statistical division or local government area) the centroid was used to allocate that postcode to an area. In some cases where the postcode boundary was very elongated, or the population within that postcode was unevenly distributed, manual allocations were performed.

2.7 QUALIFIERS

Qualifiers are screener questions used to identify respondents who are in scope for a survey. The qualifiers were as follows:

- only respondents who are conversant in the English language were interviewed⁸, and
- respondents should have resided at, or intend to reside, at their household for three months (consistent with ABS definitions of place of usual residence).

Given these qualifiers, the vast majority of households qualified for the survey. Note that households who had no members who had participated in cycling were valid survey participants; as the research interest was in identifying a population *proportion*.

2.8 SURVEY INSTRUMENT

The survey instrument is provided as Appendix A. The instrument as presented in the Appendix was as used in the main fieldwork phase (the pilot instrument varied only in minor areas). The instrument consisted of the following sections:

- screener to ensure respondent is in the correct postcode (for the purposes of stratification)
- identify individual in household with the most recent birthday who is aged 15 or above and speak to that person
- identify demographic characteristics (gender, age, employment status) of that primary individual
- identify household characteristics (vehicle and bicycle ownership, number of residents)
- identify demographic characteristics (gender, age, employment status) of *all* other household members
- identify cycling participation of each household member

⁸ This will result in non-English speaking individuals and households being undersampled. The 2006 census indicated that 2.2% of the population aged over 5 do not speak English, or do so poorly. In some areas this proportion will be significantly greater.

- for those household members who had ridden in the past 7 days identify for what purposes, the number of trips and total cycling travel time.

The instrument was designed to be as cost effective as possible while ensuring the requisite data was obtained. Information on attitudes or perceptions to cycling were not obtained, because this would have required significant changes to the survey. Namely, it would have been necessary to randomly select individuals within the household (rather than simply to speak to the individual who answered the phone) and it would not have been possible to obtain attitudinal information via proxy.

2.9 DEFINITIONS

One of the key findings from the pilot was the need to be very clear about definitions of cycling participation, bicycle ownership and trips. The interviewers were provided with the following definitions, which we read *ad lib* to respondents during the interview:

Bicycle: A bicycle is a vehicle that is not registered, is capable of being ridden on a footpath or roadway (so is not a stationary/exercise bicycle) and would not typically be defined as a child's toy. This latter definition excludes tricycles but includes bicycles with stabilisers.

Cycling: Cycling is where you have used a bicycle on a footpath or roadway and so excludes stationary cycling such as exercise bicycles. If you have a child on the bicycle who has not actively contributed to the cycling activity (they are in a child's seat or trailer) then you have cycled but your child has not.

Trips: Cycling around in the backyard, on the street, on a velodrome or in a park counts as one trip per session.

The trip definition in particular is fraught with difficulty; typical practice in travel surveys is to treat a change of purpose as a new trip stage (e.g. travelling from home to work and dropping the children off at school en route would count as two trip stages, but one trip). Given these definitional issues, due care is urged in interpreting the trip data in the subsequent sections of this report.

2.10 EXPANSION AND WEIGHTING

A sample survey provides information on a small proportion of the population. However, what is required is an estimate for the *population* of interest. This requires a process of *expansion* and *weighting* of the sample to match population totals and distributions. Weights were developed for both household and person characteristics. The household weights consisted of two components:

- a sampling weight equal to the inverse of the selection probability of households in each strata (to account for varying sampling fractions across states and metropolitan and regional areas)
- post-stratification weights to expand the sample to match household size targets (1, 2, 3, 4, 5+ person households).

The person weights similarly consisted of two components:

- a sampling weight equal to the inverse of the selection probability in each strata (to account for varying sampling fractions across states and metropolitan and regional areas)
- post-stratification weights to expand the sample to match population targets.

The ABS Estimated Resident Population (ERP) for June 2010 was used to provide the targets for the weighting process⁹. While sampling weights were established for each strata (8 states and territories each with a metropolitan and regional area except for the ACT) post-stratification was performed at a state level. It was found that cell sizes were insufficient at a metropolitan/regional level to produce reliable post-stratification parameter estimates. The post-stratification for persons was performed across each state/territory on eight demographic criteria:

- gender (2)
- age (4: 0-9, 10-17, 18-39, 40+).

These age bands were selected by inspection of the cycling participation rate across age groups, which suggested these bands were most meaningful; sample sizes within each cell were then checked to ensure a sufficient sample size within each cluster.

⁹ In the case of the local government area additional samples breakdowns by gender and age were not available from the 2010 ERP. As such, the 2009 ERP proportions were applied to the 2010 ERP totals.

3 DESCRIPTIVE STATISTICS

In this section we describe the survey sample and response rates of the unweighted sample.

3.1 RESPONSE RATE

A total of 52,828 telephone numbers were drawn from the sampling frame, of which 6,925 (13.1%) resulted in successful interview completions (Table 3.1). The median survey length was 171 seconds; the median interview length for households with no residents who had ridden in the past week was 149 seconds and for those where at least one resident had ridden in the past week the median interview length was 232 seconds.

Table 3.1: Response rate summary statistics

Call Result	N	% of dialled numbers	% of in scope contacts*
<i>In Scope Contacts</i>			
Completed Interviews	6,925	13.1%	40.6%
Surplus callbacks	2,558	4.8%	15.0%
Declined to Participate	7,099	13.4%	41.6%
Terminated early	103	0.2%	0.6%
Communication Difficulties	372	0.7%	2.2%
Total In-Scope Contacts	17,057	32.3%	100.0%
<i>Other contacts</i>			
Non qualifying respondents	184	0.4%	
Government/ business number	218	0.4%	
Duplicate/Over quota	250	0.5%	
Incorrect Details	15	0.0%	
Total Other Contacts	667	1.3%	
<i>Non-Contact</i>			
No contact after all attempts	28,293	53.6%	
Non working numbers	6,826	12.9%	
Total Non - Contacts	35,104	66.5%	
Phone Numbers Used	52,828	100.0%	

* In scope contacts are those respondents which meet the qualifiers and quotas.

The achievement rate¹⁰ was 6.2 completions per interviewer hour.

¹⁰ The achievement rate is the number of completions achieved per interview hour and is one of the main drivers of survey fieldwork costs.

3.2 DATA CLEANING

From the base dataset of 6,844 households (excluding the metropolitan Sydney sample) the following records were eliminated during cleaning:

- 6 (0.09%) records where the respondent would not confirm their home postcode and would not provide an alternative
- 14 (0.2%) records where the respondent indicated their home postcode was incorrect but gave an alternative postcode which could not be identified

This left 6,824 households consisting of 17,852 individuals¹¹. Of these individuals, information on cycling participation for 427 (2.4%) was unavailable. These individuals were removed from the dataset, leaving 6,824 households and 17,425 individuals (excluding the metropolitan Sydney sample).

¹¹ The average household size of the sample was 2.62 individuals per household.

3.3 SUMMARY STATISTICS

The total number of respondents (households and persons) by region are summarised in Table 3.2. This table includes the metropolitan Sydney sample and so represents the full survey sample from which the participation estimates were derived. The sample represented 0.11% of the Australian resident population, varying from 0.04% in Melbourne to 1.1% in Darwin¹².

Table 3.2: Households and persons by region

		Households	Persons	
			N	Sampling fraction
Victoria	Melbourne	688	1,818	0.04%
	Other	312	786	0.05%
	All	1,000	2,604	0.05%
NSW	Sydney	2,569	6,744	0.15%
	Other	397	1,015	0.04%
	All	2,966	7,759	0.11%
Queensland	Brisbane	499	1,405	0.05%
	Other	760	1,936	0.13%
	All	1,259	3,341	0.07%
NT	Darwin	545	1,427	1.13%
	Other	309	805	0.78%
	All	854	2,232	0.97%
South Australia	Adelaide	723	1,764	0.15%
	Other	231	551	0.12%
	All	954	2,315	0.14%
Western Australia	Perth	568	1,426	0.08%
	Other	195	501	0.08%
	All	763	1,927	0.08%
Tasmania	Hobart	376	884	0.41%
	Other	572	1,430	0.49%
	All	948	2,314	0.46%
ACT	All	887	2,366	0.66%
<i>Total</i>		<i>9,631</i>	<i>24,858</i>	<i>0.11%</i>

¹² The sampling fractions provide an indication of the sample coverage; they are *not* an indicator of the statistical significance of a sample – this is dependent entirely on the absolute sample size.

3.4 DEMOGRAPHICS

Checks on the unweighted data on household and person demographics provide some confidence that the sample is not highly biased. The comparison presented in this section is with the ABS estimated resident population 2010 (ABS, 2011a), which represents the most up-to-date population forecasts for Australia at the time of the study. These comparisons, for the national sample, are presented in the following sections.

3.4.1 Household characteristics

The survey sample consisted of 5% fewer single person households and 5% more two person households than the Australia population (Figure 3.1). This is not atypical of sample surveys of households, as there is a greater likelihood in a single person household that the household member will be away when contact is attempted. For household parameters presented in the following chapter (namely bicycle ownership) the sample was weighted to match the target household size distribution for each state and territory.

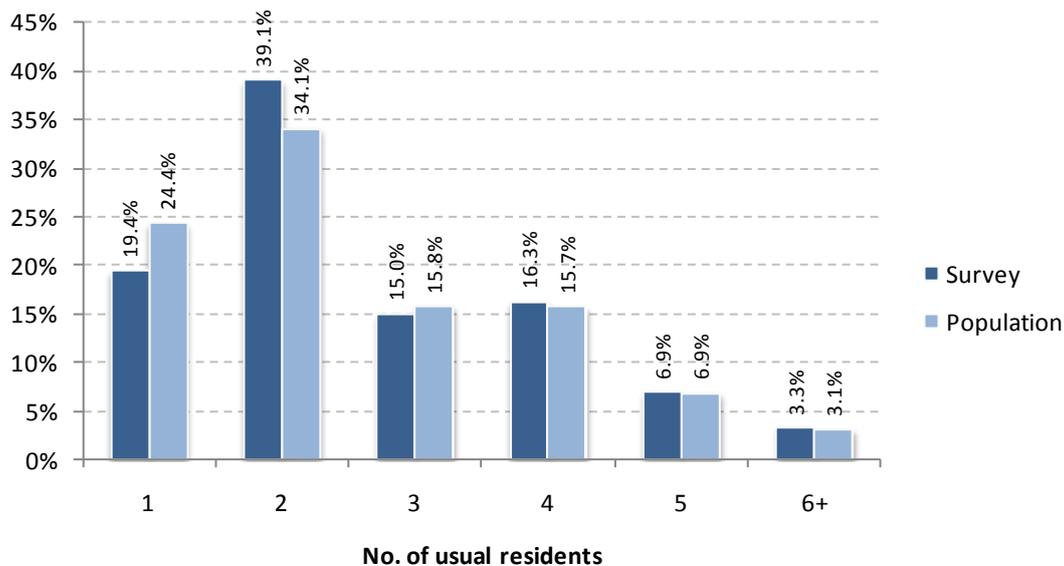


Figure 3.1: Number of usual residents per household (unweighted)

3.4.2 Person characteristics

The survey obtained a sample of individuals which were representative of the Australian population by gender (Figure 3.2).

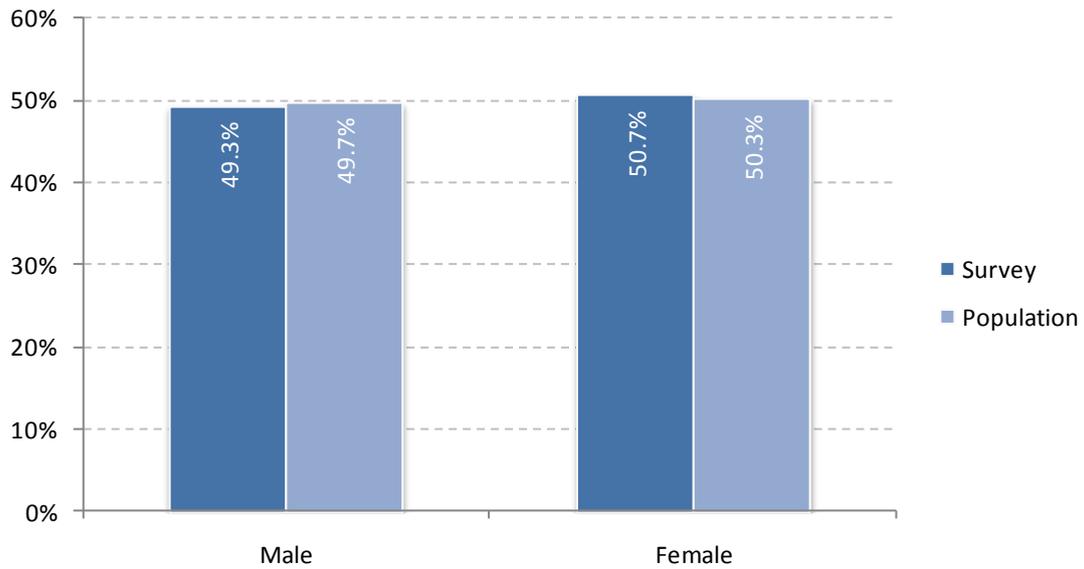


Figure 3.2: Gender split of survey sample (unweighted) and ABS estimated resident population

The survey tended to marginally undersample persons aged under 40 (aside from those aged 10 to 17) while oversampling those aged between 40 and 79 (Figure 3.3).

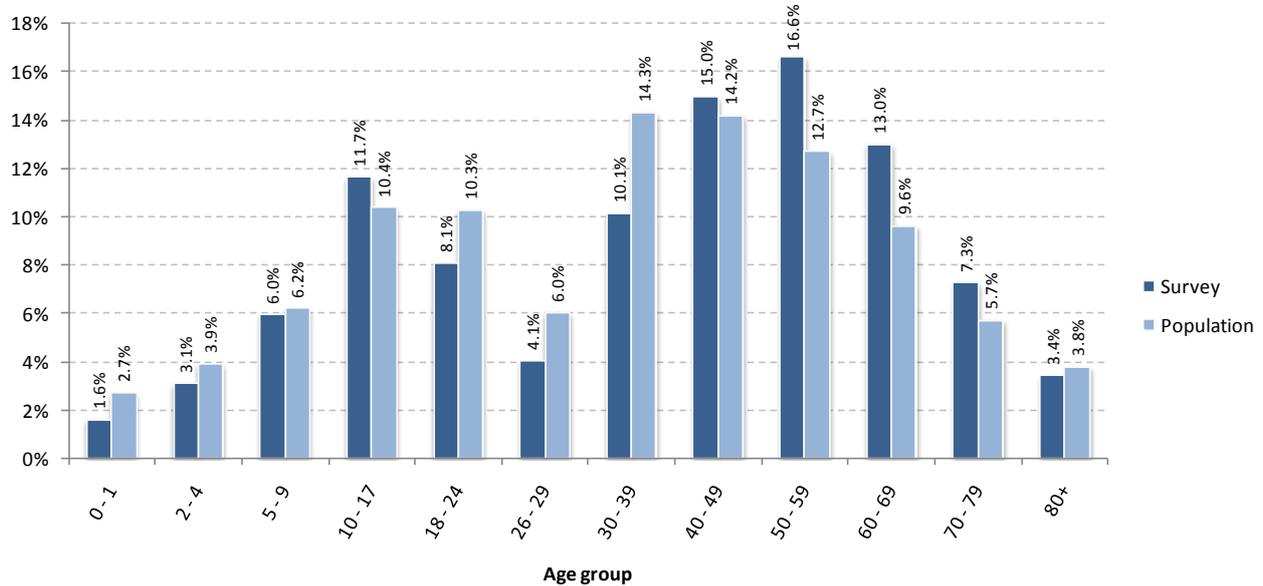


Figure 3.3: Age distribution of survey sample and ABS estimated resident population(unweighted)

The employment status of respondents to the survey is shown in Figure 3.4. 47.7% of the sample indicated they were in part- or full-time employment, marginally lower than an estimated participation rate (across the whole population) of around 54% in March 2011 (ABS, 2011b).

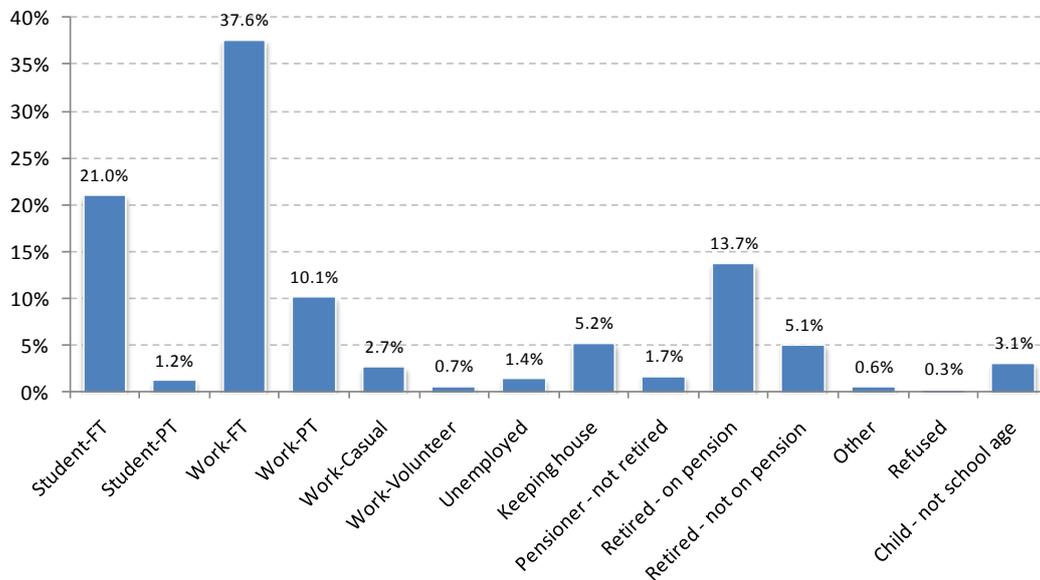


Figure 3.4: Employment status (unweighted; multi-response)

4 RESULTS

In this section we present results using the cleaned and expanded data. Data is presented first at a high level, predominantly national, before considering each state and territory in more detail.

4.1 CYCLING PARTICIPATION

The proportion of the population that have participated in cycling over the past week, month and year by state is given in Table 4.1.

Table 4.1: Cycling participation as a proportion of resident population (95% confidence intervals in brackets)

State	Population proportion		
	Rode in last 7 days	Rode in last month	Rode in last year
ACT	21.9% (19.9%-24.2%)	32.0% (29.7%-34.5%)	46.3% (43.6%-48.9%)
NSW	14.5% (13.3%-15.9%)	23.3% (21.9%-24.7%)	36.6% (35.0%-38.1%)
NT	26.0% (23.9%-28.3%)	35.3% (32.8%-37.9%)	52.0% (49.1%-54.8%)
Qld	17.9% (16.1%-19.8%)	25.8% (23.8%-28.0%)	38.7% (36.3%-41.3%)
SA	18.1% (16.4%-20.0%)	26.4% (24.3%-28.6%)	38.4% (36.0%-40.8%)
Tas	19.1% (17.2%-21.1%)	28.3% (26.1%-30.5%)	40.3% (38.0%-42.7%)
Vic	19.4% (17.4%-21.4%)	29.2% (27.1%-31.5%)	41.6% (39.2%-43.9%)
WA	22.1% (20.0%-24.5%)	30.1% (27.6%-32.8%)	44.6% (41.6%-47.5%)
<i>Australia</i>	17.8% (17.0%-18.6%)	26.5% (25.7%-27.4%)	39.6% (38.6%-40.6%)

The cycling participation in each state and territory is illustrated in Figure 4.1. The Northern Territory, ACT and Western Australia have cycling participation rates significantly higher than the national average.

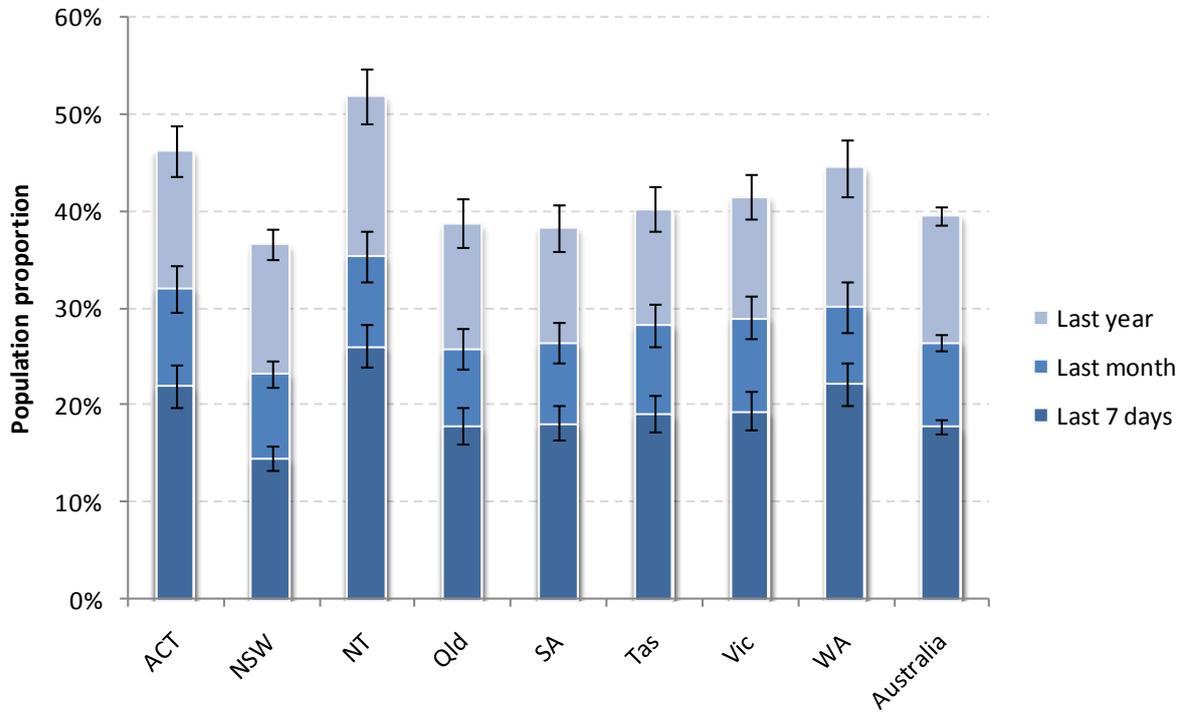


Figure 4.1: Cycling participation as a proportion of resident population (95% confidence intervals shown as error bars)

In all states and territories cycling participation in the past week was greater in regional areas than in the capital cities (Figure 4.2).

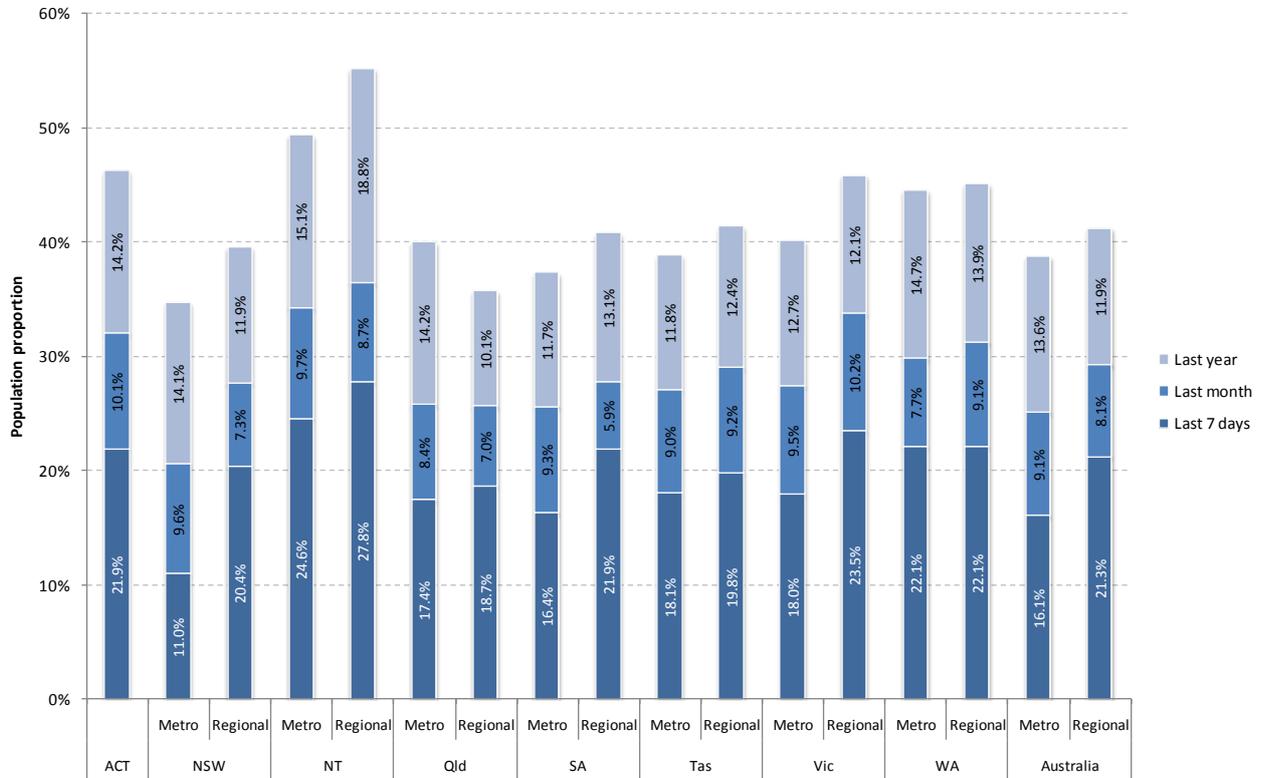


Figure 4.2: Cycling participation as a proportion of resident population by state and region

Figure 4.3 illustrates the variation in cycling participation by age group across the Australian population. The width of the bars reflects the estimated resident population within each age band. For example, 5 to 9 year olds constitute 6.6% of the Australian resident population and 63% rode in the past week

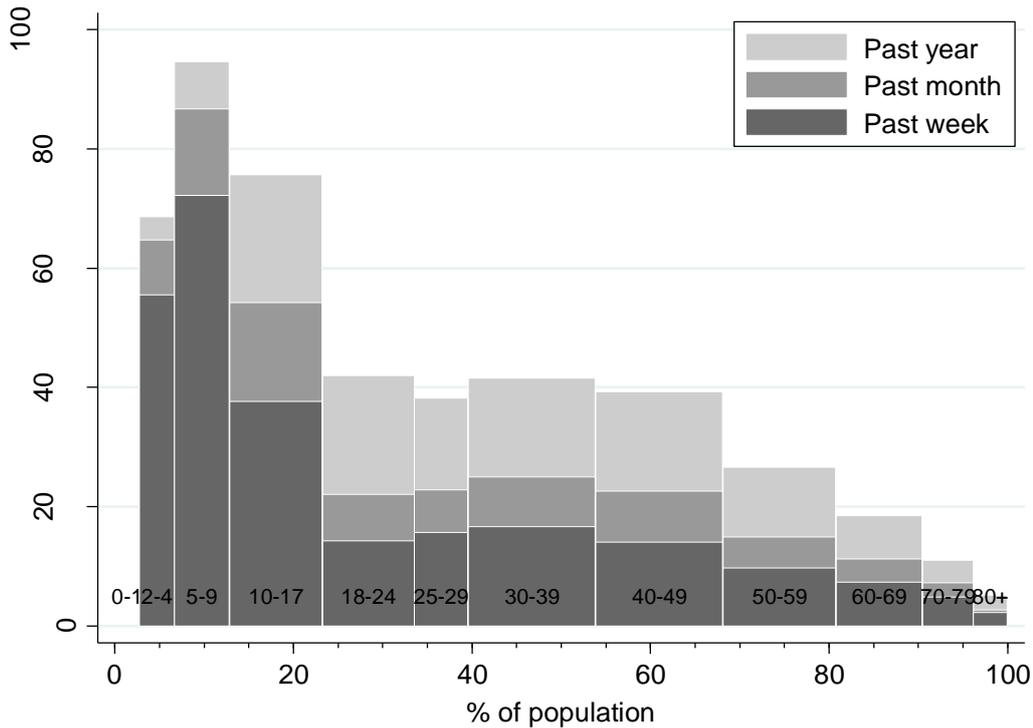


Figure 4.3: Cycling participation by age group in Australia

Table 4.2: Cycling participation by age in Australia

Age group	Population proportion		
	Last 7 days	Last month	Last year
0 – 1 *	0.0%	0.0%	0.0%
2 – 4	46.2% (41.1% – 51.3%)	58.9% (53.9% – 63.7%)	62.9% (58.1% - 67.4%)
5 – 9	63.0% (59.0% – 66.8%)	83.1% (80.0% – 85.8%)	93.3% (91.3% - 94.9%)
10 – 17	33.6% (31.0% – 36.3%)	50.4% (47.5% – 53.2%)	75.0% (72.6% - 77.3%)
18 – 24	11.1% (9.2% – 13.2%)	18.9% (16.6% – 21.5%)	37.1% (34.1% - 40.2%)
25 – 29	14.0% (11.2% – 17.3%)	20.7% (17.4% – 24.5%)	35.1% (30.7% - 39.7%)
30 – 39	15.2% (13.2% – 17.5%)	24.8% (22.3% – 27.5%)	39.9% (37.1% - 42.8%)
40 – 49	13.2% (11.7% – 14.9%)	22.4% (20.5% – 24.5%)	38.1% (35.8% - 40.5%)
50 – 59	9.2% (8.0% – 10.6%)	14.7% (13.2% – 16.4%)	26.1% (24.1% - 28.1%)
60 – 69	7.1% (5.9% – 8.5%)	10.9% (9.5% – 12.6%)	18.7% (16.8% - 20.7%)
70 - 79	4.0% (2.9% – 5.5%)	6.6% (5.2% – 8.4%)	10.8% (8.8% - 13.1%)
80+	1.0% (0.5% – 2.0%)	1.4% (0.7% – 2.8%)	3.0% (1.9% – 4.6%)

* The survey method assumed that children aged under 2 had not ridden a bicycle.

The comparatively high cycling participation rate by those aged under 18 contributes significantly to the participation rates for the population as presented in Table 4.1. As shown in

Table 4.3, when only adults aged 18 and over are considered, the cycling participation in the past week decreases to 10.5% across Australia.

Table 4.3: Cycling participation as a proportion of adult resident population (95% confidence intervals in brackets)

State	Population proportion		
	Rode in last 7 days	Rode in last month	Rode in last year
ACT	10.5% (9.8%-11.3%)	23.5% (21.1%-26.1%)	38.0% (35.1%-40.9%)
NSW	8.7% (7.6%-10.0%)	14.9% (13.6%-16.4%)	27.3% (25.7%-29.0%)
NT	16.5% (14.4%-18.8%)	24.6% (22.0%-27.4%)	43.8% (40.7%-46.9%)
Qld	9.4% (7.9%-11.2%)	15.5% (13.5%-17.8%)	27.8% (25.1%-30.6%)
SA	10.9% (9.3%-12.7%)	16.6% (14.6%-18.9%)	28.1% (25.5%-30.8%)
Tas	10.8% (9.2%-12.8%)	18.2% (16.1%-20.5%)	30.7% (28.2%-33.4%)
Vic	12.0% (10.3%-14.0%)	19.5% (17.4%-21.9%)	31.4% (28.9%-34.1%)
WA	13.1% (11.1%-15.4%)	20.3% (17.8%-23.1%)	35.3% (32.1%-38.6%)
<i>Australia</i>	10.5% (9.8%-11.3%)	17.2% (16.3%-18.1%)	29.7% (28.6%-30.8%)

22% of males participated in cycling in the previous 7 days, compared with 14% of females (Table 4.4).

Table 4.4: Cycling participation by gender in Australia

	Population proportion	
	Male	Female
Rode in past 7 days	22.1% (21.0% – 23.2%)	13.5% (12.6% - 14.5%)
Rode in past month	31.7% (30.5% – 32.8%)	21.4% (20.4% – 22.5%)
Rode in past year	46.0% (44.7% – 47.2%)	33.3% (32.1% – 34.4%)

Around 49% of children aged under 10 rode in the previous week, decreasing to 9% of those aged 40 or above (Table 4.5). Males are more likely to participate in cycling in all age groups, although the difference is smallest for those aged under 10.

Table 4.5: Cycling participation in past 7 days by gender and age group in Australia

Age group	Population proportion who rode in past 7 days		
	Male	Female	All
0 – 9	51.3% (47.2% – 55.3%)	46.9% (42.8% - 51.0%)	49.1% (46.0% - 52.3%)
10 – 17	42.2% (38.5% – 45.8%)	24.6% (21.3% – 28.2%)	33.6% (31.0% - 36.3%)
18 – 39	17.1% (15.2% – 19.2%)	9.7% (8.1% – 11.4%)	13.4% (12.1% - 14.9%)
40+	12.3% (11.3% – 13.4%)	5.0% (4.4% – 4.7%)	8.5% (7.9% - 9.3%)

4.2 CYCLING TRAVEL

Respondents who had ridden in the previous week were asked about the number of trips and total cycling travel time over that week. We note that the estimate of total travel presented here should be treated with caution (see Section 2.9) and is likely to be a significant underestimate of all cycling travel. Nonetheless, the average number of cycling trips made across Australia per week is estimated at around 5.4 trips/week, with South Australia having the lowest number of trips (4.7) and the Northern Territory (6.7) the highest.

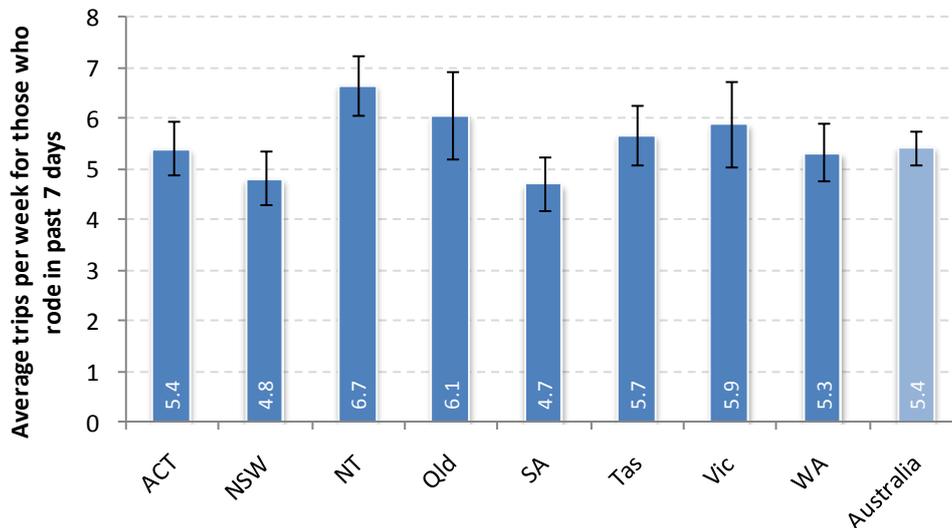


Figure 4.1: Average number of cycling trips per week by state for those who rode in the past 7 days (95% confidence intervals shown as error bars)

Of those who had ridden in the past week, 11% had made more than 10 trips over the past week nationally and another 29% had made between 5 and 10 trips (Table 4.6).

Table 4.6: Number of trips made by those who had ridden in the past 7 days

State	Proportion of those who had ridden in past 7 days					Total
	≤ 2 trips	3 – 4 trips	5 – 6 trips	7 – 10 trips	11+ trips	
ACT	34.8%	23.3%	13.8%	17.9%	10.3%	100.0%
NSW	45.1%	19.3%	11.6%	15.7%	8.2%	100.0%
NT	26.4%	20.1%	11.3%	28.4%	13.8%	100.0%
Qld	33.7%	22.8%	13.2%	18.7%	11.6%	100.0%
SA	45.5%	18.4%	12.5%	14.3%	9.3%	100.0%
Tas	31.5%	24.2%	15.1%	15.4%	13.7%	100.0%
Vic	38.8%	20.9%	9.8%	18.4%	12.1%	100.0%
WA	37.0%	20.8%	13.3%	17.9%	11.1%	100.0%
Australia	39.8%	20.7%	11.8%	17.3%	10.5%	100.0%

The average minutes cycled over the week (for those who had ridden) by state and territory is shown in Figure 4.2. The average total riding time for those that do ride is 204 minutes per week (i.e. 3 hours 24 minutes).

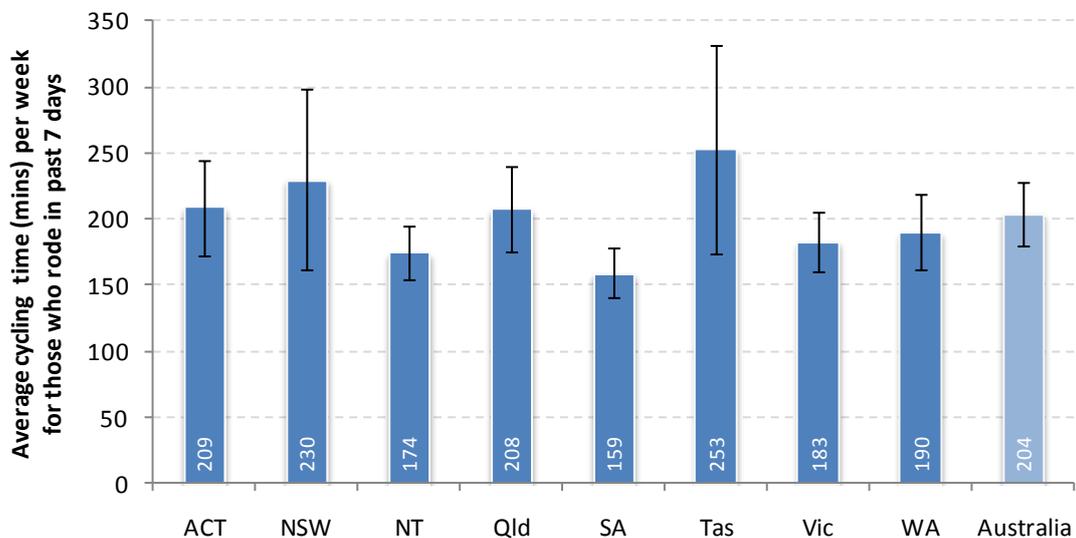


Figure 4.2: Average cycling time (minutes) per week by state for those who rode in the past 7 days (95% confidence intervals shown as error bars)

Of those that had ridden in the past 7 days, 18% had ridden for a total time of less than one hour while 6% had ridden for 10 or more hours in total (Table 4.7).

Table 4.7: Total time spent cycling by those who had ridden in the past 7 days

State	Proportion of those who had ridden in past 7 days					Total
	< 1 hour	1 – <2 hours	3 – <5 hours	5 – <10 hours	10+ hours	
ACT	16.5%	26.7%	35.6%	13.7%	7.5%	100.0%
NSW	17.7%	28.7%	27.4%	19.0%	7.2%	100.0%
NT	20.1%	24.3%	36.8%	14.6%	4.2%	100.0%
Qld	17.3%	20.3%	41.6%	15.6%	5.2%	100.0%
SA	18.7%	23.1%	45.0%	10.4%	2.9%	100.0%
Tas	12.2%	25.7%	41.1%	14.8%	6.3%	100.0%
Vic	17.7%	27.7%	34.7%	14.7%	5.3%	100.0%
WA	20.0%	28.5%	33.1%	11.4%	7.1%	100.0%
Australia	17.8%	26.2%	34.5%	15.6%	5.9%	100.0%

The average cycling trip time for those who had ridden in the past week is shown in Figure 4.3. The average trip time nationally was 39 minutes, with the shortest trip time 29 minutes in the Northern Territory and longest 45 minutes in Western Australia.

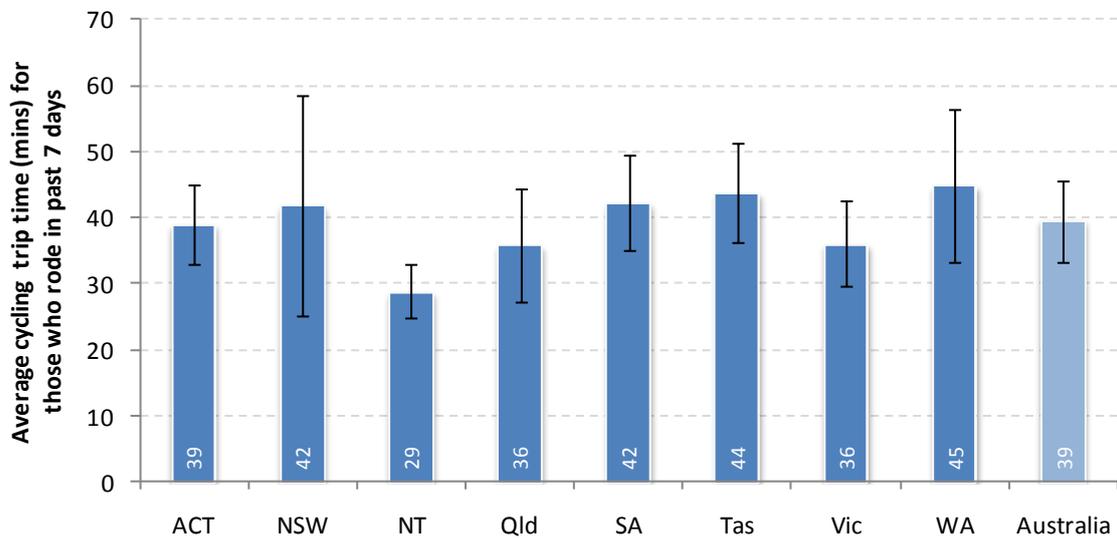


Figure 4.3: Average cycling trip time (minutes) by state for those who rode in the past 7 days (95% confidence intervals shown as error bars)

Respondents who had cycled in the past 7 days were asked for which purposes they had ridden. This data was subsequently aggregated to classify riders into two groups: those who had ridden for transport (and perhaps other purposes), and those who had ridden solely for non-transport purposes (primarily recreation, leisure or sport).

Across Australia, around 35% of those who rode in the past 7 days had done so for transport (Figure 4.4)¹³. The proportion of cyclists who had ridden for transport was greatest in those states and territories with the greatest cycling participation (ACT and NT) and lowest where cycling participation is smallest (NSW).

In all states except for NSW and WA the proportion of cyclists who travelled for transport was greatest in metropolitan areas (Figure 4.5). Nationally, 38% of those who had ridden in the past 7 days who lived in the capital cities had done so for transport, compared with 29% in regional areas.

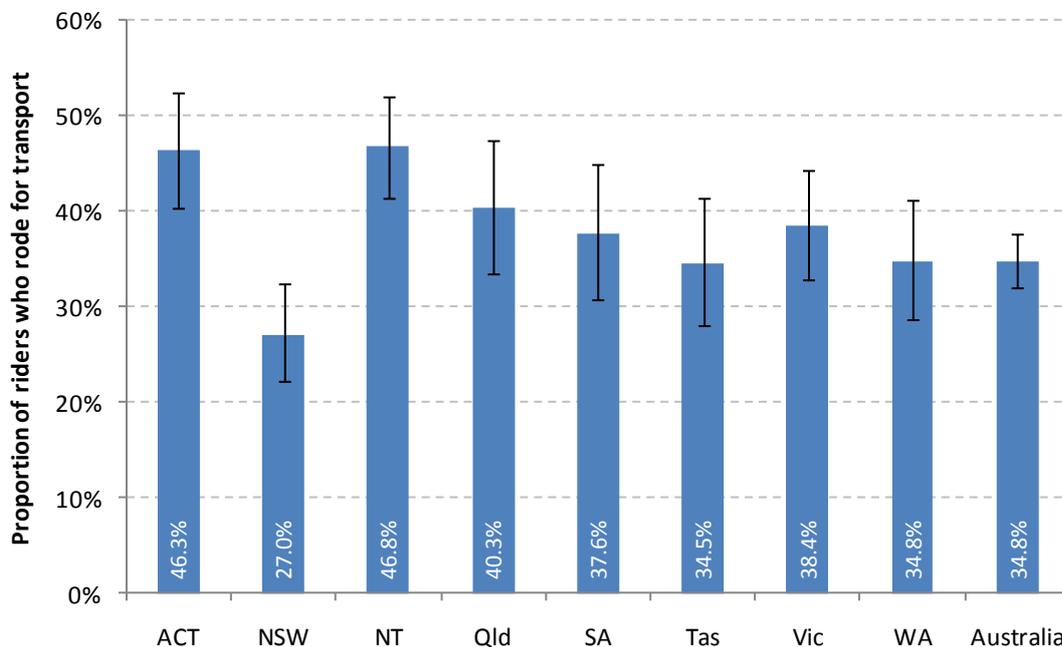


Figure 4.4: Proportion of those who had ridden in the past 7 days who had ridden for transport by state

¹³ The transport cycling proportion is larger for adults; 37.8% (95% CI: 34.5% - 41.3%) compared with children aged 17 and under (24.5%, 95% CI: 21.7% - 27.6%).

The average cycling trip time varied between those who had ridden solely for non-transport purposes and those who had ridden at least partly for transport. The average trip time for those who had ridden for transport was 35.2 minutes (95% CI: 27.1 - 43.4) compared with 43.9 minutes (95% CI: 40.1 - 47.7) for those who had exclusively ridden for non-transport purposes¹⁴.

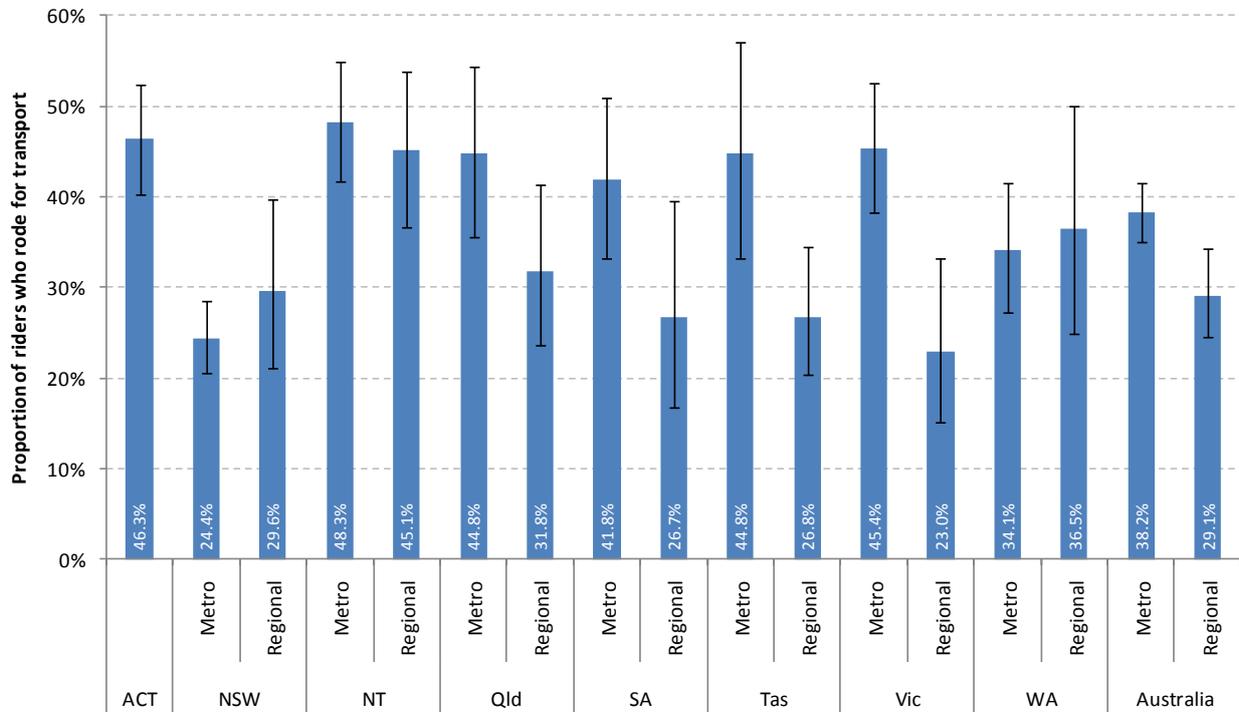


Figure 4.5: Proportion of those who had ridden in the past 7 days who had ridden for transport by state and region

¹⁴ This difference is not due solely to the higher transport cycling rate among adults, and differences in trip lengths between adults and children. For those aged 18 and over the average trip time was 37.0 minutes (27.4 – 46.6) for those who made transport trips, compared to 46.5 minutes (95% CI: 41.5 – 51.4) for those who exclusively made non-transport trips.

4.2.1 Bicycle ownership

Around 1.5 working bicycles are owned per household in Australia (Table 4.8). 44% of Australian households do not have a working bicycle in their household, with NT households having the lowest proportion of households without access to bicycles (30%) and NSW the highest (50%).

Table 4.8: Bicycle ownership

State	Average bicycles / household	% of households with <u>no</u> bicycle
ACT	1.89 (1.78 – 2.01)	33.6% (30.8% - 36.6%)
NSW	1.31 (1.24 – 1.38)	49.5% (47.5% - 51.5%)
NT	1.82 (1.71 – 1.94)	30.0% (27.2% - 33.0%)
Qld	1.43 (1.34 – 1.52)	41.6% (38.6% - 44.6%)
SA	1.38 (1.29 – 1.47)	47.8% (45.0% - 50.6%)
Tas	1.50 (1.40 – 1.59)	43.6% (40.9% - 46.3%)
Vic	1.62 (1.52 – 1.72)	41.7% (39.0% - 44.4%)
WA	1.58 (1.48 – 1.69)	39.0% (35.9% - 42.2%)
<i>Australia</i>	1.46 (1.42 – 1.50)	44.3% (43.1% - 45.5%)

4.3 STATE-BY-STATE RESULTS

In this section we present the cycling participation rate for each state and segmented into gender and age groups.

4.3.1 Australian Capital Territory

Around 22% of the ACT population rode in the week prior to the survey, increasing to 32% who had ridden in the previous month and 46% over the previous year (Table 4.9).

Table 4.9: Cycling participation in the ACT

	Population proportion	
	Estimate	95% confidence interval
Rode in past 7 days	21.9%	(19.9% – 24.2%)
Rode in past month	32.0%	(29.7% - 34.5%)
Rode in past year	46.3%	(43.6% - 48.9%)

Males are more likely than females to have ridden over the past week, month and year (Table 4.10).

Table 4.10: Cycling participation by gender in the ACT

	Population proportion	
	Male	Female
Rode in past 7 days	27.6% (24.8% – 30.6%)	16.3% (14.0% - 18.9%)
Rode in past month	37.7% (34.6% – 40.9%)	26.4% (23.8% – 29.3%)
Rode in past year	52.2% (48.9% – 55.6%)	40.4% (37.3% – 43.6%)

Around 46% of children aged under 10 rode in the previous week, decreasing to 13% of those aged 40 or above (Table 4.11).

Table 4.11: Cycling participation in past 7 days by gender and age group in the ACT

Age group	Population proportion who rode in past 7 days		
	Male	Female	All
0 – 9	48.0% (38.3% – 57.8%)	43.4% (33.0% - 54.5%)	45.8% (38.2% - 53.6%)
10 – 17	53.3% (44.5% – 61.9%)	31.3% (23.3% – 40.7%)	42.5% (36.0% - 49.2%)
18 – 39	52.2% (48.9% – 55.6%)	13.3% (9.6% – 18.0%)	18.7% (15.4% - 22.6%)
40+	18.1% (15.3% – 21.4%)	7.9% (6.1% – 10.2%)	12.8% (10.8% - 15.1%)

The most often cited purpose for cycling travel among those who had ridden in the previous week was recreation (Figure 4.6).

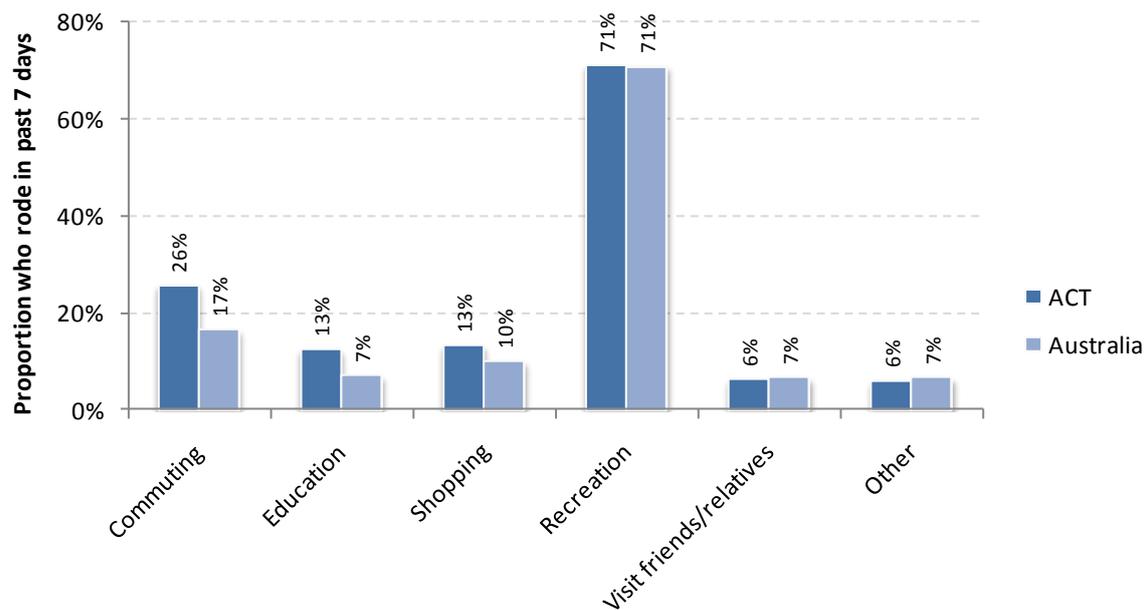


Figure 4.6: Purpose for cycling travel by ACT residents who rode in the past 7 days (multi-response)

One third of households in the ACT do not have a bicycle in working order, while 6% have six or more bicycles (Table 4.12).

Table 4.12: Bicycle ownership by household in the ACT

No. of working bicycles	Household proportion
None	33.6% (30.8% – 36.5%)
1	16.3% (14.0% – 18.9%)
2	20.1% (17.7% – 22.8%)
3	10.6% (8.8% - 12.7%)
4	10.0% (8.3% - 11.9%)
5	3.8% (2.8% - 5.2%)
6+	5.6% (4.4% - 7.1%)

4.3.2 New South Wales

Around 15% of NSW residents rode in the week prior to the survey, increasing to 23% over the previous month and 37% over the previous year (Table 4.13). Cycling participation is significantly higher among residents of regional NSW than in metropolitan Sydney.

Table 4.13: Cycling participation in New South Wales

	Population proportion					
	New South Wales		Sydney		Regional NSW	
	Estimate	95% conf. int.	Estimate	95% conf. int.	Estimate	95% conf. int.
Rode in past 7 days	14.5%	(13.3% – 15.9%)	11.0%	(10.3% - 11.8%)	20.4%	(17.4% - 23.8%)
Rode in past month	23.3%	(21.9% - 24.7%)	20.6%	(19.7% - 21.6%)	27.7%	(24.4% - 31.4%)
Rode in past year	36.6%	(35.0% - 38.1%)	34.8%	(33.7% - 35.9%)	39.6%	(35.8% - 43.5%)

Males are more likely than females to have ridden over the past week, month and year (Table 4.14).

Table 4.14: Cycling participation by gender in New South Wales

	Population proportion	
	Male	Female
Rode in past 7 days	18.4% (16.7% – 20.1%)	10.8% (9.4% - 12.3%)
Rode in past month	28.2% (26.4% – 30.1%)	18.4% (16.8% – 20.1%)
Rode in past year	43.1% (41.1% – 45.1%)	30.2% (28.4% – 32.1%)

Around 42% of children aged under 10 rode in the previous week, decreasing to 7% of those aged 40 or above (Table 4.15).

Table 4.15: Cycling participation in past 7 days by gender and age group in New South Wales

Age group	Population proportion who rode in past 7 days		
	Male	Female	All
0 – 9	44.1% (37.7% - 50.6%)	39.0% (33.2% - 45.1%)	41.6% (36.7% - 46.6%)
10 – 17	31.1% (25.5% - 37.4%)	19.6% (14.0% - 26.7%)	25.5% (21.3% - 30.2%)
18 – 39	14.8% (11.9% - 18.3%)	7.2% (5.0% - 10.3%)	11.0% (9.0% - 13.5%)
40+	10.5% (8.8% - 12.4%)	4.0% (3.1% - 5.3%)	7.1% (6.1% - 8.4%)

The most often cited purpose for cycling travel among those who had ridden in the previous week was recreation (Figure 4.7).

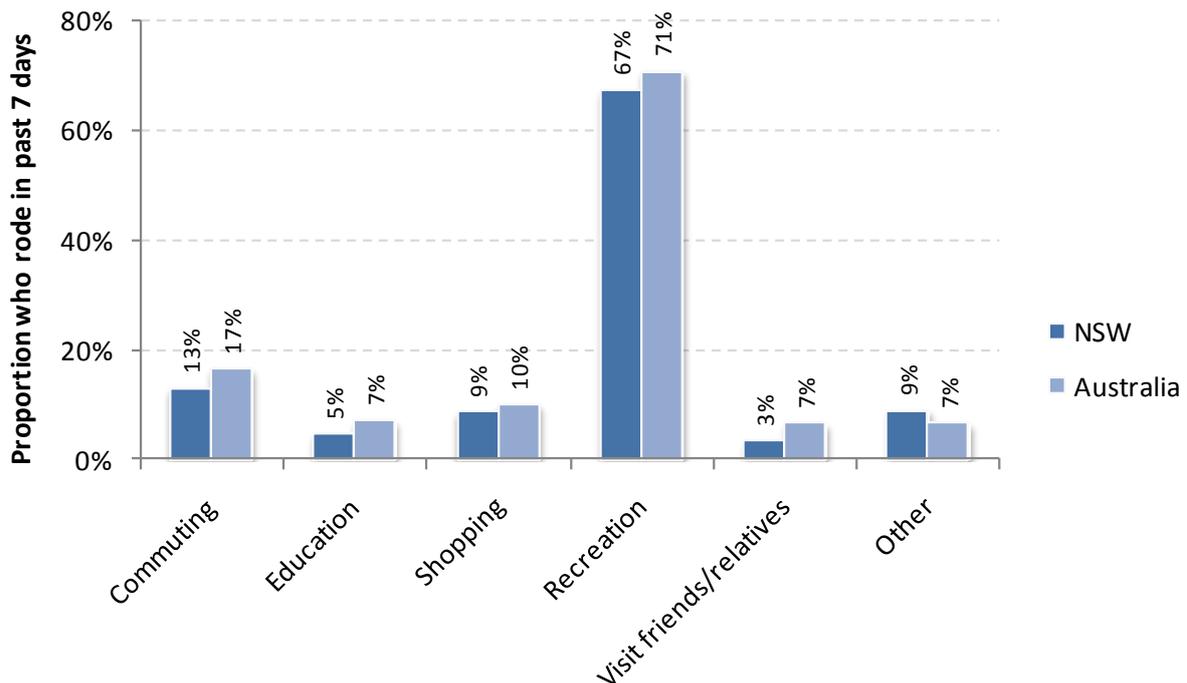


Figure 4.7: Purpose for cycling travel by NSW residents who rode in the past 7 days (multi-response)

Half of households in New South Wales do not have a bicycle in working order, while 4% have six or more bicycles (Table 4.16).

Table 4.16: Bicycle ownership by household in New South Wales

No. of working bicycles	Household proportion
None	49.5% (47.5% – 51.5%)
1	17.2% (15.5% – 18.9%)
2	12.9% (11.4% – 14.4%)
3	8.8% (7.5% - 10.1%)
4	5.5% (4.6% - 6.6%)
5	2.5% (1.9% - 3.2%)
6+	3.7% (3.0% - 4.7%)

4.3.3 Northern Territory

26% of Northern Territory residents rode in the week prior to the survey, increasing to 35% over the previous month and 52% over the previous year (Table 4.17). Cycling participation rates do not differ significantly between regional areas and Darwin.

Table 4.17: Cycling participation in the Northern Territory

	Population proportion					
	Northern Territory		Darwin		Regional NT	
	Estimate	95% conf. int.	Estimate	95% conf. int.	Estimate	95% conf. int.
Rode in past 7 days	26.0%	(23.9% – 28.3%)	24.6%	(22.0% - 27.4%)	27.8%	(24.3% - 31.5%)
Rode in past month	35.3%	(32.8% - 37.9%)	34.3%	(31.1% - 37.6%)	36.5%	(32.5% - 40.6%)
Rode in past year	52.0%	(49.1% - 54.8%)	49.4%	(45.8% - 53.0%)	55.2%	(50.6% - 59.7%)

Males are more likely than females to have ridden over the past week, month and year (Table 4.18).

Table 4.18: Cycling participation by gender in the Northern Territory

	Population proportion	
	Male	Female
Rode in past 7 days	29.8% (27.1% – 32.7%)	22.0% (19.3% - 24.9%)
Rode in past month	39.3% (36.2% – 42.5%)	31.1% (28.0% – 34.4%)
Rode in past year	57.3% (54.0% – 60.6%)	46.2% (42.6% – 49.9%)

Around 57% of children aged under 10 rode in the previous week, decreasing to 15% of those aged 40 or above (Table 4.19).

Table 4.19: Cycling participation in past 7 days by gender and age group in the Northern Territory

Age group	Population proportion who rode in past 7 days		
	Male	Female	All
0 – 9	61.8% (53.4% – 69.6%)	52.5% (43.9% – 60.9%)	57.3% (50.9% – 63.4%)
10 – 17	49.6% (41.4% – 57.7%)	36.5% (27.7% – 46.3%)	43.3% (37.0% – 49.7%)
18 – 39	20.5% (16.0% – 26.0%)	15.1% (10.6% – 20.9%)	17.9% (14.5% – 21.9%)
40+	19.0% (16.0% – 22.5%)	10.6% (8.3% – 13.5%)	15.0% (12.9% – 17.5%)

The most often cited purpose for cycling travel among those who had ridden in the previous week was recreation (Figure 4.8).

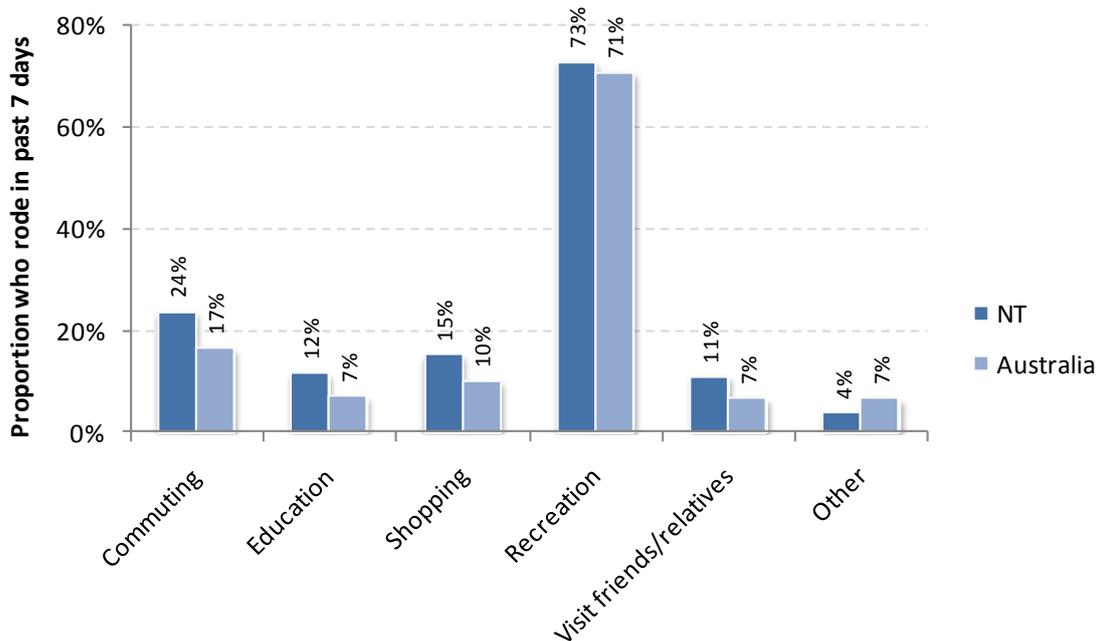


Figure 4.8: Purpose for cycling travel by Northern Territory residents who rode in the past 7 days (multi-response)

30% of households in the Northern Territory do not have a bicycle in working order, while 6% have six or more bicycles (Table 4.20).

Table 4.20: Bicycle ownership by household in Northern Territory

No. of working bicycles	Household proportion
None	30.0% (27.2% – 33.0%)
1	22.5% (19.8% – 25.5%)
2	18.5% (16.0% – 21.3%)
3	12.6% (10.5% - 15.2%)
4	6.7% (5.2% - 8.7%)
5	4.1% (2.8% - 5.9%)
6+	5.6% (4.1% - 7.6%)

4.3.4 Queensland

Around 18% of Queensland residents rode in the week prior to the survey, increasing to 26% over the previous month and 39% over the previous year (Table 4.21). There is no statistically significant difference in cycling participation between Brisbane and regional areas of Queensland.

Table 4.21: Cycling participation in Queensland

	Population proportion					
	Queensland		Brisbane		Regional Queensland	
	Estimate	95% conf. int.	Estimate	95% conf. int.	Estimate	95% conf. int.
Rode in past 7 days	17.9%	(16.1% – 19.8%)	17.4%	(15.1% - 20.1%)	18.7%	(16.5% - 21.1%)
Rode in past month	25.8%	(23.8% - 28.0%)	25.8%	(23.1% - 28.8%)	25.7%	(23.1% - 28.4%)
Rode in past year	38.7%	(36.3% - 41.3%)	40.0%	(36.7% - 43.4%)	35.8%	(32.8% - 38.8%)

Males are more likely than females to have ridden over the past week, month and year (Table 4.22).

Table 4.22: Cycling participation by gender in Queensland

	Population proportion	
	Male	Female
Rode in past 7 days	23.3% (20.7% – 26.1%)	12.4% (10.4% - 14.7%)
Rode in past month	32.2% (29.4% – 35.0%)	19.5% (17.2% – 22.0%)
Rode in past year	46.1% (43.0% – 49.3%)	31.4% (28.6% – 34.3%)

Around 52% of children aged under 10 rode in the previous week, decreasing to 8% of those aged 40 or above (Table 4.23).

Table 4.23: Cycling participation in past 7 days by gender and age group in Queensland

Age group	Population proportion who rode in past 7 days		
	Male	Female	All
0 – 9	60.0% (49.5% – 69.6%)	43.9% (34.0% – 54.3%)	52.2% (44.6% – 59.6%)
10 – 17	44.5% (35.7% – 53.6%)	24.3% (17.4% – 32.7%)	34.6% (28.5% – 41.2%)
18 – 39	16.3% (12.1% – 21.7%)	7.5% (4.9% – 11.3%)	12.0% (9.3% – 15.3%)
40+	11.4% (8.9% – 14.4%)	4.1% (2.7% – 5.9%)	7.6% (6.1% – 9.5%)

The most often cited purpose for cycling travel among those who had ridden in the previous week was recreation (Figure 4.9).

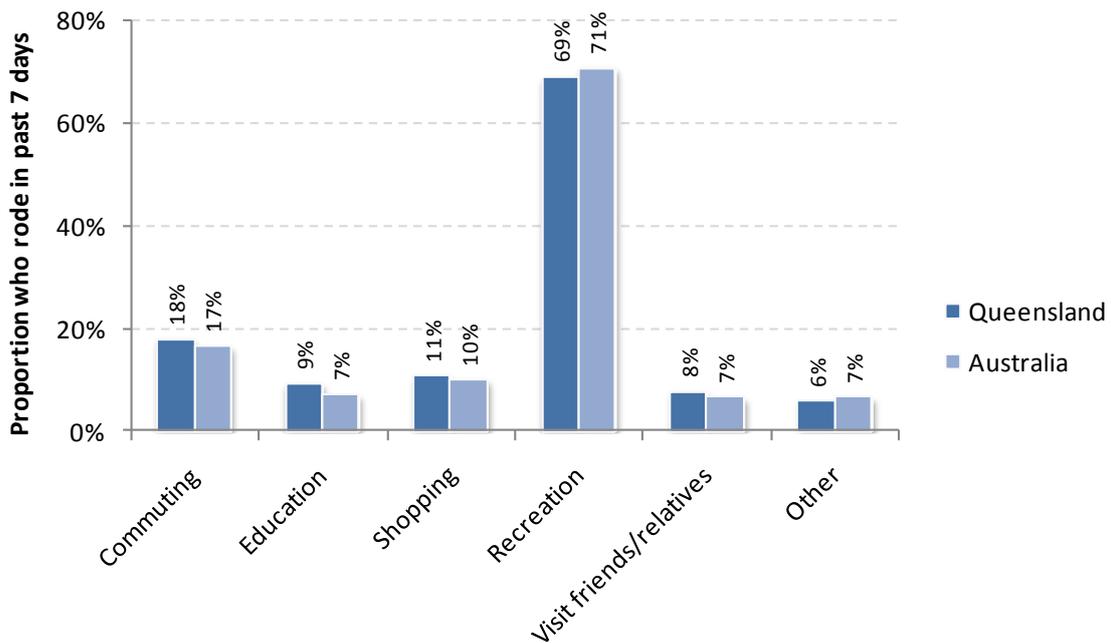


Figure 4.9: Purpose for cycling travel by Queensland residents who rode in the past 7 days (multi-response)

42% of households in Queensland do not have a bicycle in working order, while 2% have six or more bicycles (Table 4.24).

Table 4.24: Bicycle ownership by household in Queensland

No. of working bicycles	Household proportion
None	41.6% (38.6% – 44.6%)
1	17.9% (15.4% – 20.7%)
2	18.9% (16.4% – 21.6%)
3	10.3% (8.5% - 12.5%)
4	5.7% (4.3% - 7.4%)
5	3.3% (2.4% - 4.6%)
6+	2.4% (1.6% - 3.6%)

4.3.5 South Australia

Around 18% of South Australian residents rode in the week prior to the survey, increasing to 26% over the previous month and 38% over the previous year (Table 4.25). Cycling participation is significantly higher among residents of regional South Australia than in Adelaide.

Table 4.25: Cycling participation in South Australia

	Population proportion					
	South Australia		Adelaide		Regional SA	
	Estimate	95% conf. int.	Estimate	95% conf. int.	Estimate	95% conf. int.
Rode in past 7 days	18.1%	(16.4% – 20.0%)	16.4%	(14.4% - 18.6%)	21.9%	(18.6% - 25.6%)
Rode in past month	26.4%	(24.3% - 28.6%)	25.6%	(23.2% - 28.2%)	27.8%	(24.0% - 32.0%)
Rode in past year	38.4%	(36.0% - 40.8%)	37.3%	(34.6% - 40.2%)	40.8%	(36.3% - 45.6%)

Males are more likely than females to have ridden over the past week, month and year (Table 4.26).

Table 4.26: Cycling participation by gender in South Australia

	Population proportion	
	Male	Female
Rode in past 7 days	23.6% (21.0% – 26.4%)	12.8% (10.9% - 15.0%)
Rode in past month	33.0% (30.1% – 36.1%)	20.0% (17.8% – 22.4%)
Rode in past year	45.4% (42.3% – 48.6%)	31.5% (28.8% – 34.3%)

Around 57% of children aged under 10 rode in the previous week, decreasing to 8% of those aged 40 or above (Table 4.27). Males are significantly more likely to ride than females in all age groups except for children aged under 10.

Table 4.27: Cycling participation in past 7 days by gender and age group in South Australia

Age group	Population proportion who rode in past 7 days		
	Male	Female	All
0 – 9	57.5% (47.8% – 66.6%)	56.7% (45.2% – 67.5%)	57.1% (49.0% – 64.8%)
10 – 17	40.2% (31.0% – 50.1%)	17.5% (11.6% – 25.4%)	29.1% (23.2% – 35.8%)
18 – 39	22.5% (17.4% – 28.5%)	8.5% (5.1% – 13.6%)	15.6% (12.3% – 19.6%)
40+	12.0% (9.7% – 14.8%)	4.4% (3.1% – 6.2%)	8.1% (6.6% – 9.8%)

The most often cited purpose for cycling travel among those who had ridden in the previous week was recreation (Figure 4.10).

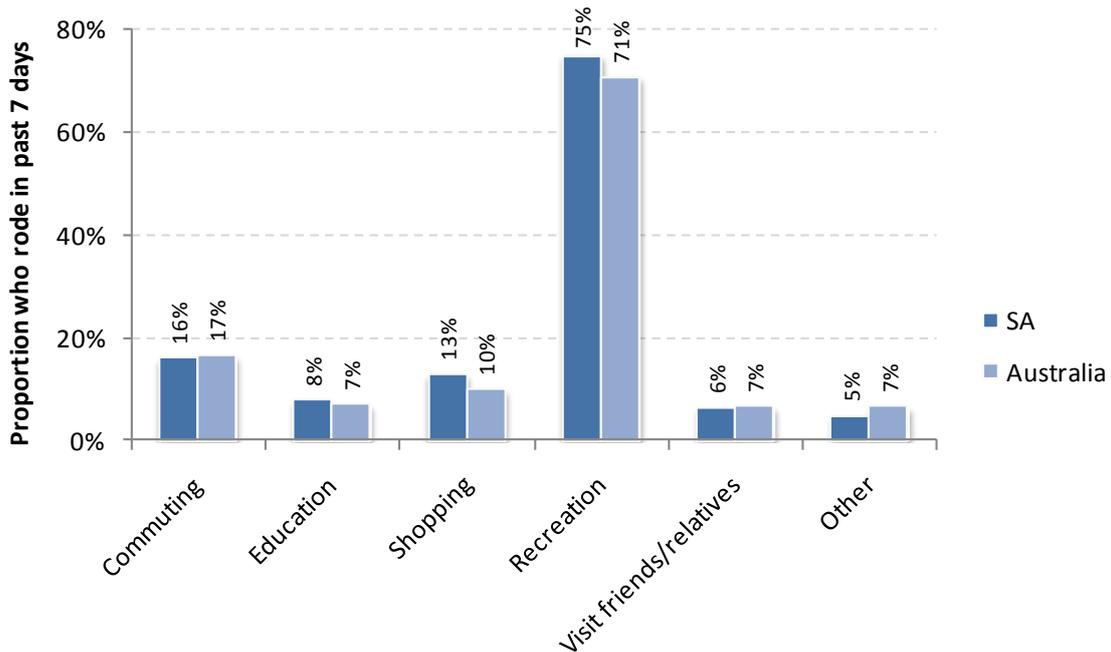


Figure 4.10: Purpose for cycling travel by South Australian residents who rode in the past 7 days (multi-response)

48% of households in South Australia do not have a bicycle in working order, while 3% have six or more bicycles (Table 4.28).

Table 4.28: Bicycle ownership by household in South Australia

No. of working bicycles	Household proportion
None	47.8% (45.0% – 50.6%)
1	13.8% (11.7% – 16.2%)
2	15.3% (13.2% – 17.7%)
3	10.5% (8.8% - 12.5%)
4	7.8% (6.3% - 9.5%)
5	2.0% (1.3% - 3.1%)
6+	2.8% (2.0% - 4.0%)

4.3.6 Tasmania

Around 19% of Tasmanian residents rode in the week prior to the survey, increasing to 28% over the previous month and 40% over the previous year (Table 4.29).

Table 4.29: Cycling participation in Tasmania

	Population proportion					
	Tasmania		Hobart		Regional Tasmania	
	Estimate	95% conf. int.	Estimate	95% conf. int.	Estimate	95% conf. int.
Rode in past 7 days	19.1%	(17.2% – 21.1%)	18.1%	(14.9% - 21.7%)	19.8%	(17.6% - 22.2%)
Rode in past month	28.3%	(26.1% - 30.5%)	27.1%	(23.5% - 31.0%)	29.0%	(26.4% - 31.8%)
Rode in past year	40.3%	(38.0% - 42.7%)	38.9%	(35.2% - 42.7%)	41.4%	(38.4% - 44.5%)

Males are more likely than females to have ridden over the past week, month and year (Table 4.30).

Table 4.30: Cycling participation by gender in Tasmania

	Population proportion	
	Male	Female
Rode in past 7 days	23.4% (20.8% – 26.1%)	14.8% (12.6% - 17.4%)
Rode in past month	34.0% (31.2% – 36.9%)	22.7% (20.2% – 25.4%)
Rode in past year	46.8% (43.8% – 49.8%)	34.0% (31.1% – 36.9%)

Around 52% of children aged under 10 rode in the previous week, decreasing to 8% of those aged 40 or above (Table 4.31).

Table 4.31: Cycling participation in past 7 days by gender and age group in Tasmania

Age group	Population proportion who rode in past 7 days		
	Male	Female	All
0 – 9	56.7% (47.0% – 65.9%)	47.5% (38.5% - 56.7%)	52.2% (45.4% - 58.9%)
10 – 17	53.2% (43.5% – 62.7%)	23.2% (15.5% – 33.2%)	38.6% (32.1% - 45.6%)
18 – 39	18.4% (13.9% – 23.9%)	15.0% (10.7% – 20.7%)	16.7% (13.3% - 20.8%)
40+	10.2% (8.1% – 12.9%)	5.3% (3.8% – 7.2%)	7.7% (6.2% - 9.4%)

The most often cited purpose for cycling travel among those who had ridden in the previous week was recreation (Table 4.12).

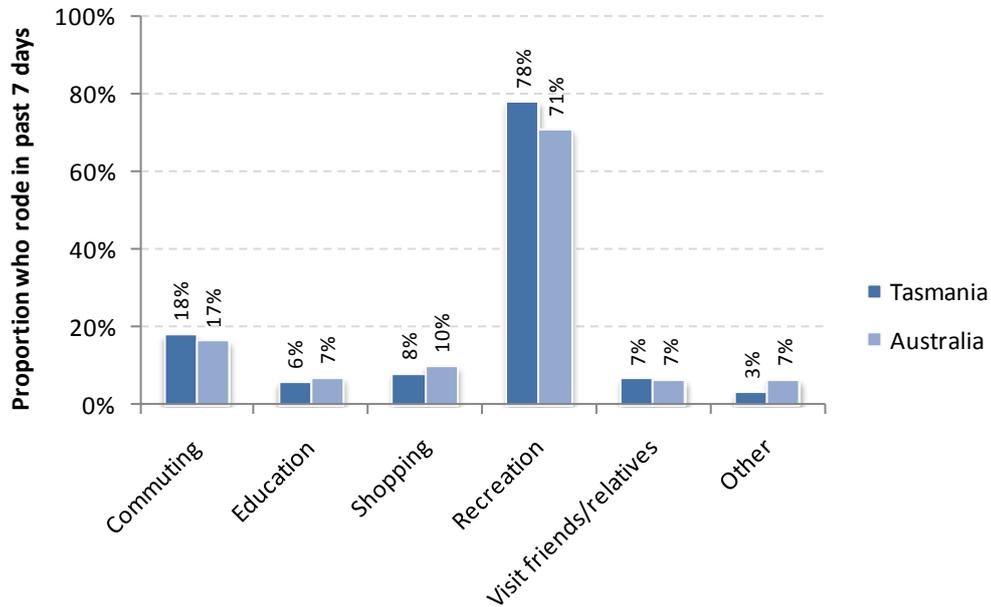


Figure 4.11: Purpose for cycling travel by Tasmanian residents who rode in the past 7 days (multi-response)

44% of households in Tasmania do not have a bicycle in working order, while 3% have six or more bicycles (Table 4.32).

Table 4.32: Bicycle ownership by household in Tasmania

No. of working bicycles	Household proportion
None	43.6% (40.9% – 46.3%)
1	16.6% (14.3% – 19.1%)
2	14.9% (12.8% – 17.2%)
3	11.9% (10.1% - 14.0%)
4	6.0% (4.7% - 7.6%)
5	3.7% (2.7% - 5.0%)
6+	3.4% (2.4% - 4.7%)

4.3.7 Victoria

Around 19% of Victorian residents rode in the week prior to the survey, increasing to 29% over the previous month and 42% over the previous year (Table 4.33). Cycling participation is significantly higher among residents of regional Victoria than in metropolitan Melbourne.

Table 4.33: Cycling participation in Victoria

	Population proportion					
	Victoria		Melbourne		Regional Victoria	
	Estimate	95% conf. int.	Estimate	95% conf. int.	Estimate	95% conf. int.
Rode in past 7 days	19.4%	(17.4% – 21.4%)	18.0%	(15.8% - 20.4%)	23.5%	(19.9% - 27.6%)
Rode in past month	29.0%	(26.9% - 31.3%)	27.5%	(25.0% - 30.1%)	33.8%	(29.8% - 38.0%)
Rode in past year	41.6%	(39.2% - 43.9%)	40.1%	(37.3% - 43.0%)	45.9%	(41.7% - 50.1%)

Males are more likely than females to have ridden over the past week, month and year (Table 4.34).

Table 4.34: Cycling participation by gender in Victoria

	Population proportion	
	Male	Female
Rode in past 7 days	22.6% (20.1% – 25.3%)	16.2% (14.0% - 18.7%)
Rode in past month	33.2% (30.4% – 36.2%)	24.9% (22.5% – 27.5%)
Rode in past year	47.1% (44.0% – 50.1%)	36.1% (33.4% – 38.9%)

Around 50% of children aged under 10 rode in the previous week, decreasing to 9% of those aged 40 or above (Table 4.35).

Table 4.35: Cycling participation in past 7 days by gender and age group in Victoria

Age group	Population proportion who rode in past 7 days		
	Male	Female	All
0 – 9	46.9% (37.0% – 57.1%)	53.7% (43.6% - 63.5%)	50.2% (42.3% - 58.2%)
10 – 17	47.1% (38.6% – 55.9%)	29.1% (22.2% – 37.2%)	38.4% (32.3% - 44.8%)
18 – 39	17.8% (13.5% – 23.0%)	13.7% (9.8% – 18.8%)	15.7% (12.5% - 19.6%)
40+	13.4% (11.0% – 16.2%)	5.7% (4.3% – 7.6%)	9.4% (7.9% - 11.2%)

The most often cited purpose for cycling travel among those who had ridden in the previous week was recreation (Figure 4.12).

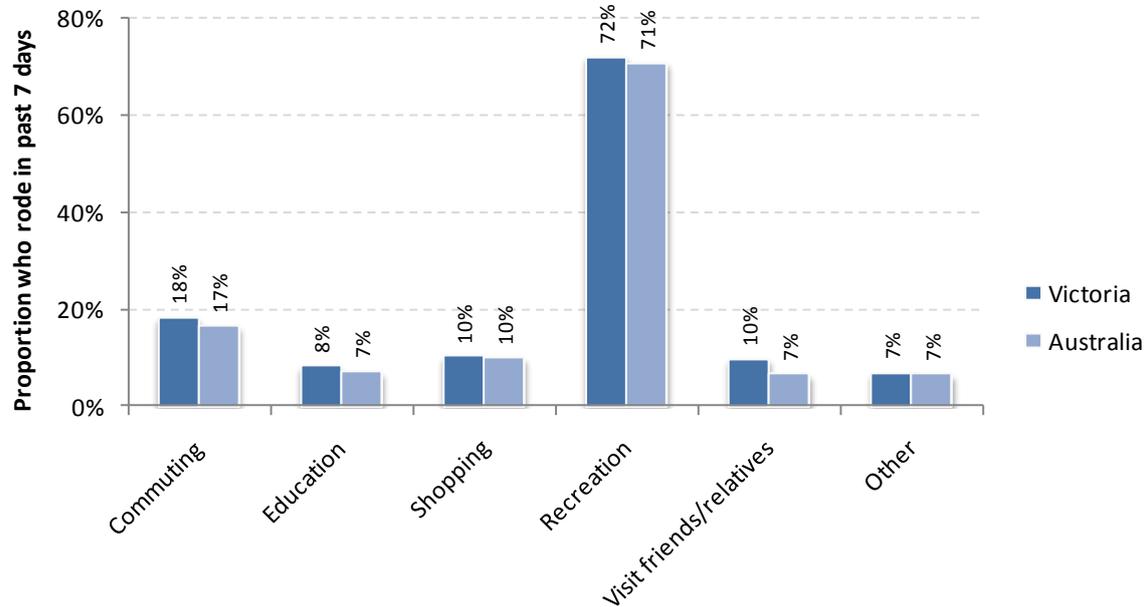


Figure 4.12: Purpose for cycling travel by Victorian residents who rode in the past 7 days (multi-response)

42% of households in Victoria do not have a bicycle in working order, while 4% have six or more bicycles (Table 4.36).

Table 4.36: Bicycle ownership by household in Victoria

No. of working bicycles	Household proportion
None	41.7% (39.0% – 44.4%)
1	15.3% (13.2% – 17.7%)
2	16.3% (14.1% – 18.6%)
3	11.4% (9.7% – 13.4%)
4	7.2% (5.8% – 8.9%)
5	4.3% (3.3% – 5.6%)
6+	3.9% (2.9% – 5.1%)

4.3.8 Western Australia

Around 22% of West Australian residents rode in the week prior to the survey, increasing to 30% over the previous month and 45% over the previous year (Table 4.37).

Table 4.37: Cycling participation in Western Australia

	Population proportion					
	Western Australia		Perth		Regional WA	
	Estimate	95% conf. int.	Estimate	95% conf. int.	Estimate	95% conf. int.
Rode in past 7 days	22.1%	(20.0% – 24.5%)	22.1%	(19.6% - 24.9%)	22.5%	(18.5% - 27.1%)
Rode in past month	30.1%	(27.6% - 32.8%)	29.8%	(26.8% - 33.0%)	31.2%	(26.5% - 36.4%)
Rode in past year	44.6%	(41.6% - 47.5%)	44.6%	(41.2% - 48.0%)	45.1%	(39.5% - 50.9%)

Males are more likely than females to have ridden over the past week, month and year (Table 4.38).

Table 4.38: Cycling participation by gender in Western Australia

	Population proportion	
	Male	Female
Rode in past 7 days	27.0% (24.2% – 30.1%)	17.1% (14.5% - 20.1%)
Rode in past month	34.5% (31.3% – 37.8%)	25.6% (22.6% – 29.0%)
Rode in past year	50.1% (46.4% – 53.8%)	38.8% (35.4% – 42.4%)

Around 57% of children aged under 10 rode in the previous week, decreasing to 12% of those aged 40 or above (Table 4.39).

Table 4.39: Cycling participation in past 7 days by gender and age group in Western Australia

Age group	Population proportion who rode in past 7 days		
	Male	Female	All
0 – 9	59.3% (49.3% – 68.5%)	54.4% (41.6% - 66.6%)	56.9% (48.3% - 65.2%)
10 – 17	56.0% (45.2% – 66.2%)	33.3% (23.3% – 45.2%)	45.1% (37.3% - 53.1%)
18 – 39	18.6% (13.5% – 25.2%)	10.1% (6.5% – 15.4%)	14.5% (11.1% - 18.7%)
40+	16.4% (13.6% – 19.7%)	7.8% (5.9% – 10.3%)	12.1% (10.1% - 14.4%)

The most often cited purpose for cycling travel among those who had ridden in the previous week was recreation (Figure 4.13).

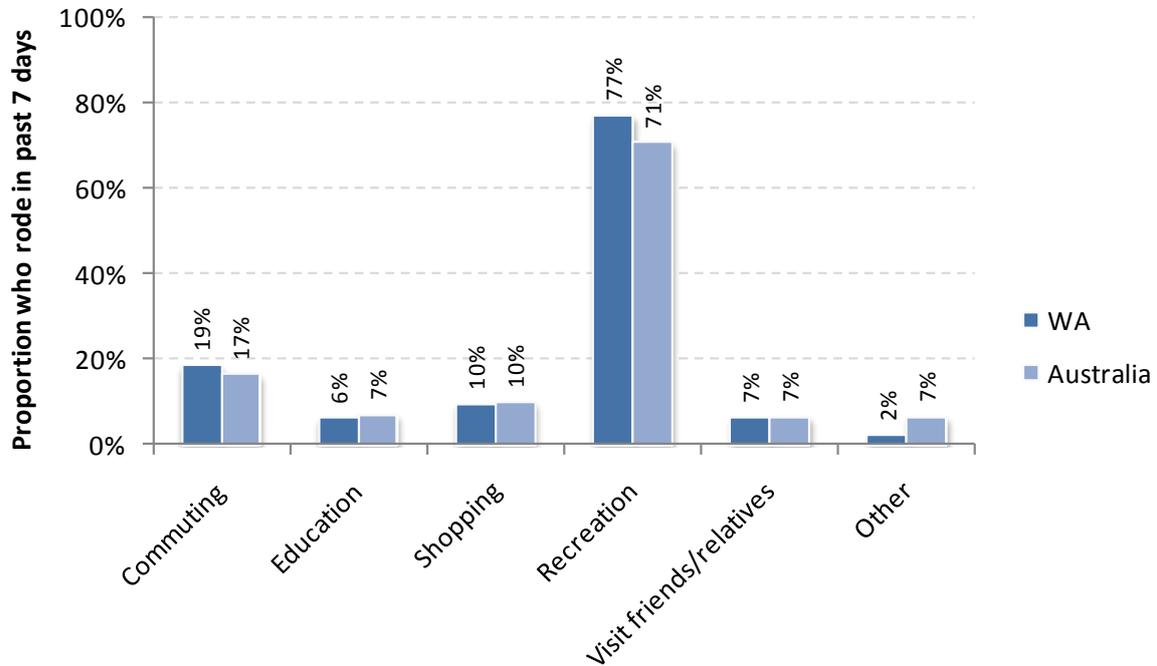


Figure 4.13: Purpose for cycling travel by West Australian residents who rode in the past 7 days (multi-response)

39% of households in Western Australia do not have a bicycle in working order, while 4% have six or more bicycles in working order (Table 4.40).

Table 4.40: Bicycle ownership by household in Western Australia

No. of working bicycles	Household proportion
None	39.0% (35.9% – 42.2%)
1	17.9% (15.2% – 20.8%)
2	19.0% (16.5% – 21.8%)
3	9.2% (7.3% - 11.4%)
4	8.2% (6.6% - 10.2%)
5	2.8% (1.8% - 4.2%)
6+	4.0% (2.8% - 5.6%)

5 FURTHER ANALYSIS

The dataset provides a rich source of data on current levels of cycling participation in Australia. Examples of further analysis which could be undertaken with this dataset include:

- **Urban form:** examine changes in cycling participation rates between urban (built-up) areas, peri-urban areas, rural areas and regional centres.
- **Geography:** the sample size is sufficient for more detailed analysis at sub-regional levels, for example across inner metropolitan areas or regional centres (compared to rural areas).
- **Cycling purpose:** investigate how purpose of travel varies across age and gender segments.

In all cases it would be necessary to consider the sample sizes in each segment in order for statistically significant differences to be observed.

6 REFERENCES

ABS (2011a), Population by Age and Sex, Australian States and Territories, June 2010. ABS Cat. No. 3201.0, Australian Bureau of Statistics.

ABS (2011b), Labour Force, Australia, Mar 2011. ABS Cat. No. 6202.0, Australian Bureau of Statistics.

SKM (2011), *Sydney Cycling Survey: Measuring Cycling Share of Local and District Trips*, for NSW Road and Traffic Authority and Bureau of Transport Statistics.

APPENDIX A: SURVEY SCRIPT

My name is (...) calling on behalf of [insert relevant state roads authority] from Market Solutions, a social and market research company. Today we are conducting a very quick survey about people's travel habits of people across Australia. The survey will be used to track travel patterns over time. Would you be able to spend a few minutes describing a little about the way you get around?

RESPONDENTS MUST BE AGED 15 YEARS OR OVER.

Your responses will be held strictly confidential. My supervisor may listen to parts of this interview to assist in quality control monitoring.

SCREENERS

-
- Q1. We are interested in speaking to people living in postcode xxx. Can you confirm this is your home postcode?
 Yes
 No (enter correct postcode) **CHECK METRO/RURAL QUOTAS**

YOUR TRAVEL

We'd first like to ask you a little about cycling.

-
- Q2. When did you last ride a bicycle? **READ OUT**
 Never
 More than a year ago
 More than a month ago
 In the last 4 weeks
 In the last 3 weeks
 In the last 2 weeks
 Sometime in the last 7 days

Including trips where you stopped on the way.
 Generate 2 cati's
 Put in bands – get total travel

-
- Q3. **IF Q2="Sometime in the last 7 days" THEN** What is your best estimate of the total number of bike trips you made over the past 7 days? **READ OUT**
 1 or 2 trips
 3 to 5 trips
 5 to 10 trips
 More than 10 trips
 Don't know

-
- Q4. **IF Q2="Sometime in the last 7 days" THEN** What is your best estimate of the total time you spent riding over the past 7 days? **READ OUT**
-

Less than 30 minutes
 30 minutes to less than one hour
 One hour to less than two hours
 Two hours to less than 10 hours
 More than 10 hours
 Don't know

Q5. IF Q2="Sometime in the last 7 days" THEN For what purposes did you ride over the past 7 days? **READ OUT – MULTI-RESPONSE**

To or from work
 To or from school, university or study
 To or from shopping
 For recreation or exercise
 To visit friends or relatives
 Some other reason – please specify _____

ABOUT YOU

Short option: We would now like to understand a little more about you and your household.

Long option: In order to ensure we speak to/interview a representative part of the population we would like to know a little more about you and your household.

Q6. Which of the following categories apply to you at the moment?

(multi-response)

Student: Full-time

Part-time

Work: Full-time (*35 hours per week or more*)

Part-time (*less than 35 hours per week*)

Casual

Unpaid voluntary work

Unemployed and looking for work

Keeping house

Aged pensioner

Other pensioner

Retired

Other **PLEASE SPECIFY:** _____

Q7. What is your age?

<numeric 0 – 199>

Q8. CATI: Interviewer record gender

Male/Female

Q9. How many people usually live in your household, including you?

A person who usually lives in the household is someone who has, or will, live in the household for at least 3 months.

<numeric 1 – 99>

Q10. How many bicycles in working order are in your household?

Include only two wheeled vehicles. Exclude any registered vehicles such as mopeds.

<enter number 0 - 99>

ABOUT OTHERS IN YOUR HOUSEHOLD

IF Q9>1 THEN REPEAT FOR Q9-1 ITERATIONS (i.e. cover all other household members) {{

IF Q8>2

We would now like to understand a little about the way the other people in your household use bikes and get a little detail about them.. Starting with the oldest person in the household other than yourself and working down, could you tell us...

OR IF Q8=2

We would now like to understand a little about the other person who usually lives in your household.

Q11. Which of the following categories apply to that person at the moment?

(multi-response)

Student: Full-time

Part-time

Work: Full-time (*35 hours per week or more*)

Part-time (*less than 35 hours per week*)

Casual

Unpaid voluntary work

Unemployed and looking for work

Keeping house

Aged pensioner

Other pensioner

Retired

Other **PLEASE SPECIFY:** _____

Q12. What is their age?

<numeric 0 – 199>

Q13. Are they male or female?

Male/Female

Q14. When did they last ride a bicycle? **READ OUT**

Never

More than a year ago

More than a month ago

- In the last 4 weeks
- In the last 3 weeks
- In the last 2 weeks
- Sometime in the last 7 days
- Don't know

Q15. IF Q2="Sometime in the last 7 days" THEN What is your best estimate of the total number of bike trips you made over the past 7 days? **READ OUT**

- 1 or 2 trips
- 3 to 5 trips
- 5 to 10 trips
- More than 10 trips
- Don't know

Q16. IF Q2="Sometime in the last 7 days" THEN What is your best estimate of the total time they spent riding over the past 7 days? **READ OUT**

- Less than 30 minutes
- 30 minutes to less than one hour
- One hour to less than two hours
- Two hours to less than 10 hours
- More than 10 hours
- Don't know

Q17. IF Q2="Sometime in the last 7 days" THEN For what purposes did they ride over the past 7 days? **READ OUT – MULTI-RESPONSE**

- To or from work
- To or from school, university or study
- To or from shopping
- For recreation or exercise
- To visit friends or relatives
- Some other reason – please specify _____
- Don't know

APPENDIX B: GEOGRAPHY DEFINITIONS

“Metropolitan” and “regional” areas for each state and territory were defined using the ABS statistical division (SD) geography for each capital city. This area captures an area somewhat larger than the built-up areas in each capital city, but excludes significant regional centres in each state (e.g. Wollongong and Newcastle in NSW, Geelong in Victoria and Launceston in Tasmania).

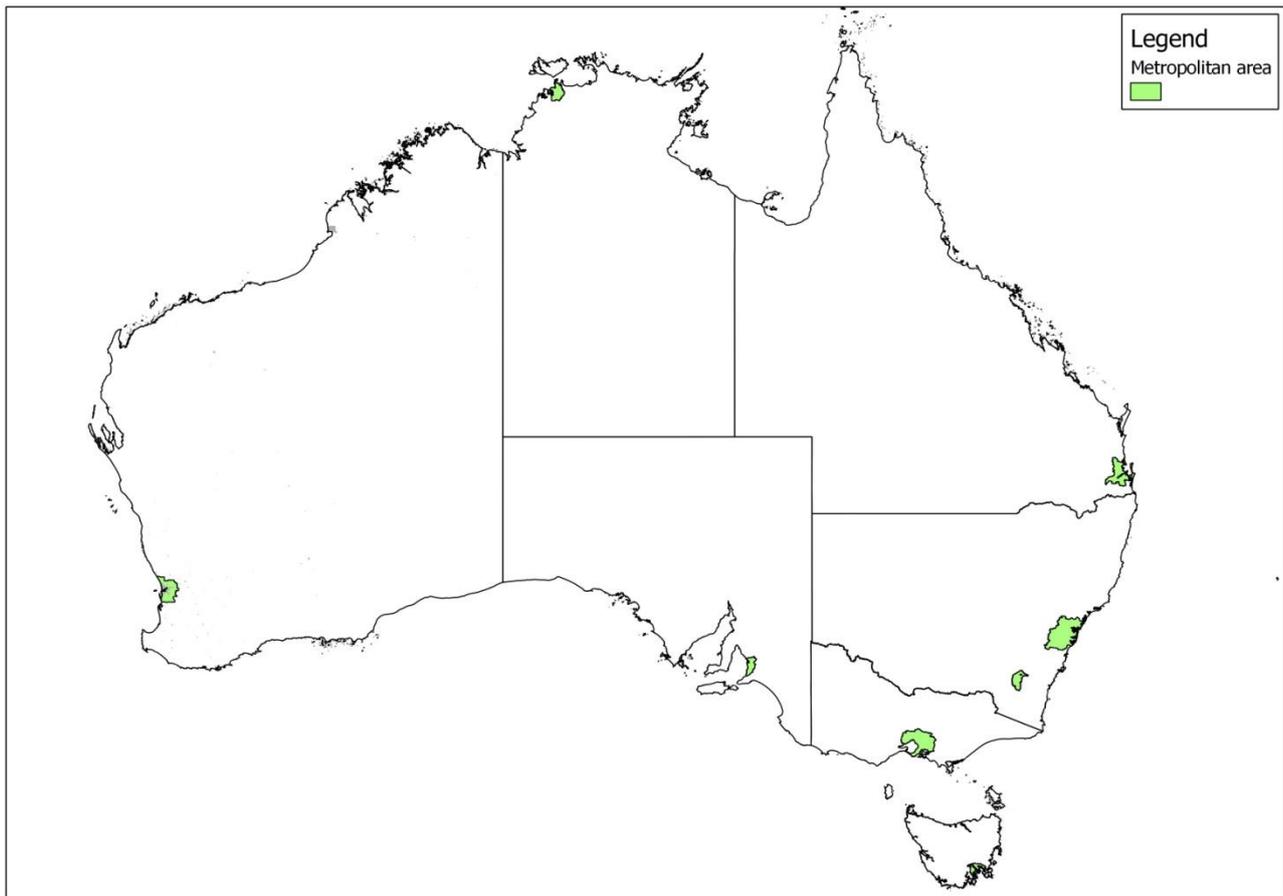


Figure B.1: Metropolitan areas

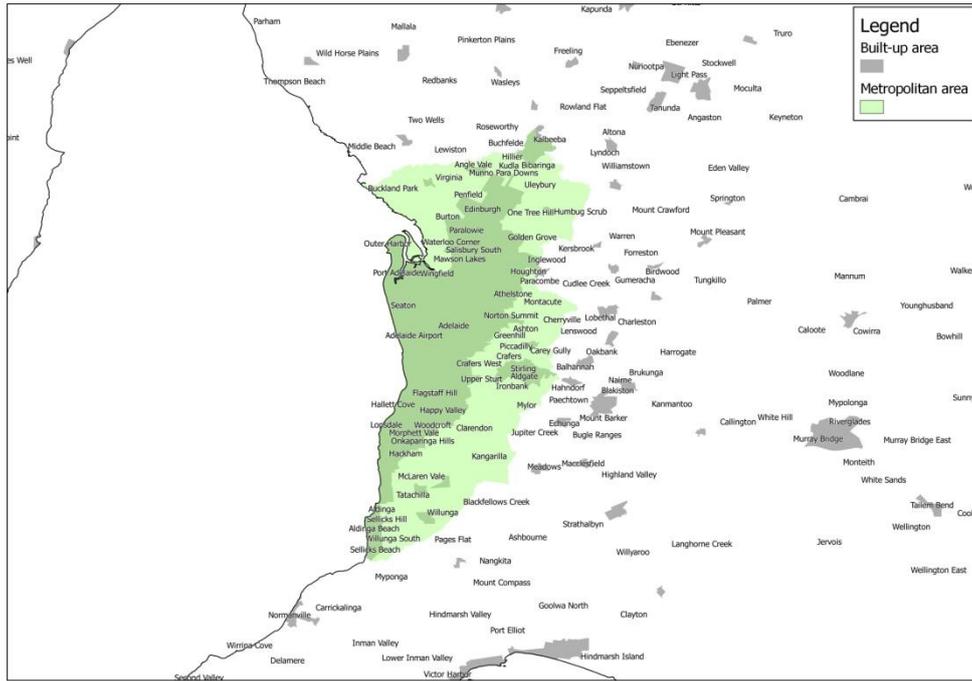


Figure B.1: Adelaide metropolitan area

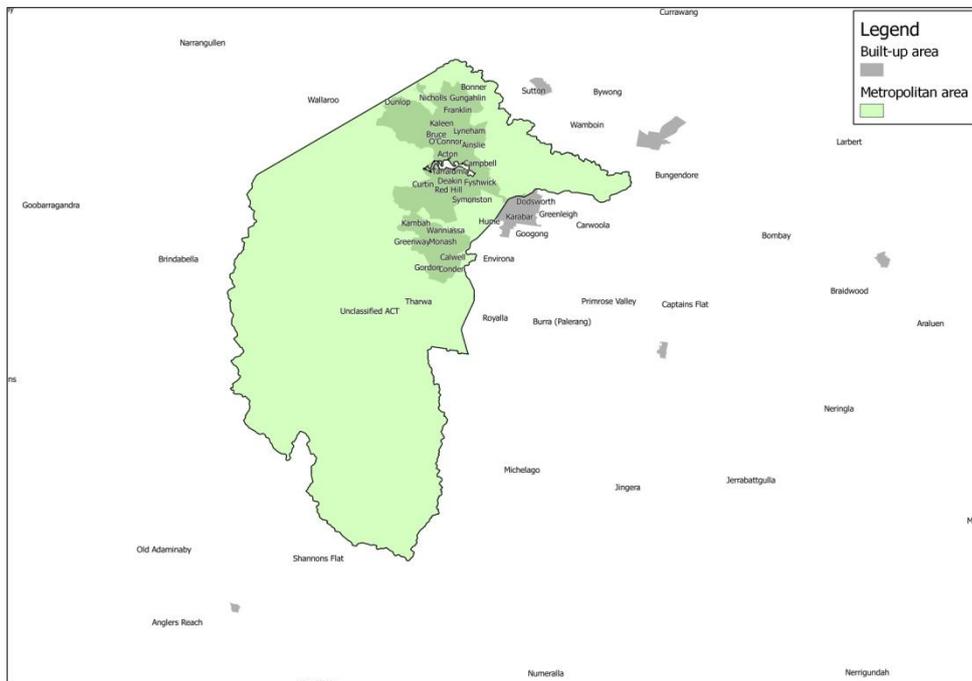


Figure B.2: Australian Capital Territory

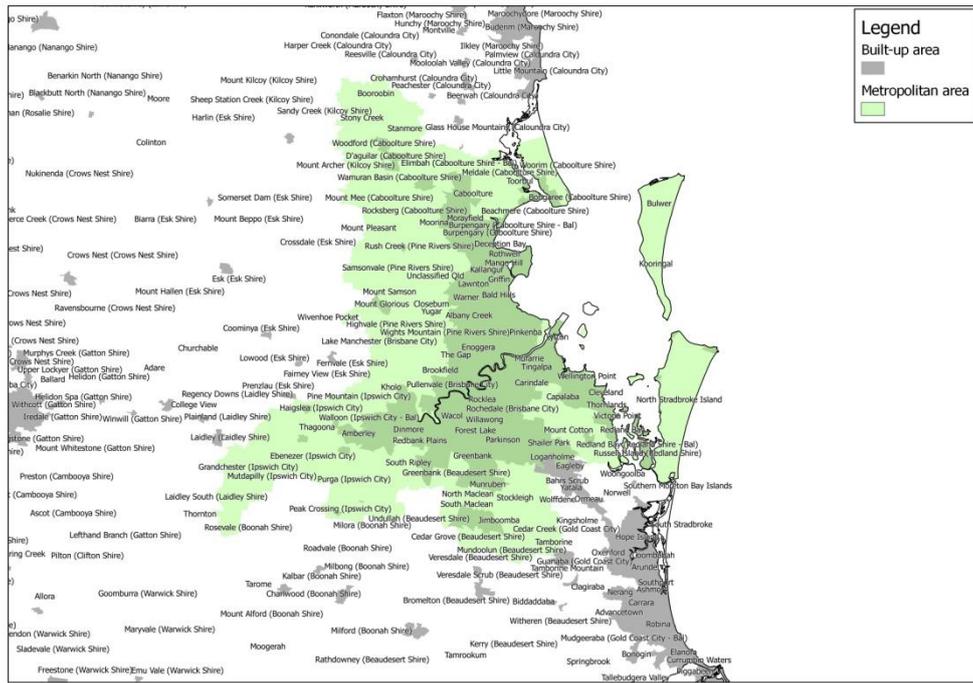


Figure B.3: Brisbane metropolitan area

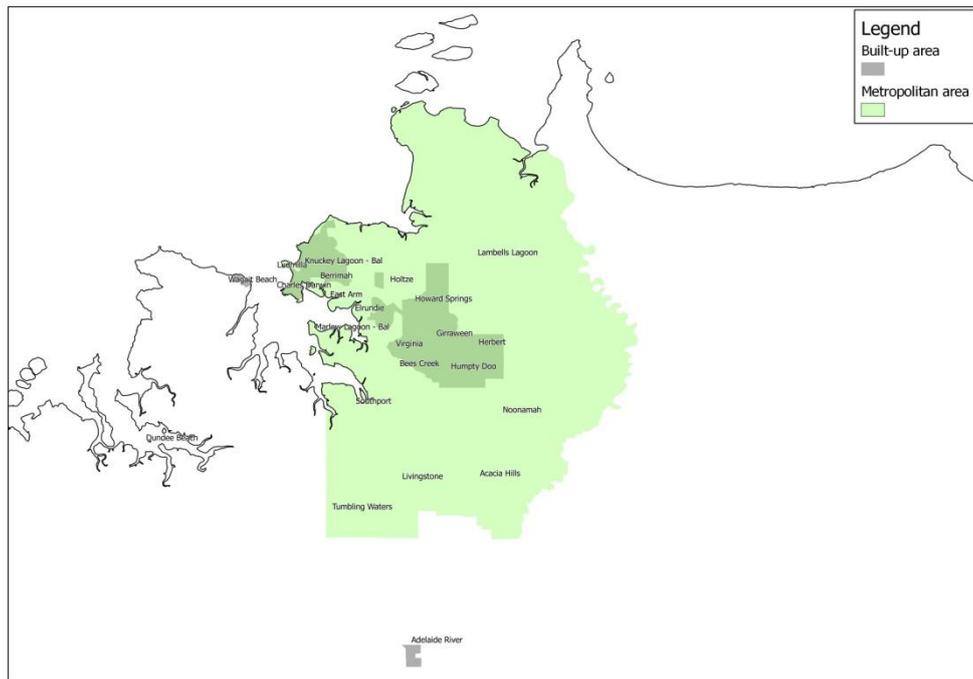


Figure B.4: Darwin metropolitan area

APPENDIX C: ERASS COMPARISON

The Australian Sports Commission has funded the Exercise, Recreation and Sport Survey (ERASS) annually since 2001. This survey provides an indication of cycling participation by persons aged 15 years and over in Australia. The National Cycling Participation Survey (NCPS) sampled all ages 2 years and above (and assumed those aged under 2 had not participated in cycling). Because cycling participation rates are significantly higher among those aged 2 to 14 years of age we would expect (all else being equal) the ERASS participation estimates to be *lower* than those of the National Cycling Participation Survey. Further, ERASS asked respondents whether they had participated in an activity (including cycling) for *exercise, recreation or sport at least once over the previous 12 months*. It is not entirely clear whether respondents who had cycled only for transport purposes (such as commuting or shopping) would respond in the affirmative to this question. However, it would appear reasonable to assume that an individual who had cycled for utilitarian purposes would also have done so for recreation at least once over the previous year. A comparison between the NCPS cycling participation over the past year and ERASS is provided in Table C.1.

Table C.1: Annual cycling participation rate comparison

	National Cycling Participation Survey 2011 ¹			Exercise, Recreation and Sport Survey 2009 ²		
	Male	Female	All	Male	Female	All
ACT	52.2%	40.4%	46.3%	22.4%	11.4%	16.8%
NSW	43.1%	30.2%	36.6%	12.6%	5.6%	9.0%
NT	57.3%	46.2%	52.0%	15.6%	11.9%	13.8%
Qld	46.1%	31.4%	38.7%	14.1%	7.2%	10.6%
SA	45.4%	31.5%	38.4%	13.7%	5.7%	9.6%
Tas	46.8%	34.0%	40.3%	12.7%	5.1%	8.9%
Vic	47.1%	36.1%	41.6%	17.2%	8.6%	12.8%
WA	50.1%	38.8%	44.6%	18.6%	10.4%	14.5%
<i>Australia</i>	46.0%	33.3%	39.6%	14.9%	7.3%	11.1%

¹ Participation rate is for all age groups.
² Participation rate is for those aged 15 years or older.

The NCPS cycling participation estimates are very significantly higher than ERASS. Contributory factors to these differences include:

- Exclusion in ERASS of those aged under 15 years (the age bands used in NCPS precludes a comparison based on those aged 15 years or above; however, for all persons aged 18 or over the annual cycling participation rate is 29.7%).
- Respondents to ERASS were asked to identify up to ten activities they had participated in over the past 12 months without interviewer prompting. It is likely respondents identified only those activities they participated in most regularly or recently, or only those of an organised nature (such as organised sporting activities such as football or cricket).

- The limited scope of purposes in ERASS (exercise, recreation and sport) would exclude those who cycle only for other purposes (e.g. commuting).

Our view is that there is a very significant level of cycling participation underreporting in ERASS, which can largely be explained by the survey instrument design and restricted age groups over which the sample is drawn. Indeed, we note that the NCPS estimate of cycling participation in the past 7 days (17.8%) is significantly higher than the *annual* cycling participation estimate from ERASS (11.1%). Even for those aged 18 years or older the NCPS weekly cycling participation estimate (10.5%) is not too dissimilar to the ERASS annual estimate.