

Active travel in metropolitan NSW 2000-2015

Trend analysis using
multiple data sources

Acknowledgments

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Executive Summary

- The NSW Healthy Eating and Active Living (HEAL) Strategy aims to increase active travel in metropolitan NSW as part of its goal to reduce adult overweight and obesity in the state.
- In this report, trends in active travel were investigated using questions from three representative adult population surveys: Household Travel Survey (Transport for NSW), NSW Population Health Survey (NSW Ministry of Health), and Australian Health Survey (Australian Bureau of Statistics; NSW data). The three surveys span a period of 2000-2015.
- For the period 2000-2014, there was no increase in the prevalence of health-enhancing walking (trips of at least ten minutes duration), sufficient walking (total daily at least 30 minutes), or at least one walk trip to/from work in the last 24 hours, although there was a slight but statistically significant increase in any walking, from 32.4% to 35.5%, according to the Household Travel Survey.
- There was a statistically significant, but marginal increase in any cycling for transport, from 0.9% to 1.3%, and of cycling for at least 30 minutes or three cycle trips in 24 hours, for the period 2000-2014, according to the Household Travel Survey. There was no difference in prevalence of short or medium cycling trips over the period.
- There was no increase in the proportion of people usually walking only to work, however, there was a slight but significant increase in the number of people usually walking part of the way to work (3.4% in 2006 to 5.6% in 2015), according to the Population Health Survey
- There was no change in the prevalence of usually cycling to work. There was no change in the prevalence of total walk time, any walking for transport, any active travel or the number of walk trips of at least ten minutes duration, according to the Australian Health Survey for 2011 – 2015 (note – two surveys only).
- The observed decline in active travel by adults seen in Australia in the 30 years since 1976 appears to have stabilised, and by some measures there has been some increase overall in active transport in NSW.
- Much more needs to be done to substantially increase active travel in NSW.

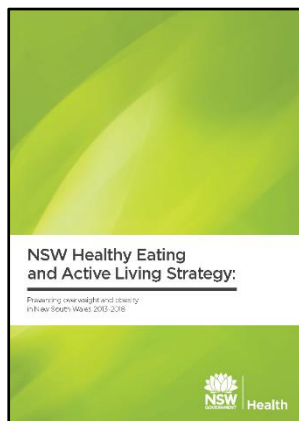
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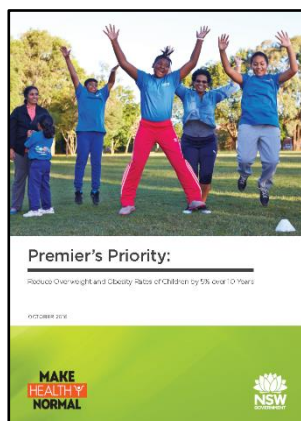
Background and Strategic Context



Obesity rates in Australia have been steadily increasing over the last 30 years.¹ In NSW, approximately 52% of adults were estimated to be overweight or obese in 2015, compared to 46% in 2002.² Reducing overweight and obesity is important to improve population health through the prevention of chronic diseases, including diabetes, cardiovascular disease and some cancers. The [NSW Healthy Eating and Active Living \(HEAL\) Strategy](#) is designed to tackle overweight and obesity in NSW, through promoting healthy food choices and increasing physical activity.³

‘Active travel’, which includes walking and cycling for the purpose of transport, offers an approach to sustainably increase physical activity by incorporating it into necessary everyday activities.⁴ For this reason, part of the HEAL Strategy includes efforts to increase active travel across metropolitan NSW. More specifically, the HEAL Strategy stipulates a focus on active transport – “active transport is of special interest as it is physical activity that can be built into everyday living. A built environment that provides easy, accessible connections between buildings, walkways, cycle paths and public transport nodes; and transport infrastructures that link residential, commercial and business areas, is important to support active transport and physical activity”.

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The [NSW Premier's Priority Childhood Overweight and Obesity Delivery Plan](#) outlines enhanced and new actions that build on the existing NSW HEAL Strategy, including the development and testing of new approaches to encourage active travel (by NSW Health and Transport for NSW). In this study, trends in active travel among adults in metro/urban NSW were estimated and compared from three health surveys. This report aims to assess whether active travel has been increasing since 2000, in line with the HEAL Strategy goals.

Methodological Approach

Questions specific to active travel were identified in each of the following representative, population surveys:

- Household Travel Survey, 2000-2014
- NSW Population Health Survey, 2002-2015
- The Australian Health Survey, 2011-2014

The [Household Travel Survey](#) (HTS) is administered by Transport for NSW, and surveys approximately 8,500 people in 3,300 households annually using 24-hour travel diaries. The [NSW Population Health Survey](#) (PHS) is collected from a phone survey of approximately 15,000 people each year, conducted by the Ministry of Health. The [Australian Health Survey](#), conducted biennially by the Australian Bureau of Statistics (ABS), comprises a number of component surveys. The ABS National Health Survey (NHS) and the National Nutrition and Physical Activity Survey (NNPAS) are used here, which survey approximately 3,000 and 1,500 people living in NSW biennially, respectively. Throughout this study, only adults aged 20 and older and living in NSW were included in the analysis.

Survey questions ranged from asking about any active transport in the last 24 hours or week, to number of trips and total walking time, to usual mode of transport to work. A full list of survey questions analysed can be found in table 1. A number of binary indicator variables were derived and population prevalence estimates and 95% confidence intervals were calculated. Results for continuous variables are reported as medians and interquartile ranges. Estimates were compared across time within and across surveys.

Key Findings

Household Travel Survey 2000-2014

Prevalence of active transport indicators in the Household Travel Survey are shown in [Table 1](#) and [Figure 1](#). Prevalence of any walking in the previous 24 hours significantly increased from 32.4% (95% CI 31.6-33.1%) in 2000-2002 to 35.5% (95% CI 34.7-36.2%) in 2011-2014 ($p = 0.03$). Prevalence of at least one walk trip to/from work in the previous 24 hours, prevalence of health enhancing walking, sufficient walking, and sufficient health enhancing walking increased slightly, but not significantly, over the study period. The number of walk trips and total walk time in the last 24 hours were unchanged at medians of zero.

Prevalence of any cycling increased from 0.9% (95% CI 0.8-1.1%) in 2000-2002 to 1.3% (95% CI 1.1-1.5%) in 2011-2014 ($p < 0.001$, [Table 1](#)).

[Figure 2](#)). Prevalence of ‘desirable cycling’, defined as cycling for at least 30 minutes or more than three trips in 24 hours, significantly increased from 0.6% (95% CI 0.5-0.8%) to 1.0% (95% CI 0.9-1.2%) over the same period ($p < 0.001$). These increases were statistically significant, however, in absolute terms represent a small increase in cycling. There were no significant changes in prevalence of taking short (<3km) or medium (<5km) cycling trips throughout the period. The median number of bike trips were unchanged at zero trips.

NSW Population Health Survey 2002-2015

The proportion of people who usually walk to work increased from 4.5% (95% CI 3.7-5.3%) in 2006 to 5.3% (95% CI 4.1-6.4%) in 2015, although this was not statistically significant ([Table 1](#), [Figure 3](#)). The proportion of people who usually walk part of the way to work increased from 3.4% (95% CI 2.6-4.2%) in 2006 to 5.6% (95% CI 4.5-6.8%) in 2015. (Note that data integrity issues are a concern for these indicators prior to 2006). The prevalence of cycling to work was 1.2% (95% CI 0.8-1.5%) in 2002 and 1.5% (95% CI 0.9-2.1%) in 2015 ([Figure 3](#)).

Australian Health Survey 2011-2015

The median number of minutes spent walking for transport in the previous week remained unchanged at 30 minutes for 2011-2012 and 2014-2015 (IQRs 0-105 and 0-120 minutes, respectively, [Table 1](#)). Similarly, the median number of times walked for transport for at least ten minutes in the last week remained at 2 in 2011-2012 and 2014-2015 (IQR 0-5 for both). Prevalence of any walking for transport was 59.1% (95% CI 57.5-60.7%) in 2011-2012 and 59.0% (95% CI 57.0-61.1%) in 2014-2015, as calculated from the core component of the Australian Health Survey, and 74.0% (95% CI 71.7-76.2%) from the National Nutrition and Physical Activity Survey (2011-2012 only). Note that this difference between the two component surveys reflects a difference in the way the question is asked, with the core component asking about total minutes spent walking for transport in last week, and the National Nutrition and Physical Activity Survey asking participants to report their mode(s) of transport in the last week.

Discussion of findings

Overall, the prevalence of active travel in NSW has remained stable, although some have exhibited small increases. The proportion of people who walk part of the way to work appears to have increased between 2006—2015. The prevalence of any cycling and desirable cycling have

also increased over 2000—2014. However, prevalence of health-enhancing walking and sufficient walking, and taking short to medium cycling trips, have remained at a similar rate between 2000-2014¹, according to the Household Travel Survey, as has the prevalence of usually walking only to work, according to the Population Health Survey (2006-2015).

The prevalence of any walking for transport significantly increased between 2000 and 2014, by more than three percentage points (9.6% increase), according to the HTS, although this was not reflected in the Australian Health Survey for the years 2011-2012 to 2014-2015, which remained unchanged at 59%. These prevalence estimates of any walking for transport were substantially higher from the Australian Health Survey than the Household Travel Survey data (e.g. 35.5% from the HTS in 2014 compared to 59.1% from the AHS in 2014-2015), and showed a significant increase in the HTS whereas the AHS showed no change. This likely reflects the different study period (two estimates over 5 years for the AHS compared to five estimates over 14 years for the HTS), as well as different reference periods and questions used, with the HTS question asking about the number of walk trips in the last 24 hours, and the AHS asking about the number of minutes walking for transport in the previous week. Longer reference periods may be less sensitive to slight increases in walking frequency.

The prevalence of walking for transport was more than three times higher than the prevalence of making at least one walk trip to or from work in the last 24 hours (figure 1). This suggests that the majority of walking for transport is not to and from work, but may be for shopping, social or recreational activities.

While only six of the 19 measures of active transport trends in this report have shown a significant increase, elsewhere in Australia and overseas, active transport is declining. Active transport declined throughout Australia from the mid-1970s until the 2000s.^{5,6} Declines in active travel have also been observed in Victoria during 2001 to 2006⁸, and remained constant in the USA between 2002 and 2009⁹. Our findings show that NSW has avoided a continuing decline in adult active travel.

One of the strengths of this study is the multiple survey approach, using data collected over 15 years, which has resulted in a large, robust data set. Despite different questions and reference periods, this study found similar magnitudes of change, leading to the same overall conclusion, that active transport in NSW is generally stable, with slight increases in some measures.

¹ Analysed as three year periods, 2000-2002 and 2011-2014

However, the study was limited by having data only from between one and two survey periods for the component surveys of the Australian Health Survey. Further, some of the questions may have changed over the years, and there were data integrity concerns on walking for travel from the Population Health Survey for the years 2002 to 2005.

Conclusions

Active travel by adults has remained relatively constant in New South Wales over the period 2000—2015. Six out of the 19 trend indicators showed small to moderate increases, while the remaining active travel indicators remained constant over the study periods. Policies aimed at increasing active travel in NSW may be associated with a levelling-out of the decline observed in Australia from the mid-1970s to early 2000s, as well as some small observable increases in some active travel measures. However, much more needs to be done to substantially increase active travel in NSW.

Table 1 Survey questions related to active travel in three Australian health surveys, used to measure active travel in metropolitan NSW, 2000-2015. Results are reported for people aged 20 years and older

Survey	Survey collection years	Active travel measure	Reference period for question	Measure obtained	Results for start/end of period	p-value ^a
Household Travel Survey (n = 89,474)^b	2000–14	Any walking for transport	24 hrs	prevalence	32.4 – 35.5%	0.029*
		Health-enhancing walking ^e	24 hrs	prevalence	20.2 – 21.9%	0.387
		Sufficient walking ^f	24 hrs	prevalence	14.9 – 16.0%	0.763
		Sufficient health-enhancing walking ^g	24 hrs	prevalence	11.8 – 12.8%	0.995
		Any walking to/from work	24 hrs	prevalence	8.7 – 9.2%	0.717
		Number of walk trips ^h	24 hrs	median (IQR)	0 (0-2) – 0 (0-2)	–
		Total walk time (min)	24 hrs	median (IQR)	0 (0-9.7) – 0 (0-12.3)	–
		Any cycle trip	24 hrs	prevalence	0.9 – 1.3%	<0.001*
		Short cycle trips (≤3km)	24 hrs	prevalence	0.6 – 0.6%	0.883
		Medium cycle trips (≤5km)	24 hrs	prevalence	0.7 – 0.8%	0.281
		Cycling 30 min or > 3 trips	24 hrs	prevalence	0.6 – 1.0%	<0.001*
		Number of cycling trips	24 hrs	Median (IQR)	0 (0-0) – 0 (0-0)	–
NSW Population Health Survey (n = 64,422)	2002–15	Usual transport to work: walk only	—	prevalence	4.5 – 5.3% ⁱ	0.473
		Usual transport to work: Walk part of the way	—	prevalence	3.4 – 5.6% ⁱ	<0.001*
		Usual transport to work: walk at least part of the way	—	prevalence	6.4 – 10.9%	<0.001*
		Usual transport to work: Cycle	—	prevalence	1.2 – 1.5%	0.021*
Australian Health Survey Core Content/National Health Survey^c (n = 6197)	2011–12, 2014–15	Total walk time	in last week	median	30 – 30 min	–
		Any walking	in last week	prevalence	59.1 – 59.0%	0.949 ^j
		Number of walk trips at least 10 minutes in duration	in last week	median	2 – 2 min	–
National Nutrition and Physical Activity Survey (n = 1478)^d	2011–2012	Any active travel	in last week	Prevalence	74.7%	–
		Any walking for transport	in last week	Prevalence	74.0%	–
		Any cycling for transport	in last week	Prevalence	5.0%	–

* statistically significant

^a Cochran-Armitage test for trend, with the exception of those denoted with ^j which used chi-square test.

^b HTS data were pooled into 3-year periods in order to apply Transport for NSW's statistical weighting method.

^c 2011—12 estimates were obtained using data from core content survey component and 2014—15 estimates were obtained using the National Health Survey component.

^d Not a trend indicator - no comparison over time (results for 2011-2012 only).

^e Health-enhancing walking: ≥ 1 walk trip ≥ 10 minutes in duration.

^f Sufficient walking: ≥ 30 minutes total walking

^g Sufficient health-enhancing walking: ≥ 30 minutes walking from walk trips ≥ 10 minutes in duration

^h Walk trips of ten minutes or longer.

ⁱ Estimates exclude data for 2002—2004 due to data quality concerns.

IQR = interquartile range.

Figure 1 Estimated prevalence of walking-related active transport indicators from the Household Travel Survey among adults aged 20 years and older in Sydney Greater Metro Area, 2002-2014. Reference period for all indicators is the 24 hours prior to survey.

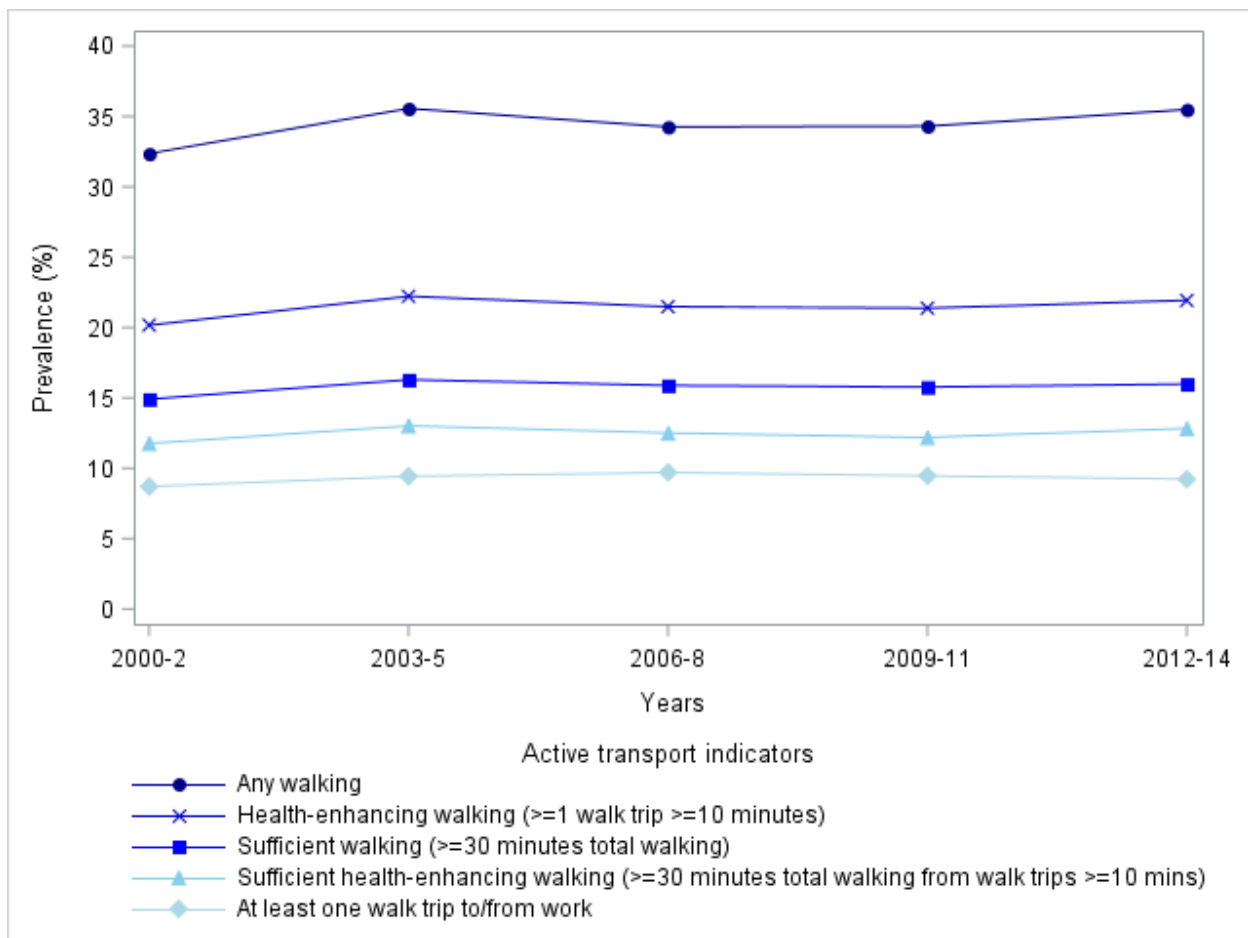


Figure 2 Estimated prevalence of cycling-related active transport indicators from the Household Travel Survey among people of aged 20 and older in Sydney Greater Metro Area, 2002—2014. Reference period for all indicators is the 24 hours prior to survey.

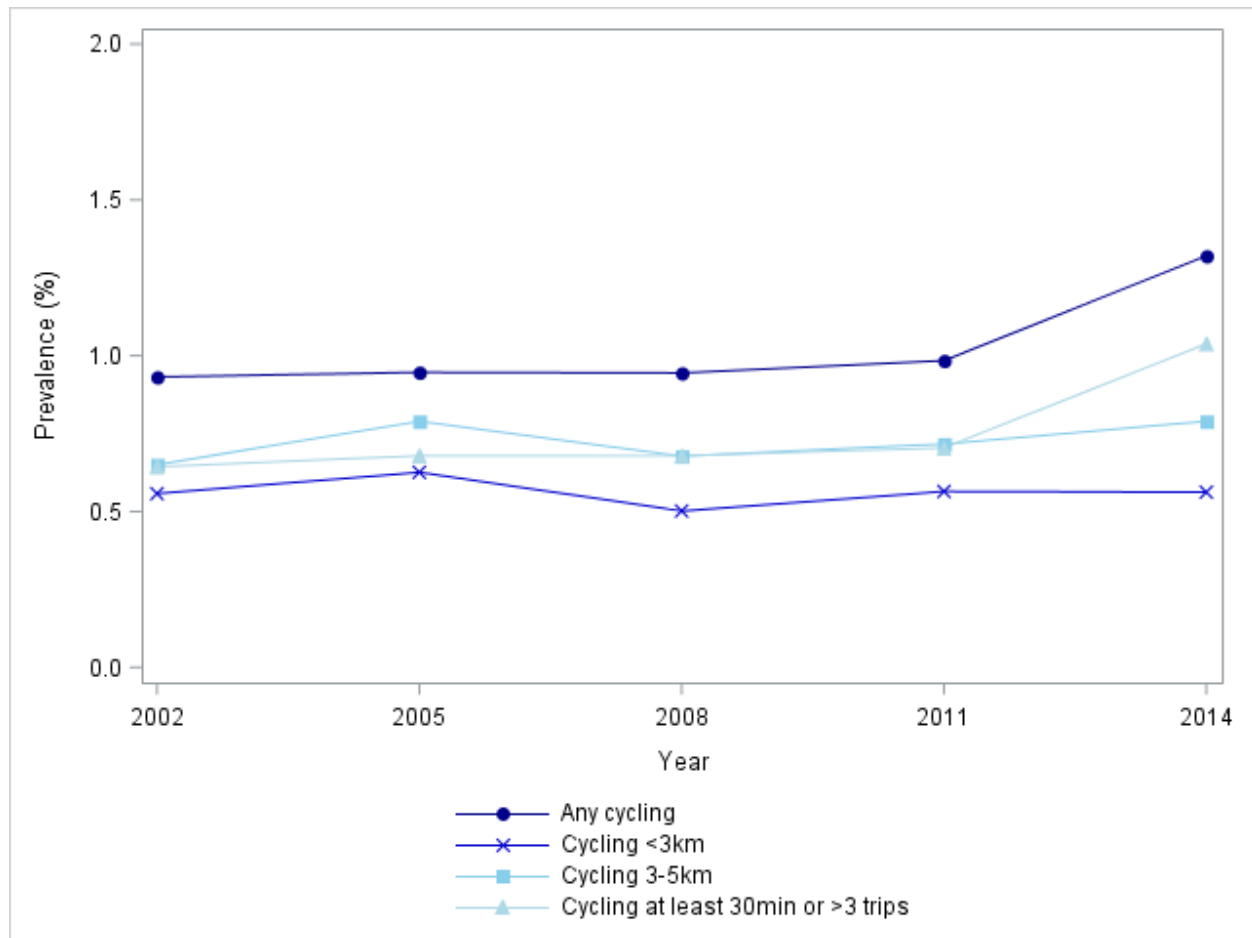
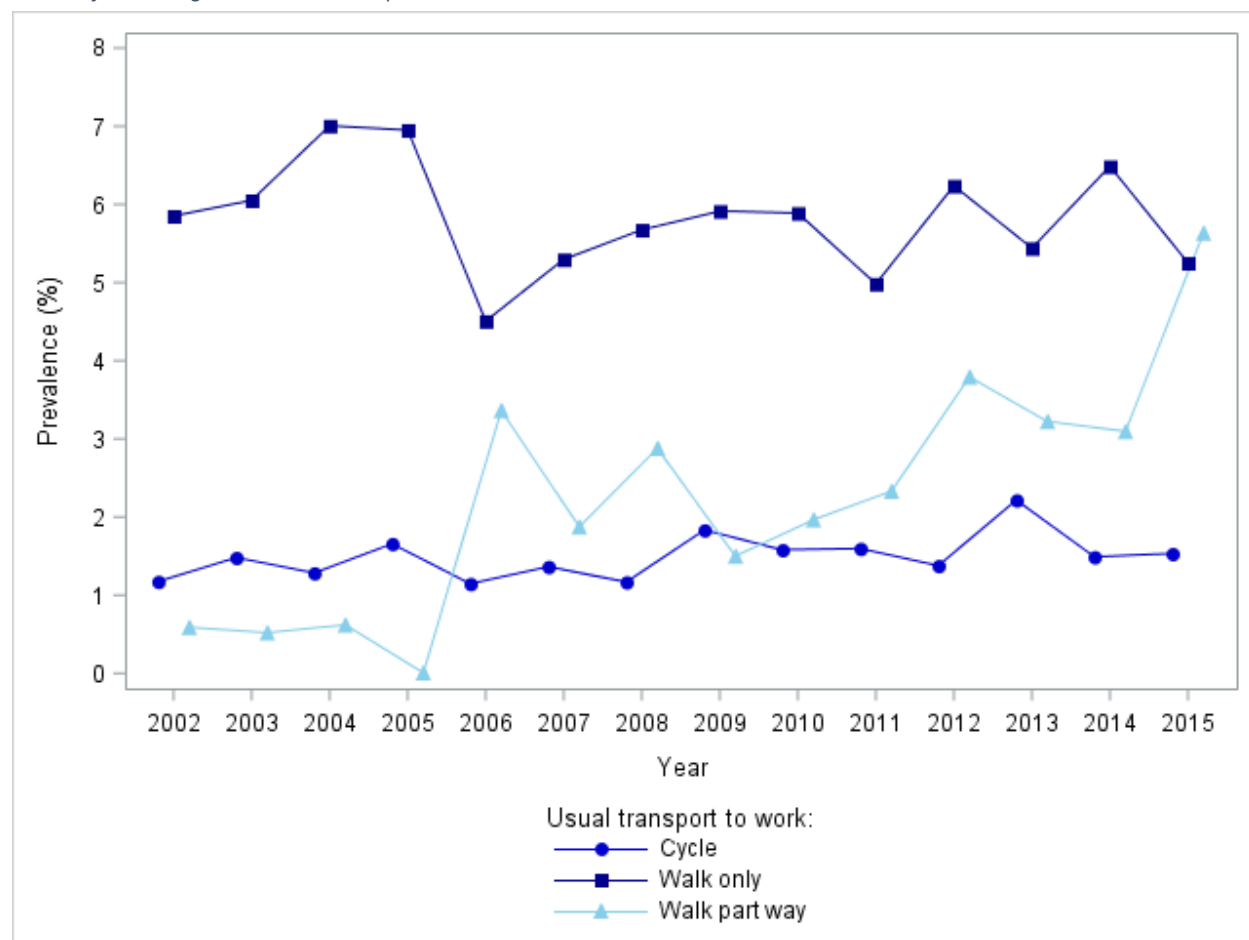


Figure 3 Estimated prevalence of active transport "usually" taken to work from the NSW Population Health Survey among adults aged 20 years and older in major cities/inner regional areas of NSW, 2002–2015. Note that data integrity issues are a concern for walking-related indicators prior to 2006.



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