

Walking to work in Sydney: analysis of journey-to-work Census data from 2001 to 2011

March 2013

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Suggested citation:

Zander A, Rissel C, Rogers K & Bauman A. *Walking to work in Sydney: analysis of journey-to-work Census data from 2001 and 2011*. Camperdown: Prevention Research Collaboration, The University of Sydney, March 2013.

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Executive summary

Walking is the most popular physical activity in Australia, and it is safe and suitable for a broad range of people. Walking to work is one way to incorporate physical activity into the daily routine, and is therefore likely to be both regular and sustained.

These analyses examine the levels of walking to work in Sydney between the 2001, 2006 and 2011 Census. Data on the journey to work were purchased from the Australian Bureau of Statistics. Local Government Areas (LGAs) in the Sydney area were coded as inner Sydney if they were within 10 kilometres of Central Station in Sydney, outer Sydney for the remaining Sydney LGAs and the rest as the Greater Metropolitan Region including the LGAs of Newcastle and Wollongong.

Sydney

The proportion of people walking to work in the combined Sydney and Greater Metropolitan Region rose just 3% (relative change) between 2001 and 2011, from 4.38% in 2001 to 4.52% in 2011. While the number of people walking rose by 20% in that time (from 78,941 in 2001 to 94,982 in 2011), this increase reflects an increase in the total number of people travelling to work, rather than the proportion of people walking.

In 2011, 10.12% of all trips to work in inner Sydney were made by walking, compared with 2.59% in outer Sydney and 2.94% in the Greater Metropolitan Region.

The gains in inner Sydney between 2001 and 2011 (relative proportion of walkers up 16%) were mitigated by the drop in walking in outer Sydney (relative proportion down 7%) and the Greater Metropolitan Region (relative proportion down 14%).

Inner Sydney

In 2011, over half (55%) of all people walking to work in the combined Sydney and Greater Metropolitan Region lived in inner Sydney, up from 49% in 2001. Between 2001 and 2011, both the number and proportion of walkers in this region rose, from 38,405 people in 2001 to 52,195 people in 2011 (36% relative increase), and from 8.71% of trips to work in 2001 to 10.12% in 2011 (up 16%).

Outer Sydney

While the total number of people walking to work in outer Sydney rose by 7% between 2001 and 2011 (from 26,954 to 28,772), the proportion of people walking to work fell by 7% (from 2.79% to 2.59%), indicating that the increase in total number of walkers represents an increase in the total number of journeys to work rather than in the proportion of walkers.

Greater Metropolitan Region

The proportion of people walking to work in the Greater Metropolitan Region fell by 14% between 2001 and 2011, from 3.44% to 2.94%. The total number of walkers stayed constant, from 13,582 in 2001 to 14,015 in 2011, up just 3%.

Past research shows that the built environment is particularly important for walking. Residential density, mixed land use and distance to non-residential destinations are important features, and most likely explain the increases in the inner city and decreases in the outer regions. Typically, LGAs in inner Sydney are more densely populated, contain mixed land usage and are therefore closer to workplaces and other destinations. Sydney LGA demonstrated clear increases both in overall walking and gain over time. New high-density, mixed land-use developments such as in Zetland are likely to

have contributed to this increase. Conversely, residential urban sprawl in Sydney's outer suburbs and Greater Metropolitan Region is likely to have negatively impacted walking in those areas.

This report shows that significant gains have been made in walking to work in inner Sydney, where resources have been invested to increase active transport over the past five years. Expected benefits include benefits to health, public amenity, traffic congestion and sustainability. Ongoing sustained effort will be needed to consolidate and further improve on these gains, and better planning and investment is needed in outer Sydney and the Greater Metropolitan Area to realize the same increases there.

Introduction

Regular physical activity has many well-proven health benefits, and walking in particular has been associated with lower BMI (1), and reduced risk of hypertension (2) and type II diabetes (3). The Australian Sports Commission's 2010 Exercise, Recreation and Sport Survey showed that walking is now the most popular physical activity in Australia (4), and walking is safe and suitable for a broad range of people who may not be able to take other forms of exercise. No special equipment or fitness club memberships are needed to participate, however just 35.9 % of the Australian adult population walked at least once for exercise, recreation or sport in the 12 months prior to the 2010 Exercise, Recreation and Sport Survey (4).

The NSW Government strategic document NSW 2021 includes a target to increase walking for short trips (5). The Draft Walking strategy for NSW (currently being written) will guide the NSW Government's investment in walking over the next 10 years - including but not restricted to improved planning and urban design for walking, safety and behaviour change programs. These documents signify the Government's commitment to increasing walking, and highlight significant ongoing investment in walking promotion.

Walking to work is one way to incorporate walking into peoples' everyday routine, and is therefore likely to be a form of exercise that is both regular and sustained. While a supportive built environment facilitates walking, individual factors are also important (6). Past research has shown that people who walk to work tend to live in small cities or rural areas, not own a car and live close to their workplaces (7). They are also more likely to be well educated (1), female and aged between 26-35 years (8). By understanding which locations have successfully increased walking in Sydney, we can begin to look at the characteristics of those areas, with the aim to create more places that facilitate and encourage walking.

This report uses the Australian Bureau of Statistics census data from 2001, 2006 and 2011 to present descriptive statistics on walking to work, including total number of walkers, rates of walking to work and trends in walking over time. Data are presented by Local Government Area (LGA) and also stratified by regions into: inner Sydney, outer Sydney and the Greater Metropolitan Region. Finally we highlight those LGAs where walking is increasing or decreasing.

Methods

Journey to work data from the 2001, 2006 and 2011 Australian Census of Population and Housing were purchased from the Australian Bureau of Statistics. The dataset included all respondents whose place of enumeration (the location where they spent Census night) was an LGA in Sydney or the Greater Metropolitan Region, and who answered the questions “How did the person get to work on Tuesday, 9 August 2011?” Respondents who selected that they worked at home or did not go to work were excluded. Those respondents who only ticked ‘walked’ were included in this dataset, thus excluding people who used multiple modes of transport including walking, most notably walking combined with public transport. These numbers therefore under-represent the total number of people who walk as part of their journey to work.

Local Government Areas were categorised into three groups; an inner Sydney LGA was mostly within a 10km radius of Sydney Central Station; an outer Sydney LGA was defined as a Sydney metropolitan LGA that is more than 10km from the Sydney Central Station. The Greater Metropolitan Region grouping comprised of all the other LGAs in the Greater Metropolitan Region (see Table 1). As there have been minor changes to LGA boundaries between 2001, 2006 and 2011, this analysis was done using current (2011) boundaries.

Data were analysed, using Microsoft Excel software, by individual LGA and the three regional groupings for 2001, 2006 and 2011. The proportion of people walking to work was calculated by dividing the number of journeys to work by walking by the total number of journeys to work. Relative change over time, used throughout the analysis, in number and proportion of people walking to work was calculated by dividing the difference at the two time points by the earlier time point.

In order to avoid release of identifiable Census data, the Australian Bureau of Statistics use a technique that slightly adjusts all cells to prevent any identifiable data being exposed. These adjustments result in small introduced random errors. However, the information provided in the table as a whole is not compromised (9).

Table 1. Local Government Areas (LGAs) of inner Sydney, outer Sydney and the Greater Metropolitan Region

Inner Sydney LGAs*	Outer Sydney LGAs**	Greater Metropolitan Region LGAs
Ashfield	Auburn	Blue Mountains
Botany Bay	Bankstown	Cessnock
Burwood	The Hills Shire	Gosford
Canada Bay	Blacktown	Hawkesbury
Canterbury	Camden	Kiama
Hunters Hill	Campbelltown	Lake Macquarie
Lane Cove	Fairfield	Maitland
Leichhardt	Holroyd	Newcastle
Marrickville	Hornsby	Port Stephens
Mosman	Hurstville	Shellharbour
North Sydney	Kogarah	Shoalhaven
Randwick	Ku-ring-gai	Wollongong
Rockdale	Liverpool	Wyong
Sydney	Manly	
Waverley	Parramatta	
Willoughby	Penrith	
Woollahra	Pittwater	
	Ryde	
	Strathfield	
	Sutherland	
	Warringah	
	Wingecarribee	
	Wollondilly	

* Inner Sydney LGA defined as a LGA that is mostly within a 10km radius of Sydney Central Station.

** Outer Sydney LGA defined as LGA for Sydney metropolitan area that is more than 10km from Sydney Central Station.

Results

Sydney

The proportion of people walking to work in the combined Sydney and Greater Metropolitan Region rose just 3.20% (CI 3.15%-3.24%) (relative increase) between 2001 and 2011, from 4.38% in 2001 to 4.52% in 2011. While the number of people walking rose by 20.3% (CI 19.9%-20.8%) in that time (from 78,941 in 2001 to 94,982 in 2011), this increase reflects an increase in the total number of people travelling to work, rather than the proportion of people walking.

In 2011, 10.12% of trips to work in inner Sydney were made by walking, compared with 2.59% in Outer Sydney and 2.94% in the Greater Metropolitan Region.

The gains made in inner Sydney between 2001 and 2011 in walking to work (proportion of walkers up 16%; CI 16.0%-16.3%) were mitigated by the drop in walking in outer Sydney (proportion down 7%; CI -7.1%--7.0%), and the Greater Metropolitan Region (proportion down 14%; CI -14%--14%).

Inner Sydney

In 2011, over half (55%) of all people walking to work in the combined Sydney and Greater Metropolitan Region lived in inner Sydney, up from 49% in 2001. Between 2001 and 2011, both the number and proportion of walkers in this region rose, from 38,405 people in 2001 to 52,195 people in 2011 (36% increase; CI 35.3%-36.6%), and from 8.71% of trips to work in 2001 to 10.12% in 2011 (up 16%; CI 16.0%-16.3%).

Outer Sydney

While the total number of people walking to work in outer Sydney rose by 7% between 2001 and 2011 (from 26,954 to 28,772; CI 5.9%-7.6%), the proportion of people walking to work fell by 7% (from 2.79% to 2.59%; CI -7.1%--7.0%), indicating that the increase in total number of walkers represents an increase in the total number of journeys to work rather than in the proportion of walkers.

Greater Metropolitan Region

The proportion of people walking to work in the Greater Metropolitan Region fell by 14% (CI -14%--14%) between 2001 and 2011, from 3.44% to 2.94%. The total number of walkers stayed constant, from 13,582 in 2001 to 14,015 in 2011, up just 3% (CI 3.0%-4.4%).

Inner Sydney Local Government Areas

On census day 2011, half (25,851) of the 52,195 people who walked to work in inner Sydney were from Sydney LGA, and a further 9% (4,510) were from North Sydney LGA. These two LGAs had the highest proportion of people walking to work of any combined Sydney and Greater Metropolitan Region LGAs with 28.9% and 13.68% of trips to work made by walking respectively. Woollahra LGA, also in inner Sydney, also had above 10% of walkers with 10.30%.

Between 2001 and 2011, the number of people walking to work in Sydney LGA rose by 75% (CI 74%-76%), from 14,770 to 25,851, the highest by far of any LGA, and the proportion of walkers rose by 15% (CI 15%-16%), from 25.05% to 28.90%. Both the number and proportion of walkers also rose substantially in Randwick LGA (number up 23%; CI 20%-25% from 3,124 to 3,827, proportion up 12%; CI 12%-13%, from 6.29% to 7.08%) and Woollahra LGA (number up 14%; CI 11%-17%, from 1,989 to 2,265 proportion up 11%; CI 10%-11%, from 9.31% to 10.30%). In Rockdale LGA, the

proportion of walkers fell by 14% (CI -14%--15%), from 3.72% to 3.19% and in Canturbury LGA, the number fell by 13% (CI -17%--9.2%), from 1,472 to 1,282 and the proportion by 22% (CI -22%--22%), from 3.41% to 2.66% (Table 2).

Table 2. Journey to work by walking only in inner Sydney Local Government Areas in 2001, 2006 and 2011 (enumerated count)

	2001			2006			2011			2001-2011	
	Walked to work	% of walking trips to work	All trips to work*	Walked to work	% of walking trips to work	All trips to work*	Walked to work	% of walking trips to work	All trips to work*	% Change in number of walkers	Relative change in % walkers
LGA10150 Ashfield (A)	720	4.54%	15864	881	5.35%	16465	795	4.43%	17926	10%	-2%
LGA11100 Botany Bay (C)	946	6.71%	14088	950	6.47%	14694	1014	6.17%	16447	7%	-8%
LGA11300 Burwood (A)	544	5.03%	10806	666	5.69%	11705	702	5.32%	13206	29%	6%
LGA11520 Canada Bay (A)	714	2.73%	26180	908	3.15%	28822	991	2.99%	33183	39%	10%
LGA11550 Canterbury (C)	1472	3.41%	43168	1381	3.15%	43871	1282	2.66%	48108	-13%	-22%
LGA14100 Hunters Hill (A)	146	3.23%	4523	147	3.20%	4592	152	3.13%	4864	4%	-3%
LGA14700 Lane Cove (A)	874	6.44%	13568	875	6.65%	13158	800	5.63%	14208	-8%	-13%
LGA14800 Leichhardt (A)	1418	5.79%	24510	1536	6.47%	23743	1553	6.18%	25138	10%	7%
LGA15200 Marrickville (A)	2096	6.55%	32024	2201	6.84%	32168	2280	6.36%	35840	9%	-3%
LGA15350 Mosman (A)	557	4.98%	11178	617	5.74%	10751	629	5.67%	11091	13%	14%
LGA15950 North Sydney (A)	4074	13.60%	29950	4344	14.22%	30543	4510	13.68%	32970	11%	1%
LGA16550 Randwick (C)	3124	6.29%	49646	3737	7.45%	50193	3827	7.08%	54078	23%	12%
LGA16650 Rockdale (C)	1239	3.72%	33278	1400	3.90%	35903	1266	3.19%	39680	2%	-14%
LGA17200 Sydney (C)	14770	25.05%	58964	20111	28.27%	71138	25851	28.90%	89459	75%	15%
LGA18050 Waverley (A)	1690	6.31%	26790	1704	6.77%	25184	1824	6.31%	28892	8%	0%
LGA18250 Willoughby (C)	2032	8.18%	24830	2439	9.16%	26641	2454	8.58%	28588	21%	5%
LGA18500 Woollahra (A)	1989	9.31%	21361	2122	10.29%	20623	2265	10.30%	21981	14%	11%
TOTAL INNER SYDNEY LGAs	38405	8.71%	440728	46019	10.00%	460194	52195	10.12%	515659	36% CI 25.3%- 36.6%	16% CI 16.0%- 16.3%

Outer Sydney Local Government Areas

Kogarah, Pittwater and Ryde all saw substantial increases in both the number (41%; CI 36%-46%, 22%; CI 17%-27% and 20%; CI 17%-23% increases respectively) and proportion (19%; CI 18%-19%, 18%; CI 17%-18% and 9%; CI 8.7%-9.2% increases respectively) of people walking to work between 2001 and 2011; however both the number and proportion of walkers per LGA was substantially lower than in the inner Sydney region.

Despite good increases in some areas, 16 of the 23 LGAs in this region showed a decline in the proportion of people walking to work, ranging from a 4% decline in Manly LGA (CI -4.4%--3.4%) to 31% decline in Wollondilly LGA (CI -31%--31%) (Table 3).

Table 3. Journey to work by walking only in outer Sydney Local Government Areas in 2001, 2006 and 2011 (enumerated count)

	2001			2006			2011			2001-2011	
	Walked to work	% of walking trips to work	All trips to work*	Walked to work	% of walking trips to work	All trips to work*	Walked to work	% of walking trips to work	All trips to work*	% Change in number of walkers	Relative change in % walkers
LGA10200 Auburn (C)	646	3.84%	16810	807	3.94%	20506	862	3.29%	26174	33%	-14%
LGA10350 Bankstown (C)	1437	2.56%	56188	1465	2.59%	56665	1289	2.10%	61411	-10%	-18%
LGA10750 Blacktown (C)	1879	2.00%	94135	1910	1.87%	102246	1710	1.45%	117716	-9%	-27%
LGA11450 Camden (A)	314	1.75%	17944	330	1.61%	20522	328	1.35%	24266	4%	-23%
LGA11500 Campbelltown (C)	1021	1.94%	52750	1000	1.85%	54183	881	1.56%	56580	-14%	-20%
LGA12850 Fairfield (C)	1158	2.04%	56709	1192	2.07%	57616	1166	1.91%	60955	1%	-6%
LGA13950 Holroyd (C)	904	2.81%	32200	957	2.87%	33345	903	2.41%	37441	0%	-14%
LGA14000 Hornsby (A)	1830	3.07%	59554	2100	3.39%	61990	2082	3.18%	65525	14%	3%
LGA14150 Hurstville (C)	884	3.24%	27251	967	3.37%	28695	894	2.81%	31762	1%	-13%
LGA14450 Kogarah (C)	655	3.32%	19715	883	4.17%	21161	926	3.94%	23520	41%	19%
LGA14500 Ku-ring-gai (A)	913	2.50%	36581	1019	2.77%	36845	1025	2.53%	40503	12%	1%
LGA14900 Liverpool (C)	1647	2.97%	55417	1686	2.87%	58801	1699	2.59%	65638	3%	-13%
LGA15150 Manly (A)	922	5.97%	15441	1017	6.72%	15133	983	5.74%	17125	7%	-4%
LGA16250 Parramatta (C)	2510	4.74%	52962	2933	5.21%	56263	2970	4.51%	65913	18%	-5%
LGA16350 Penrith (C)	1465	2.14%	68411	1541	2.19%	70353	1350	1.80%	74907	-8%	-16%
LGA16370 Pittwater (A)	705	3.23%	21847	731	3.48%	21025	858	3.80%	22585	22%	18%
LGA16700 Ryde (C)	1626	4.08%	39806	1722	4.31%	39926	1951	4.45%	43835	20%	9%
LGA17100 Strathfield (A)	380	3.74%	10158	460	3.81%	12059	451	3.12%	14458	19%	-17%
LGA17150 Sutherland Shire (A)	1992	2.26%	88132	2410	2.73%	88195	2173	2.35%	92288	9%	4%
LGA17420 The Hills Shire (A)	1070	1.74%	61380	1158	1.67%	69312	1063	1.45%	73235	-1%	-17%
LGA18000 Warringah (A)	1932	3.47%	55747	2269	3.96%	57333	2210	3.65%	60556	14%	5%
LGA18350 Wingecarribee (A)	694	5.35%	12969	710	5.09%	13938	678	4.50%	15080	-2%	-16%
LGA18400 Wollondilly (A)	370	2.67%	13866	414	2.64%	15668	320	1.84%	17421	-14%	-31%
TOTAL OUTER SYDNEY LGAS	26954	2.79%	965973	29681	2.93%	1011780	28772	2.59%	1108894	7% CI 5.9%- 7.6%	-7% CI -7.1%— 7.0%

Greater Metropolitan Region Local Government Areas

All LGAs in the Greater Metropolitan Region experienced a drop in proportion of people walking to work between 2001 and 2011. LGAs with the largest drops were Wyong (-32%; CI -32%--32%), Cessnock (-28%; CI -28%--27%), Maitland (-26%; CI -27%--26%), Blue Mountains (-25%; CI -25%--24%) and Port Stephens (-23%; CI -23%--22%).

In 2011, both Newcastle and Wollongong LGAs had over 2,500 people walking to work, accounting for 37% of the 14,015 total walkers in this region. While the total number of walkers in these two LGAs rose by 24% (CI 21%-27%) and 8% (CI 5%-11%) respectively (the highest for the Greater Metropolitan Region), the proportion of people walking to work has not kept pace, with both LGAs showing a drop of 5% between 2001 and 2011 (CIs -4.8%--4.3% and -5.4%--4.9% respectively) (Table 4).

Table 4. Journey to work by walking only in Greater Metropolitan Region Local Government Areas in 2001, 2006 and 2011 (enumerated count)

	2001			2006			2011			2001-2011	
	Walked to work	% of walking trips to work	All trips to work*	Walked to work	% of walking trips to work	All trips to work*	Walked to work	% of walking trips to work	All trips to work*	% Change in number of walkers	Relative change in % walkers
LGA10900 Blue Mountains (C)	1078	3.99%	27009	978	3.57%	27413	839	3.01%	27847	-22%	-25%
LGA11720 Cessnock (C)	466	3.69%	12624	472	3.33%	14189	455	2.66%	17078	-2%	-28%
LGA13100 Gosford (C)	1424	2.82%	50562	1425	2.70%	52817	1378	2.43%	56704	-3%	-14%
LGA13800 Hawkesbury (C)	891	3.73%	23887	949	3.89%	24394	870	3.34%	26029	-2%	-10%
LGA14400 Kiama (A)	257	4.18%	6153	261	4.02%	6496	274	3.87%	7085	7%	-7%
LGA14650 Lake Macquarie (C)	1190	2.10%	56783	1245	2.02%	61671	1234	1.80%	68560	4%	-14%
LGA15050 Maitland (C)	475	2.66%	17870	527	2.41%	21903	508	1.95%	25985	7%	-26%
LGA15900 Newcastle (C)	2145	4.76%	45018	2751	5.41%	50874	2665	4.55%	58581	24%	-5%
LGA16400 Port Stephens (A)	748	4.51%	16593	851	4.50%	18903	752	3.48%	21598	1%	-23%
LGA16900 Shellharbour (C)	388	2.06%	18859	408	1.98%	20634	404	1.77%	22796	4%	-14%
LGA16950 Shoalhaven (C)	1100	5.13%	21460	1189	4.93%	24141	1161	4.36%	26608	6%	-15%
LGA18450 Wollongong (C)	2380	3.93%	60489	2475	3.92%	63179	2565	3.73%	68736	8%	-5%
LGA18550 Wyong (A)	1040	2.73%	38063	989	2.29%	43127	910	1.86%	48949	-13%	-32%
TOTAL Greater Metropolitan Region LGAS	13582	3.44%	395370	14520	3.38%	429741	14015	2.94%	476556	3% CI 2.0%-4.4%	-14% CI -14%--14%

Discussion

The proportion of people walking to work in the combined Sydney and Greater Metropolitan Region rose just 3% between 2001 and 2011. Inner Sydney performed strongly with almost five times the proportion of walkers on Census day compared with outer Sydney or the Greater Metropolitan Region, and a significant increase in walking since 2001. The rate of walking in outer Sydney has stayed stable since 2001 but decreased in every Greater Metropolitan Region LGA. Sydney LGA performed particularly well, accounting for both the largest proportion of walkers and the largest increase since 2011.

This large and comprehensive dataset is robust to individual fluctuations in walking behaviour, however results may be influenced by population-level variations in circumstances, for example bad weather or local events influencing transport choice on Census day. It is well known that walking is directly affected by rain and other weather variables. The Census was conducted in August, which is winter in Sydney, however the reported temperature in Sydney on Census day 2011 was 17.1 degrees Celsius and there was no rainfall (10), so the timing of this data collection is unlikely to have underestimated walking behaviour that year.

The Census does not ask about walking for recreation, sport or other utility journeys and therefore underestimates total walking. Past research has also shown that roughly half of all kilometres walked are associated with a public transport trip (11). As this dataset excluded all journeys with more than one mode of transport, it is likely to have significantly underestimated total transport walking.

Past research shows that the built environment is particularly important in encouraging walking. Residential density, mixed land use and distance to non-residential destinations are important features, and most likely explain the increases in the inner city and decreases in the outer regions. Route connectivity, parks and open space, and personal safety are likely also influential (12).

Distance between destinations is one of the most significant barriers to walking (13, 14). Actual or perceived trip distance is a significant influence on walking behaviour, and around 2 km is generally considered a walkable distance for walking-only journeys (15). For journeys involving public transport, 400-800 meters is used in many policy and planning frameworks internationally as a maximum distance people are prepared to walk (15); however some studies have found people will walk further (16-18).

Typically, LGAs in inner Sydney are more densely populated, contain mixed land usage and are therefore closer to workplaces and other destinations. Sydney LGA demonstrated clear increases both in overall walking and gain over time. New high-density, mixed land-use developments such as in Zetland are likely to have contributed to this increase. Conversely, residential urban sprawl in Sydney's outer suburbs and Greater Metropolitan Region is likely to have negatively impacted walking in those areas.

Traffic congestion and limited, priced parking also act as disincentives to driving in inner Sydney, particularly for short trips. Car ownership, a known correlate of walking, may also be lower in inner Sydney because of limited parking and good public transport links.

It should be noted that despite multiple strategies and programs, even in Sydney LGA, the top performer, the absolute proportion of walkers has increased just 3.9 percentage points since 2001, a proportion that may seem underwhelming in the context of resources devoted to the change.

The trends over time in walking in the three regions mirror very closely the trends for cycling over the same time period (19). It has been shown that places that spend more on cycling and walking have higher bicycle and walking mode share, and are safer places to cycle and walk (20-22). As previously mentioned, the City of Sydney in particular has invested significant resources into increasing active transport over the past five years, citing benefits to health, public amenity, traffic congestion and sustainability. This report shows that while significant gains have been made in walking to work in inner Sydney, much more work is needed before walking to work becomes a normalised mode of travel to work in the Sydney region. Ongoing sustained effort will be needed to consolidate and further improve on these gains, and better planning, investment and encouragement is needed in outer Sydney and the Greater Metropolitan Area to realize the same increases there.

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