

## Increase in cycling to work in Sydney: analysis of journey-to-work Census data from 1996 and 2001

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Reports indicate that cycling has increased among residents of Perth, Western Australia, and that bicycle ownership among Sydney residents increased between 1991 and 2001 by 40%.<sup>1,2,3</sup> Anecdotal reports from local bicycle user groups (BUGs) suggest that more people are cycling in inner Sydney in recent years. To investigate this claim and determine current levels of cycling, we analysed journey-to-work (JTW) data from the 1996 and 2001 Australian Census of Health and Housing, collected from people whose journey-to-work origin or destination was a Statistical Local Area (SLA) in Sydney or the greater metropolitan region. These data were purchased from the Australian Bureau of Statistics. Use of a bicycle on any part of the journey to work was coded as 'bicycle used'. SLAs of Sydney, the Blue Mountains, Newcastle and Wollongong were coded as inner Sydney if they were within 10 kilometres of Central Station in Sydney, outer Sydney for the remaining Sydney SLAs and the rest as the greater metropolitan region (the Blue Mountains SLA was included in this group). To identify inner Sydney SLAs, we used a suburban Sydney Gregory's map and a compass to plot and demarcate all suburbs that were in and outside a 10-kilometre radius of Sydney Central Station.<sup>4</sup>

Overall, the number of people cycling on their journey to work in the combined Sydney and greater metropolitan region increased from 13,138 on the day of the 1996 Census to 15,526 on the day of the 2001 Census, an overall increase of 18%.<sup>5</sup> It is unlikely that this increase is solely due to an increase in the working population in the combined Sydney and greater metropolitan region as the total number of people journeying to work in 1996 (1,682,867) and 2001 (1,875,865) increased by only 11%. Between 1996 and 2001 there was also an increase in the proportion of people cycling on the journey to work in the combined Sydney and greater metropolitan region from 0.78% to 0.83% of commuters. These increases mainly occurred

**Table 1: Proportion of commuters from inner Sydney, outer Sydney and greater metropolitan region SLAs who cycle on the journey to work, and the number of commuters cycling to those destinations at the 1996 and 2001 Censuses.**

Australian Census of Health and Housing, 'journey to work' origin and destination data, 1996 and 2001	Inner Sydney <sup>a</sup>	Outer Sydney <sup>b</sup>	Greater metro region <sup>c</sup>	Other	Total
Bicycle used on journey to work 1996	3,205	5,237	4,696	0	13,138
Bicycle mode share (%) 1996	0.79%	0.58%	1.28%	0	0.78%
Bicycle used on journey to work 2001	5,216	5,461	4,432	417	15,526
Bicycle mode share (%) 2001	1.21%	0.55%	1.12%	0.70%	0.83%
Bicycle mode share: relative change 1996 to 2001 (%)	+53%	-5%	-12.5%	n/a	+6%
Number of commuters cycling to each area 1996	3,394	4,681	4,270	0	12,345
Number of commuters cycling to each area 2001	5,463	4,794	3,939	1,330	15,526
Number of commuters cycling to each area: change 1996 to 2001 (%)	+61%	+2%	-8%	n/a	26%

(a) Statistical Local Areas within 10 km of Sydney Central Station.

(b) Statistical Local Areas of metropolitan Sydney more than 10 km from Sydney Central Station.

(c) Includes the Blue Mountains SLA

among commuters living in or traveling to work in inner Sydney (see Table 1).

Among commuters living in inner Sydney, the proportion using a bicycle on the journey to work increased from 0.79% at the 1996 Census to 1.21% at the 2001 Census, a relative increase of 53%. There was a corresponding increase of 61% in the number of commuters cycling to a destination in inner Sydney, a change from 3,394 people in 1996 to 5,463 people in 2001. A reverse trend was noted in outer Sydney and greater metropolitan region SLAs.

That a greater number of people are cycling to work destinations in inner Sydney could indicate an increased need for end-of-cycling-trip facilities in inner Sydney, such as secure bicycle storage, shower, change room and ironing facilities in work places.

That a lesser proportion of trips to work are by bicycle in outer Sydney and the greater metropolitan region may be due to increases in average distances travelled to work by residents of these regions or perhaps to a perception of a hostile road environment. In addition, there may be fewer end-of-cycling-trip facilities available to people commuting to work in outer Sydney and the greater metropolitan region and fewer seamless passenger transport connections, relative to what may be available to inner Sydney workers. The extent to which planning for or expenditure on cycling infrastructure, by both local governments and the NSW Roads and Traffic Authority (RTA), differs between inner Sydney, outer Sydney and the greater metropolitan region SLAs is unknown and worthy of exploration. The relative activity level of cycling-related agencies such as bicycle user groups, health promotion units and public health units in different SLAs is also unknown.

Reasons explaining the increase in cycling in the inner Sydney areas are speculative without additional data or adjustment for effects of potential confounders. However, possible reasons include:

- An increased awareness among the inner Sydney population of the personal health benefits of cycling and a desire to improve or maintain physical fitness.
- A distance to work (up to 5 or 10 kms) that can be readily cycled.
- The existence and promotion of quiet back-streets routes<sup>6</sup> and off-road cycle-paths that make commuting a reasonable option.
- Traffic congestion in the inner Sydney areas that contributes to making cycling as quick as driving.
- High levels of local advocacy by bicycle user groups for better facilities and road treatments for bicycles.
- Better end-of-trip facilities.
- Preference for an urban lifestyle that is conducive to walking and cycling.

We recommend that further research be undertaken to better explain cycling predictors in Sydney and the greater metropolitan region. Cycling in general needs to be encouraged by state and local governments through the provision of more off-road and on-road cycle paths, provision of better end-of-trip facilities at common work destinations, and provision of better passenger transport connections. It is likely that there are many people who would consider cycling to work if safety and facilities for cyclists were improved. Once people have a more supportive cycling environment and facilities to encourage them to cycle to work, this will ease pressure on roads, public transport and car parks.

## References

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