The distribution of New South Wales' sign language users:
Analysis from the 1996 and 2006 census

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Prepared for the Deaf Society of New South Wales by Dr. Louisa Willoughby

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A note on the data source

Data in this report comes from the 1996, 2001 and 2006 Australian Census of Population and Housing (hereafter "the census"). Census data can be seen as the most authoritative data available on the composition of the signing population, because it surveys the entire Australian population rather than attempting to extrapolate trends from a small sample population. Despite this advantage, several caveats need to be borne in mind when interpreting the census data. Of these, perhaps the most important is that census questions about the language people use are in no ways crossed tabulated with data on disability. Thus there is no way of knowing the level of hearing loss (if any) of those who indicate they use a sign language on the census, although the phrasing of the question – "what language do you speak at home?" – does at least suggests that only people who use a sign language for a significant proportion of their household communication would list it on the census. This issue will be explored in more detail below, but for the moment the two important points to take away from this discussion are: 1. Sign language use should not be taken as an indication of deafness, though in many cases the two will go together 2.Hearing people who have learnt Auslan or another sign language solely through classroom interaction (e.g. those with no deaf family members) are not expected to count themselves as sign language users on the census.

For many ethnic groups the question of what to call the community's language, and indeed how much linguistic variation can be tolerated within the one language, is a moot point (c.f. Terborg and Ryan 2002, various papers in Freeland and Patrick 2001). Within the Australian Deaf community, there is strong consensus that Auslan is the preferred name for the Australian sign language variety, however, this name has only been widely used outside the Deaf community since the 1990s[1]. Thus older signers, or those who are unsure that their interlocutor will know what they mean by Auslan, may refer to their language as simply "sign language", or they may use a third term altogether. These different naming practices raise the issue of whether responses of "Auslan" and "sign language" on the census should be viewed as indicating the one language form, or whether they are used to mean two different things. Throughout this report it is careful not interpret the total signing population as being equivalent to the total number of Auslan users, however from a linguistic perspective it seems safe to include people who call their language "sign language" in counts of Auslan users. Auslan is undoubtedly a 'real' language, with its own grammar and dictionary (Johnston 1989a, 1989b), never-the-less it is a language that has only been weakly codified and thus shows high levels of regional variation and individual idiosyncrasies. Under these circumstances, there seems little point in trying to draw a line between those signers who use 'proper' Auslan and those who use a more ad hoc or Auslan-influenced sign language; and even if we were to undertake such an endeavour, census data on language-naming practices should not be seen as accurately conveying this distinction. Clearly, informants who indicated that they use BSL, ASL or other national varieties should not be included in estimates of Auslan

[1] Providing a date for when a term became widely used is a delicate business, however the inclusion of Auslan in the 1991 Australian Language and Literacy Policy is seen by many as a convenient starting date for wider knowledge and use of the term.

users, however as there were only 17 such respondents in New South Wales they are of little consequence to this report.

With these points in mind, the report now turns to data analysis.

Community size – New South Wales and Australia

The 2006 Australian census recorded 1,928 sign language users living in New South Wales, and 7,150 for Australia as a whole. Among New South Welsh signers, Auslan is clearly the most widely spoken sign language, with 1,484 users, followed by 427 people who reported simply using 'sign language' (i.e. not further defined or N.F.D.), and 17 who reported using a sign language such as BSL or Malaysian sign language not elsewhere classified (N.E.C.) by the Australian Bureau of Statistics. Table 1 outlines changes in the size and composition of the New South Wales signing community from 2001 to 2006:

	AUSLAN	**SIGN LANGUAGE, N.F.D.**	**SIGN LANGUAGES, N.E.C.**	**TOTAL SIGNERS**
2001	1,054 (61%)	533 (31%)	133 (8%)	1,720
2006	1,484 (77%)	427 (22%)	17 (1%)	1,928

Table 1 New South Wales Sign language users 2001 and 2006

Comparing the number of signers recorded in 2006 with those recorded in 2001 uncovers several significant differences which cannot be accounted for by natural growth alone. As Table 1 shows, New South Wales gained over 200 signers (or 12% of the total signing population) between 2001 and 2006, and the number claiming to use Auslan increased by more than 400. Given that Johnston (2004) hypothesises that the number of sign language users in Australia is in fact in decline, it seems likely that differences between 2001 and 2006 can be attributed to changing reporting practices on the census form, rather than significant shifts in linguistic behaviour. As Ozolins and Bridge (1999:8) note, underreporting of sign languages on Australian census forms is likely to have been common because of the phrasing of the question respondents were asked – "do you speak another language at home?". Since sign languages are not spoken per se, it is reasonable to presume that many signers would not have listed their language in response to this question. Similar issues arise with the specification "at home", because many Deaf people who still live with their parents may prefer to communicate in Auslan (or another sign language) but use English and lip reading to communicate with their hearing families. Kipp et al (1995:26) have noted that the 'at home' specification leads to speaker numbers being undercounted for most ethnic languages, as large numbers of community members use English at home but their ethnic language in a variety of other settings. This problem, however, is more acute for Deaf individuals because in over 90% of cases they are born into hearing families with no knowledge of Auslan.

Ozolins and Bridge made their comments specifically in reference to the 1996 census, and since then there has been a concerted awareness campaign among Deaf organisation to encourage their members to list Auslan on the Australian census. By all accounts, this campaign was more wide-reaching in 2006 than 2001 and it is hypothesised that that this is the major reason we see a strong increase in the number of sign language users in the intervening period, while the fact that the rise has been quite uneven across different states may be testimony to either a higher awareness of the issue already in 2001 or more effective publicity by some organisations than others in 2006. These campaigns have probably also contributed to the dramatic rise in the number of Auslan users relative to other sign languages, however, here increasing community pride and wider recognition of Auslan among the hearing population may also be a factor. Table 2 presents data for each state in 2001 and 2006 for comparative purposes.

	SIGNERS 2001	SIGNERS 2006	% INCREASE 2001-06	% TOTAL SIGNERS USING AUSLAN (2006)
AUST	5,305	6,943	30.9	79.8%
ACT	97 (1.8%)	89 (1.3%)	-8.2	80.9%
NSW	1720 (32.4%)	1928 (27.8%)	12.1	77.0%
NT	50 (1.0%)	46 (0.7%)	-8.0	69.6%
QLD	1,077 (20.3%)	1,409 (20.3%)	30.8	67.0%
SA	430 (8.1%)	605 (8.7%)	40.7	82.5%
TAS	130 (2.5%)	194 (2.7%)	49.2	75.8%
VIC	1,254 (23.6%)	2,118 (30.5%)	68.9	90.0%
WA	459 (8.7%)	561 (8.1%)	22.2	82.2%

Table 2 Australian sign language users 2001 and 2006

Given the apparent unreliability of census data, some speculation about the likely size of the Australian signing population is required. Working from a combination of census data, studies of deafness prevalence rates and a variety of historical records, Johnston estimated that the Australian signing population stood at 7,000 in 2001. Broadly speaking, the figures from 2006 would appear to corroborate this estimate; however several important caveats should be added to this estimate. The extraordinary rise in the number of Victorian signers between 2001 and 2006 suggests that figures for other states may still be conservative and that 8,000-10,000 may be a better final estimate of the signing population. In examining historical, medical and educational records Johnston concludes that the number of Auslan users is currently in decline, and that this decline will only increase as baby boomers pass away over the next 30 years. This image of decline does not intuitively sit well with increasing community size on the census, and the author would suggest that the two trends are not mutually exclusive, so long as we accept that the community is declining from a higher base than that initially hypothesised by Johnston. Through the 1980s, several studies posited the signing population was around 10,000 to 15,000. While methodological flaws have led Johnston to revise these estimates downwards, the patterns we have just discussed suggest that these may have been reasonable approximations for that point in time.

Geographic distribution of New South Wales' signing population

Of the 1,918 people who reported using a sign language at home in 2006, 1,060, or 55.2%, live in Metropolitan Sydney. It might be thought that the increasing ease with which interpreters and others services can be accessed in metro areas would make sign language users more likely to live in Sydney than members of the general population. Yet in fact the proportion of NSW sign language users who in Sydney is fractionally below figures for the general population (57.3%). A similar trend was noted in Victoria, where evidence suggests many sign language users living in regional Victoria have been able to gain work as agricultural labourers and working in canneries, and these job opportunities (together with family support networks) may well act as a 'pull factor' encouraging deaf people to remain in regional areas despite problems of isolation and lack of access to services. Additionally, the high cost of housing in much of Sydney may make it economically unviable for Deaf people from the country to move there with having stable employment already lined up. As we shall see, the largest populations of sign language users in regional NSW can be found between Newcastle and Wollongong, and also in Lismore.

The metropolitan population

Within Sydney, the signing population is concentrated in the Western suburbs, presumably at least in part because of the cheaper cost of housing in that area. Sign language users are conspicuously absent from harbourside municipalities – Woollahra, Leichhardt and North Sydney (to name but a few) each have less than 10 sign language users and Mosman and Lane Cove have none at all. Figure 1 provides a visual representation of the distribution of Sydney's signing population, while the full figures for each municipality are given in Appendix 1:

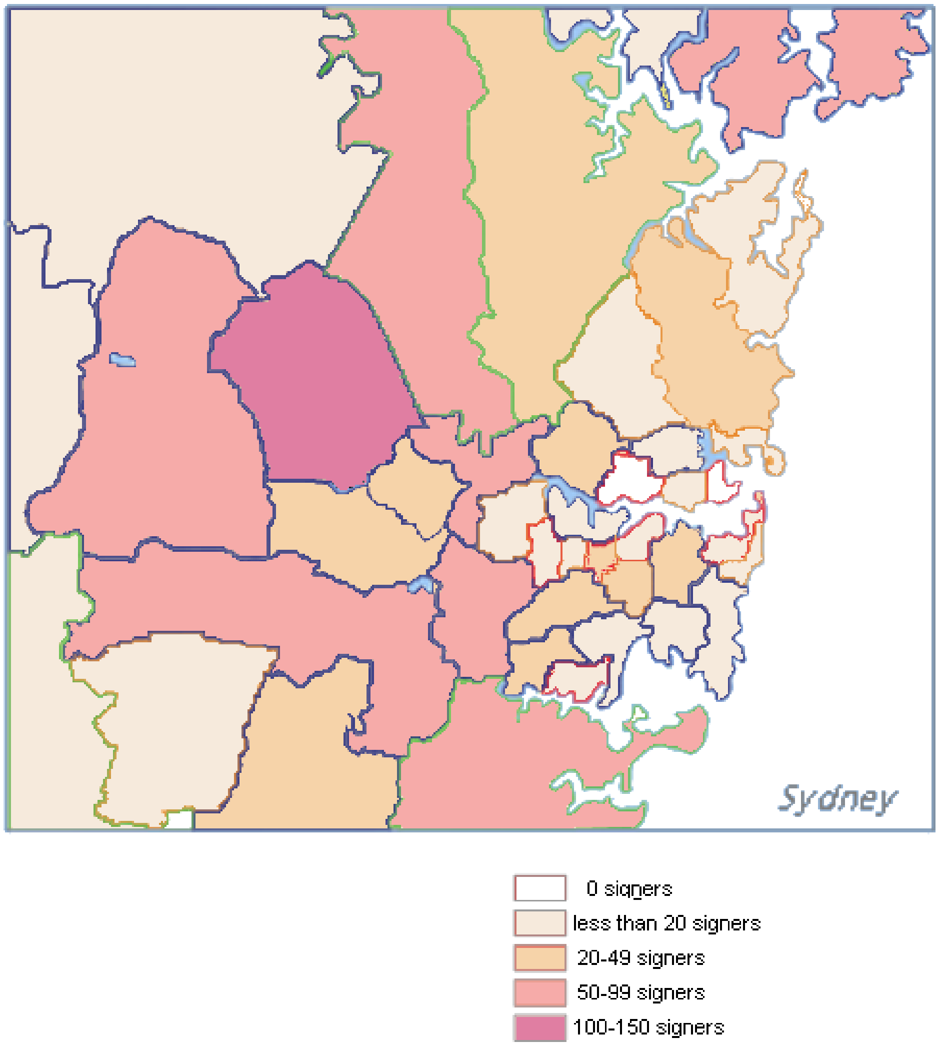


Figure 1 Sydney's signing population by LGA

In terms of raw numbers, Blacktown (130 signers), Campbelltown (83) Penrith (79) Parramatta (67) and Baulkham Hills (64) have the largest signing populations, however these figures need to be taken in context of the total size of the municipality. If we measure signers per 10,000 head of population in each LGA, Campbelltown Blacktown and Penrith remain in the top group (with 5.8, 4.6 and 4.5) and are joined by Ashfield, Wollondily and Holroyd, each also with around between 4.7 and 5 sign language users per 10,000. At the other end of the spectrum, Botany Bay, Manly, Auburn, Woollahra and Kogarah are quite severely underrepresented in their signing population – each has less than five sign language users, which is equivalent to less than 0.8 signers per 10,000 head of population (the state average is 2.9 per 10,000). Several factors appear to be at work in shaping the distribution of Sydney's signing population. There is a clear trend that many of the metropolitan municipalities with the lowest percentages of sign languages users are among Sydney's most expensive suburbs to rent or buy a home. Thus is seems reasonable to argue that Deaf people are in the main priced out of municipalities such as Mosman, Woolarha and Waverley, preferring instead to settle in more affordable areas such as Campbelltown and Penrith. Additionally, the concentration of Deafness service providers – including the Deaf Society of New South Wales, The Royal Institute for Deaf and Blind Children and the Ephpheta Centre – in and around Parramatta may act as a drawcard for Deaf people to settle in surrounding areas in order to have easy access to these services. The disproportionately high number of sign language users in Blacktown is doubtless a direct result of the location of Mullauna Village Deaf aged care facility in the municipality.

Trends noted at the LGA level become even clearer if we consider the following region-level data on the distribution of Sydney's signing population. The increasing concentration of the Deaf population in Western and South Western Sydney on one level simplifies issues of access to deafness services, however given the increasing size of the Sydney metropolitan area, care must be taken to ensure that those living in other regions continue to have easy access to support and advocacy services. This is also a major issue in regional NSW as we shall see in the following section.

REGION	SIGNERS	TOTAL POPULATION	SIGNERS PER 10,000 RESIDENTS
Inner Sydney	268	1,496,397	1.8
Western Sydney	422	1,168,399	3.6
South Western Sydney	180	395,920	4.6
Northern Sydney	190	687,850	2.8

Table 3 Sydney's signing population by region

The regional population

Within regional New South Wales, the signing population is largely concentrated on the Central Coast and Illawarra, with a significant pocket also living in Lismore and surrounds. Of 114 regional LGAs, 62 have no signing residents at all, while only 11 have 20 or more sign language users. Figure 2 outlines the distribution of New South Wales' regional signing population, while the full figures for each municipality are given in Appendix 2:

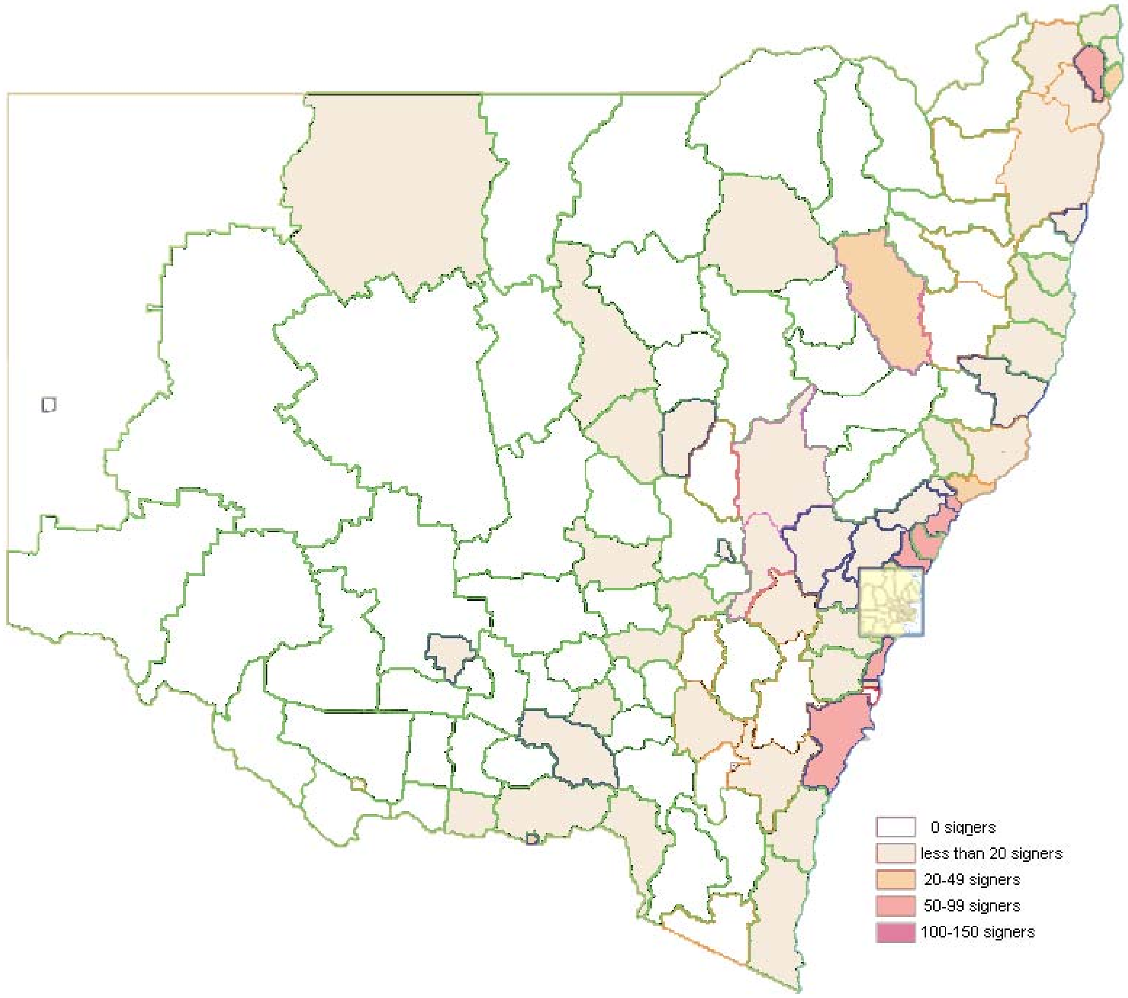


Figure 2 Regional New South Wales signing population by LGA

Figure 2 shows the Illawarra and Central coasts have the largest signing populations, however there are also significant pockets in other areas of the state, such as Lismore, Tamworth and Albury and surrounds. To a large extent the size of the local signing population is simply a function of the size of the general population, however in some areas sign language users continue to be over represented. In order to illustrate this point more clearly, Table 4 lists the signing population of the five largest regional municipalities, while Table 5 lists the six LGA where the signing population is greater than 5 per 10,000.

LGA	SIGNERS	TOTAL POPULATION
Wollongong	50	182,448
Lake Macquarie	55	179,637
Gosford	86	155,276
Newcastle	50	140,910
Wyong	72	137,476
Shoalhaven	53	86,649

Table 4 Sign languages users in the 6 largest regional LGAs

LGA	SIGNERS	TOTAL POPULATION	SIGNERS PER 10,000 RESIDENTS
Lismore	59	42,344	13.9
Lithgow	14	19,371	7.2
Shoalhaven	53	86,649	6.1
Ballina	23	38,756	6.0
Gosford	86	155,276	5.5
Wyong	72	137,476	5.2

Table 5 Regional LGAs with more than 5 sign language users per 10,000 residents[2]

As Table 4 makes clear, the concentration of sign language users on the central and Illawarra coast in part reflects the large populations of these LGAs more generally. Yet as Table 5 shows, sign language users are choosing to settle in Shoalhaven, Gosford and Wyong at even higher rates than the general population. Additionally, the smaller municipalities of Lismore, Lithgow and Ballina have quite inflated numbers of sign language users relative to their population figures.

As the Deaf Society of New South Wales already has a strong regional presence on the Central coast and in Lismore, it may be that this is affecting the number of sign language users either living in these areas or listing themselves as such on the Census. In other words, we may have a number of Deaf people from surrounding areas moving to these areas to better access services, and those involved with deafness services (including family and friends who learn Auslan) may be more inclined to list themselves as Auslan users on the Census as a result. At first glance, the number of sign language users in Lismore in particular seems suspiciously high and regardless of the ratio of hearing to deaf people in this signing population it would be interesting and instructive to examine factors in this community that seem to be contributing to greater use of Auslan in this community.

Regional NSW has many small LGAs (less than 20,000 residents) which unsurprisingly tend to have few or no sign language users. Yet there are also several larger centres with disproportionately low signing populations as outlined in Table 6:

LGA	SIGNERS	TOTAL POPULATION	SIGNERS PER 10,000 RESIDENTS
Wingecarribee	3	41,672	0.7
Dubbo	4	37,870	1.1
Goulburn Mulwaree	0	26,859	-
Armidale Dumaresq	0	23,924	-
Singleton	0	22,005	-

Table 6 Regional LGAs with disproportionately low signing populations

The above table lists all NSW regional LGAs with more than 20,000 residents but rates of sign language use lower than 1.1 per 10,000. Apart from being inland, these areas have

[2] LGAs with less than 10 sign language users are excluded from this list as their high density may be the result of random fluctuation.

no clear commonalities, though the relative isolation of Dubbo and Armidale (and thus limited opportunities to use/ learn Auslan) is likely to be a contributing factor in their low population share.

Trends noted in this section again become clearer if we consider the region-level data presented in Table 7.

REGION	SIGNERS	TOTAL POPULATION	SIGNERS PER 10,000 RESIDENTS
Central Coast	174	353,472	4.9
Illawarra	133	388,837	3.4
Hunter	172	583,663	2.9
Murray	27	110,701	2.4
Other	352	1,343,448	2.6

Table 7 Country NSW signing population by region

The large signing populations in the Central Coast, Illawarra and Hunter regions, together with their relative proximity to Sydney means establishing at least basic levels of deafness service provision in these areas should be sustainable, as indeed the Deaf Society of NSW has already seen with its outposts in Newcastle and Gosford. However, the 27 sign language users in Murray and 352 in remaining areas of the state provide a real challenge for service provision as they form such a dispersed population. In coming years, this group could be a perfect target for creative service delivery such as video relay interpreting or video links to DEN classes, however it is also important that they have access to face-to-face community support to help build trust and rapport and appropriately support people in their local context.

Change from 1996 and 2001

In 2006 1,918 New South Welsh indicated that they used a sign language at home on the census form, up from 1,441 in 1996. This translates to a growth rate of 33%, well ahead of the state average of 12%. As mentioned in the introduction to this report it is presumed that this increase is largely the result of higher levels of reporting, rather than a natural increase in the population (which Johnston 2004 has in fact argued is in decline). This increase has also been stronger in regional areas (up 278 signers or 48%) than in Sydney (up 199 signers or 23%) and poses a particular challenge for Auslan interpreting and equitable service delivery. As hypothesised earlier in this report, the Deaf Society of NSW's increasing regional presence may be affecting both the number of sign language users living in regional areas and the number reporting that they use Auslan on the census form. Yet this is also something of a 'chicken and egg' area as a major factor driving regional service provision is an increasing perception of need for services outside of Sydney, based in part at least on rising population numbers. This section of the report places the data in historical contexts and highlights the major shifts in the geographic distribution of NSW's signing population.

Number of signers in each LGA

Between 1996 and 2006 major redistributions and amalgamations saw the composition of many NSW LGAs change dramatically. The majority of these redistributions affected smaller municipalities (with negligible signing populations) outside of metropolitan Sydney so have little impact on the comparison made in this section. While every attempt has also been made to correctly match 1996 LGAs to their 2006 equivalent, figures in this section still need to be used with caution and the reader is referred to ABS (2007a) for more information on the nature and scope of this redistribution.

Ten municipalities saw their number of sign language users increase by more than 20 people between 1996 and 2006, of which all but Lismore are located on the Sydney urban fringe, the Central Coast or Illawarra. In addition to the 10 LGAs growing by more than 20 sign language users, a further 22 increased their signing population by between 5 and 20 people. Numbers were relatively stable (+/- 5 people) in 114 municipalities, while seven municipalities saw slight declines in their signing population of between 6-13 individuals. Full figures on population change are given in Appendices 3 and 4 while Table 8 lists the LGAs which saw the largest increase in their signing population.

LGA	CHANGE SIGN #	CHANGE SIGN %	CHANGE TOTAL #	CHANGE TOTAL %
Gosford	34	65%	14,440	10%
Shoalhaven	33	165%	11,963	16%
Wyong	33	85%	24,769	22%
Lismore	32	119%	649	2%
Penrith	32	68%	12,760	8%
Baulkham Hills	31	94%	40,560	35%
Lake Macquarie	25	83%	12,538	8%
Parramatta	25	60%	16,247	12%
Sutherland Shire	25	179%	12,819	7%
Port Stephens	24	800%	10,015	20%

Table 8 Top LGAs for increase in sign language users – 1996-2006

All the municipalities in Table 8 saw their general population increase between 1996 and 2006, but only Shoalhaven, Wyong, Baulkham Hills and Port Stephens grew at a rate above the state average of 12%. Conversely, the signing population in all these municipalities grew at rates well above the state average of 33%, suggesting that sign language users are often making quite different choices about where to live to members of the general population. This point is confirmed if we look at Table 9, which shows changes in the signing population in New South Wales' fastest growing LGAs between 1996 and 2006.

LGA	CHANGE SIGN #	CHANGE SIGN %	CHANGE TOTAL #	CHANGE TOTAL %
Sydney	11	58%	82,209	97%
Liverpool	12	26%	48,129	41%
Blacktown	20	18%	45,320	20%
Baulkham Hills	31	94%	40,560	35%
Wyong	33	85%	24,769	22%
Tamworth Regional	3	13%	19,474	57%
Camden	14	280%	17,700	56%
Bankstown	-13	-20%	17,501	11%
Tweed	2	14%	16,768	26%
Auburn	-9	-69%	16,460	34%

Table 9 Top LGAs for increase in general population – 1996-2006

While sign language users are flocking to Camden, it is interesting to see that numbers in Auburn and Bankstown have actually decreased since 1996, and Liverpool is not holding pace with general population growth. This suggests a gradual move north (to areas such as Blacktown and Baulkham Hills) among the Western suburbs Deaf population and it will be interesting to see if this trend continues in coming years. Lower than expected growth in the signing population in Tweed and Tamworth regional is likely linked to their regional status and ensuing isolation issues, with several other regional municipalities such as Dubbo, Byron and Great Lakes seeing their signing population decline by more than 7 people in this time period.

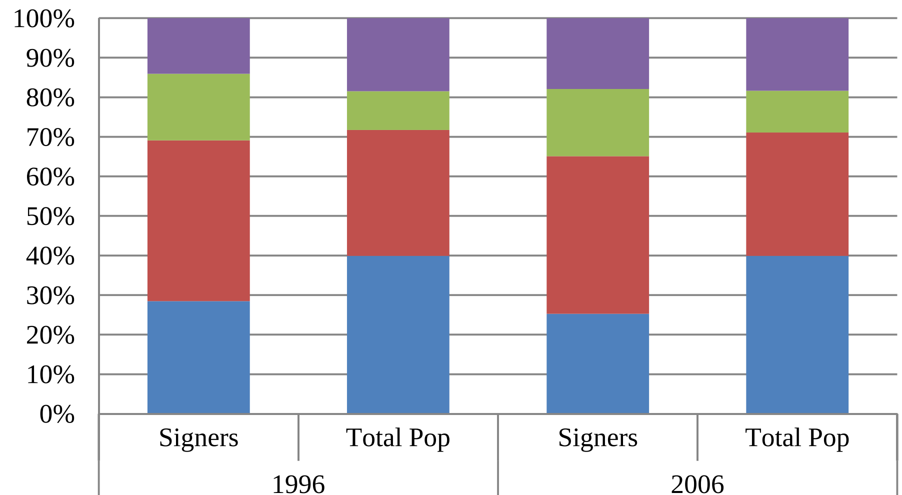
Change by region

In addition to charting changes at the municipal level, a number of noteworthy changes can be identified by comparing data on the proportion of signers living in each of 8 regions across the state. As Table 10 shows, the strongest growth has been in the Central Coast, Northern Sydney, Hunter and Illawarra regions, with the result that the proportion of the signing population living in Greater Sydney has declined from 59.7% to 56.3%.

REGION	% INCREASE		SIGN INCREASE BEYOND NATURAL GROWTH
	Sign	*Total*	
Inner Sydney	9%	14%	-5%
Western Sydney	21%	12%	8%
South Western Sydney	24%	24%	0%
Northern Sydney	57%	14%	43%
Central Coast	72%	14%	58%
Illawarra	43%	11%	32%
Hunter	45%	11%	34%
Murray	0%	12%	-12%
Other	47%	7%	40%
TOTAL	33%	12%	21%

Table 10 increase in population share by region – 1996-2006

The changes charted in Table 9 are important, but need to be viewed in the light of total population size. To this end, figure 3 presents a breakdown of the signing and general population in each Sydney region for both 1996 and 2006. Here we see that although Inner Sydney accounts for 40% of the general population, it is home to less than 30% of signers in both years, while these figures are almost exactly reversed for Western Sydney. While Northern Sydney has seen significant growth in its signing population, this was coming off a low base and the proportion of signers in the region is 2006 is still slightly lower than its share of the general population of Greater Sydney (17.9% as against 18.3%).

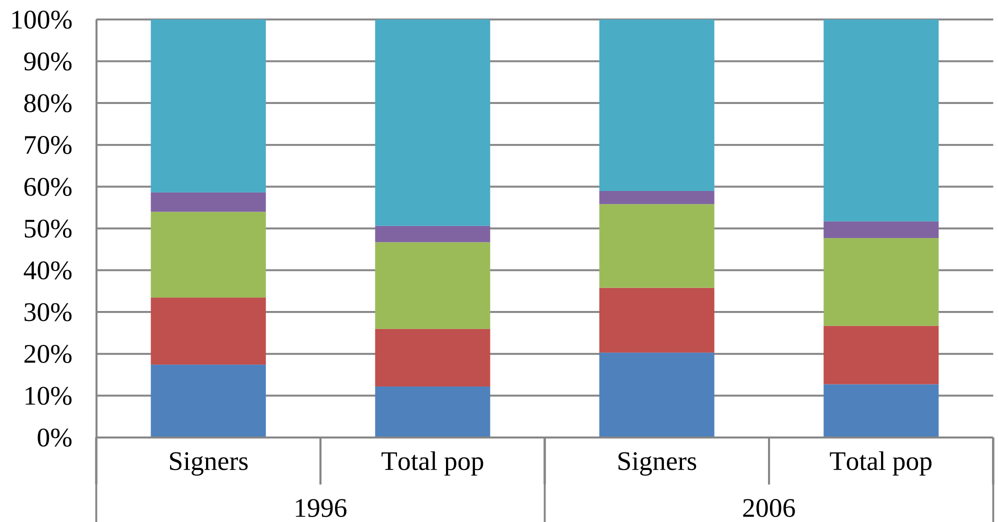


	1996 Signers	1996 Total Pop	2006 Signers	2006 Total Pop
Northern Sydney	121	605382	190	687850
South Western Sydney	145	319757	180	395920
Western Sydney	350	1041737	422	1168399
Inner Sydney	245	1306959	268	1496397

Figure 3 Changes in population share – Greater Sydney 1996 and 2006

Regardless of the degree to which these figures keep pace with changes in the general population, the growth in Sydney's signing population, and particularly the clustering in outer suburbs, presents challenges for accessible service delivery. While many municipalities with large signing populations are not that far from Parramatta as the crow flies, in practice congested roads and poor public transport options means that many people may have difficulty attending appointments or functions at Sydney's main deafness service providers. Additionally, for the increasing population on the North Shore and in Sunderland shire there are few services available in their immediate locality.

Turning to the five country regions we see that differences between share of the signing and general populations are less stark, although sign language users remain overrepresented on the Central Coast and underrepresented in the "Other" region, which encompasses the rest of NSW. Between 1996 and 2006 the Central Coast extended its share of the country signing population from 17.4% to 23.1%, largely at the expense of Murray which dropped from 4.7% to 3.1%. Special mention should also be made of the increase of 112 sign language users living in the "Other" region between 1996 and 2006, although the net result was actually that the region's share of total signing population declined by 0.4% to 41.0%.



	1996 Signers	1996 Total pop	2006 Signers	2006 Total pop
Other	240	1,254,083	352	1,343,448
Murray	27	99,026	27	110,701
Hunter	119	526,646	172	583,663
Illawarra	93	350,170	133	388,837
Central Coast	101	309,392	174	353,472

Figure 4 Change in population share – Regional NSW 1996 and 2006

While the distribution of New South Wales' regional signing population has been relatively stable over the 10 years under study, the substantial increase in absolute numbers poses a real challenge for service delivery. Moreover, it seems that as long as the cost of living in Sydney remains high the regional population will remain high, not least because many people on low incomes are simply unable to afford to rent or buy in

Sydney no matter how much they would prefer to have access to the facilities and supports of the Sydney Deaf community. In this climate, the Deaf Society of New South Wales' outreach services in Newcastle, Gosford and Lismore are certainly to be praised, however it seems more will need to be done in coming years to meet the needs of sign language users who are geographically isolated from the main Sydney community.

Conclusion

This report has shown that the number of people in New South Wales indicating they spoke a sign language increased significantly between the 1996 and 2006 surveys. In both years, the majority of sign language users lived in Greater Sydney, though this proportion is declining and stood at only 55.2% in 2006. Within Sydney, sign language users prefer to live in the Western and South-Western suburbs, with Parramatta and surrounds and the Camden growth corridor proving particularly popular. This distribution sits well with the current location of many deafness services in Sydney (and may well be the reason these areas prove so popular), however providers are being challenged by strong growth in the regional signing population.

Outside of Sydney the signing population grew by 48% between 1996 and 2006. Both the Central Coast and Hunter regions added around 60 sign language users in this period, however the major challenge comes in the growth of the area designated "Other", where numbers increased by over 100 users or 46%. These sign language users are highly dispersed throughout the state – indeed a real feature of the regional population was the small number of municipalities with more than 20 signing residents – and effectively providing services to this highly dispersed and often isolated population remains a key challenge for New South Wales' deafness services.

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Appendix 1: Sign language users by metro LGA: 2006

	SIGNERS	TOTAL POPULATION	SIGNERS PER 10,000 RESIDENTS
INNER SYDNEY			
Ashfield	20	39,607	5.0
Botany Bay	3	36,116	0.8
Burwood	11	30,981	3.6
Canada Bay	18	65,369	2.8
Canterbury	24	129,483	1.9
Hunter's Hill	4	13,099	3.1
Hurstville	21	73,159	2.9
Kogarah	3	52,748	0.6
Lane Cove	0	30,089	0.0
Leichhardt	8	48,172	1.7
Manly	3	36,454	0.8
Marrickville	28	71,211	3.9
Mosman	0	25,758	0.0
North Sydney	5	58,369	0.9
Randwick	14	119,684	1.2
Rockdale	11	91,809	1.2
Strathfield	9	31,890	2.8
Sutherland Shire	39	202,294	1.9
Sydney	30	167,002	1.8
Waverley	7	59,834	1.2
Willoughby	7	63,723	1.1
Woollahra	3	49,546	0.6
TOTAL	268	1,496,97	1.8
WESTERN SYDNEY			
Auburn	4	64,949	0.6
Bankstown	52	169,868	3.1
Blacktown	130	270,746	4.8
Blue Mountains	22	73,086	3.0
Fairfield	26	179,356	1.4
Holroyd	42	89,292	4.7
Parramatta	67	149,536	4.5
Penrith	79	171,566	4.6
TOTAL	422	1,168,399	3.6

	SIGNERS	TOTAL POPULATION	SIGNERS PER 10,000 RESIDENTS
SOUTH WESTERN SYDNEY			
Camden	19	49,208	3.9
Campbelltown	83	142,385	5.8
Liverpool	59	164,439	3.6
Wollondilly	19	39,888	4.8
TOTAL	180	95,920	4.5
NORTHERN SYDNEY			
Baulkham Hills	64	157,668	4.1
Hornsby	32	149,129	2.1
Ku-ring-gai	10	99,386	1.0
Pittwater	7	52,680	1.3
Ryde	42	96,763	4.3
Warringah	35	132,224	2.6
TOTAL	190	687850	2.8

Appendix 2: Sign language users by regional LGA: 2006

	SIGNERS	TOTAL POPULATION	SIGNERS PER 10,000 RESIDENTS
CENTRAL COAST			
Gosford	86	155,276	5.5
Hawkesbury	16	60,720	2.6
Wyong	72	137,476	5.2
TOTAL	174	353,472	4.9
ILLAWARRA			
Kiama	0	18,538	0.0
Shellharbour	27	59,530	4.5
Shoalhaven	53	86,649	6.1
Wingecarribee	3	41,672	0.7
Wollongong	50	182,448	2.7
TOTAL	133	388,837	3.4
HUNTER			
Cessnock	11	46,022	2.4
Dungog	6	7,942	7.6
Gloucester	0	4,783	0.0
Great Lakes	8	33,011	2.4
Maitland	15	61,120	2.5
Muswellbrook	0	15,369	0.0
Newcastle	50	140,910	3.5
Port Stephens	27	60,010	4.5
Singleton	0	22,005	0.0
Upper Hunter Shire	0	12,854	0.0
Lake Macquarie	55	179,637	3.1
TOTAL	172	583,663	2.9
MURRAY			
Albury	20	46,503	4.3
Balranald	0	2,556	0.0
Berrigan	0	7,805	0.0
Conargo	0	1,651	0.0
Corowa Shire	3	11,065	2.7
Deniliquin	0	7,338	0.0
Greater Hume Shire	4	9,535	4.2
Jerilderie	0	1,635	0.0
Murray	0	6,528	0.0
Tumbarumba	0	3,482	0.0
Urana	0	1,227	0.0
Wakool	0	4,330	0.0
Wentworth	0	7,046	0.0
TOTAL	27	110,701	2.4

	SIGNERS	TOTAL POPULATION	SIGNERS PER 10,000 RESIDENTS
OTHER			
Armidale Dumaresq	0	23,924	0.0
Ballina	23	38,756	5.9
Bathurst Regional	12	36,075	3.3
Bega Valley	8	31,575	2.5
Bellingen	0	12,388	0.0
Bland	0	6,255	0.0
Blayney	0	6,361	0.0
Bogan	0	2,922	0.0
Bombala	0	2,473	0.0
Boorowa	0	2,245	0.0
Bourke	3	3,313	9.1
Brewarrina	0	1,957	0.0
Broken Hill	0	19,309	0.0
Byron	12	29,416	4.1
Cabonne	0	12,201	0.0
Carrathool	0	2,930	0.0
Central Darling	0	2,146	0.0
Clarence Valley	9	48,425	1.9
Cobar	0	5,194	0.0
Coffs Harbour	19	66,199	2.9
Coolamon	0	3,906	0.0
Cooma-Monaro	0	9,846	0.0
Coonamble	0	4,186	0.0
Cootamundra	0	7,121	0.0
Cowra	6	12,307	4.9
Dubbo	4	37,870	1.1
Eurobodalla	10	34,540	2.9
Forbes	3	9,313	3.2
Gindra	0	4,553	0.0
Glen Innes Severn	0	8,758	0.0
Goulburn Mulwaree	0	26,859	0.0
Greater Taree	16	44,549	3.6
Griffith	7	23,636	3.0
Gundagai	0	3,736	0.0
Gunnedah	0	11,508	0.0
Guyra	0	4,178	0.0
Gwydir	0	5,354	0.0
Harden	0	3,491	0.0
Hastings	4	68,721	0.6
Hay	0	3,439	0.0
Inverell	0	15,555	0.0
Junee	4	5,765	6.9
Kempsey	5	27,867	1.8
Kyogle	3	9,136	3.3
Lachlan	0	6,572	0.0

Leeton	0	11,171	0.0
Lismore	59	42,344	13.9
Lithgow	14	19,371	7.2
Liverpool Plains	0	7,300	0.0
Lockhart	0	3,102	0.0
Mid-Western Regional	6	21,053	2.8
Moree Plains	0	14,164	0.0
Murrumbidgee	0	2,419	0.0
Nambucca	9	17,873	5.0
Narrabri	3	13,018	2.3
Narrandera	0	6,027	0.0
Narromine	3	6,393	4.7
Oberon	0	5,059	0.0
Orange	15	34,914	4.3
Palerang	4	12,357	3.2
Parkes	0	14,262	0.0
Queanbeyan	16	36,108	4.4
Richmond Valley	4	21,784	1.8
Snowy River	3	18,896	1.6
Tamworth Regional	26	53,533	4.9
Temora	0	5,714	0.0
Tenterfield	0	6,547	0.0
Tumut Shire	0	10,695	0.0
Tweed	16	81,381	2.0
Upper Lachlan	0	6,826	0.0
Uralla	0	5,654	0.0
Wagga Wagga	16	57,436	2.8
Walcha	0	3,198	0.0
Walgett	0	7,273	0.0
Warren	3	2,667	11.2
Warrumbungle Shire	0	9,835	0.0
Weddin	0	3,567	0.0
Wellington	0	8,156	0.0
Yass Valley	4	13,125	3.0
Young	3	11,762	2.6
Unincorporated NSW	0	1,634	0.0
TOTAL	352	1,343,448	2.6

Appendix 3: Change in the metro signing population between 1996 and 2001

	1996		2006		INCREASE	
	SIGNERS	TOTAL POP	SIGNERS	TOTAL POP	SIGNERS	TOTAL POP
INNER SYDNEY						
Ashfield	11	38,310	20	39,607	82%	3%
Botany Bay	7	33,375	3	36,116	-57%	8%
Burwood	12	27,384	11	30,981	-8%	13%
Canada Bay	19	51864	18	65,369	-5%	26%
Canterbury	28	127,157	24	129,483	-14%	2%
Hunter's Hill	8	11,278	4	13,099	-50%	16%
Hurstville	15	63,072	21	73,159	40%	16%
Kogarah	7	45,762	3	52,748	-57%	15%
Lane Cove	0	28,912	0	30,089	-	4%
Leichhardt	10	54,715	8	48,172	-20%	-12%
Manly	0	33,999	3	36,454	-	7%
Marrickville	32	71,820	28	71,211	-13%	-1%
Mosman	0	24,290	0	25,758	-	6%
North Sydney	6	49,315	5	58,369	-17%	18%
Randwick	20	111,162	14	119,684	-30%	8%
Rockdale	7	81,027	11	91,809	57%	13%
Strathfield	6	24,896	9	31,890	50%	28%
Sutherland Shire	14	189,475	39	202,294	179%	7%
Sydney	19	84,793	30	167,002	58%	97%
Waverley	10	56,649	7	59,834	-30%	6%
Willoughby	7	51,556	7	63,723	0%	24%
Woollahra	7	46,148	3	49,546	-57%	7%
TOTAL	245	1,306,959	268	1,323,294	9%	1%
WESTERN SYDNEY						
Auburn	13	48,489	4	64,949	-69%	34%
Bankstown	65	152,367	52	169,868	-20%	11%
Blacktown	110	225,426	130	270,746	18%	20%
Blue Mountains	24	69,994	22	73,086	-8%	4%
Fairfield	19	175,458	26	179,356	37%	2%
Holroyd	30	77,908	42	89,292	40%	15%
Parramatta	42	133,289	67	149,536	60%	12%
Penrith	47	158,806	79	171,566	68%	8%
TOTAL	350	1,041,737	422	1,168,399	21%	12%

	1996		2006		INCREASE	
	SIGNERS	**TOTAL POP**	**SIGNERS**	**TOTAL POP**	**SIGNERS**	**TOTAL POP**
SOUTH WESTERN SYDNEY						
Camden	5	31,508	19	49,208	280%	56%
Campbelltown	79	139,335	83	142,385	5%	2%
Liverpool	47	116,310	59	164,439	26%	41%
Wollondilly	14	32,604	19	39,888	36%	22%
TOTAL	145	319,757	180	95,920	24%	-70%
NORTHERN SYDNEY						
Baulkham Hills	33	117,108	64	157,668	94%	35%
Hornsby	27	133,368	32	149,129	19%	12%
Ku-ring-gai	6	96,070	10	99,386	67%	3%
Pittwater	9	49,787	7	52,680	-22%	6%
Ryde	23	88,895	42	96,763	83%	9%
Warringah	23	120,154	35	132,224	52%	10%
TOTAL	121	605,382	190	687850	57%	14%

*Note that figures for Canada Bay in 1996 are calculated as the sum of those for the old Concord and Drummoyne LGAs, and that Sydney in 1996 also includes figures for the old municipality of South Sydney.

Appendix 4: Change in the country signing population between 1996 and 2001

Note that due to large-scale boundary redistributions it has been impossible to accurately match many of the municipalities in the "other" region between 1996 and 2006. However, given that this problem affects only 10% of the signing population of that region this does not impact highly on the usefulness of this data for service providers.

	1996		2006		INCREASE	
	SIGNERS	TOTAL POP	SIGNERS		SIGNERS	TOTAL POP
CENTRAL COAST						
Gosford	52	140,836	86	155,276	65%	10%
Hawkesbury	10	55,849	16	60,720	60%	9%
Wyong	39	112,707	72	137,476	85%	22%
TOTAL	101	309,392	174	353,472	72%	14%
ILLAWARRA						
Kiama	3	17,369	0	18,538	-100%	7%
Shellharbour	18	51,051	27	59,530	50%	17%
Shoalhaven	20	74,686	53	86,649	165%	16%
Wingecarribee	0	35,456	3	41,672	-	18%
Wollongong	52	171,608	50	182,448	-4%	6%
TOTAL	93	350,170	133	388,837	43%	11%
HUNTER						
Cessnock	10	42,857	11	46,022	10%	7%
Dungog	0	7,491	6	7,942	-	6%
Gloucester	0	4,673	0	4,783	-	2%
Great Lakes	17	27,801	8	33,011	-53%	19%
Maitland	30	167,099	55	179,637	83%	8%
Muswellbrook	11	48,943	15	61,120	36%	25%
Newcastle	0	14,730	0	15,369	-	4%
Port Stephens	48	129,884	50	140,910	4%	8%
Singleton	3	49,995	27	60,010	800%	20%
Upper Hunter Shire	0	19,546	0	22,005	-	13%
Lake Macquarie	0	13,627	0	12,854	-	-6%
TOTAL	119	526,646	172	583,663	45%	11%

	1996		2006		INCREASE	
	SIGNERS	**TOTAL POP**	**SIGNERS**		**SIGNERS**	**TOTAL POP**
MURRAY						
Albury	18	40,550	20	46,503	11%	15%
Balranald	0	2,893	0	2,556	-	-12%
Berrigan	0	7,975	0	7,805	-	-2%
Conargo	6	1,512	0	1,651	-	9%
Corowa Shire	0	8,027	3	11,065	-	38%
Deniliquin	0	7,577	0	7,338	-	-3%
Greater Hume Shire	0	6,693	4	9,535	-	42%
Jerilderie	0	1,910	0	1,635	-	-14%
Murray	3	5,170	0	6,528	-	26%
Tumbarumba	0	3,394	0	3,482	-	3%
Urana	0	1,429	0	1,227	-	-14%
Wakool	0	4,812	0	4,330	-	-10%
Wentworth	0	7,084	0	7,046	-	-1%
TOTAL	27	99,026	27	110,701	0%	12%
OTHER						
Armidale Dumaresq	5	20,620	0	23,924	-100%	16%
Ballina	15	33,935	23	38,756	53%	14%
Bathurst Regional	8	27,836	12	36,075	50%	30%
Bega Valley	0	27,808	8	31,575	-	14%
Bellingen	5	11,988	0	12,388	-100%	3%
Bland	0	6,494	0	6,255	-	-4%
Blayney	0	5,931	0	6,361	-	7%
Bogan	0	3,193	0	2,922	-	-8%
Bombala	0	2,730	0	2,473	-	-9%
Boorowa	0	2,324	0	2,245	-	-3%
Bourke	0	3,830	3	3,313	-	-13%
Brewarrina	0	2,102	0	1,957	-	-7%
Broken Hill	0	20,512	0	19,309	-	-6%
Byron	22	26,045	12	29,416	-45%	13%
Cabonne	0	11,705	0	12,201	-	4%
Carrathool	0	3,044	0	2,930	-	-4%
Central Darling	0	2,544	0	2,146	-	-16%
Clarence Valley			9	48,425	-	-
Cobar	3	5,519	0	5,194	-	-6%
Coffs Harbour	11	56,694	19	66,199	73%	17%
Coolamon	0	3,768	0	3,906	-	4%
Cooma-Monaro	3	9,195	0	9,846	-	7%
Coonamble	0	4,698	0	4,186	-	-11%
Cootamundra	0	7,314	0	7,121	-	-3%

Cowra	0	11,787	6	12,307	-	4%
Dubbo	11	35,548	4	37,870	-64%	7%
Eurobodalla	6	29,488	10	34,540	67%	17%
Forbes	3	9,949	3	9,313	0%	-6%
Gindra	0	4,733	0	4,553	-	-4%
Glen Innes Severn	0	5,950	0	8,758	-	47%
Goulburn Mulwaree	0	20,146	0	26,859	-	33%
Greater Taree	11	41,318	16	44,549	45%	8%
Griffith	6	20,967	7	23,636	17%	13%
Gundagai	0	3,658	0	3,736	-	2%
Gunnedah	0	12,501	0	11,508	-	-8%
Guyra	0	4,177	0	4,178	-	0%
Gwydir			0	5,354	-	-
Harden	0	3,694	0	3,491	-	-5%
Hastings	7	56,511	4	68,721	-43%	22%
Hay	0	3,726	0	3,439	-	-8%
Inverell	0	14,458	0	15,555	-	8%
Junee	4	5,051	4	5,765	0%	14%
Kempsey	6	25,578	5	27,867	-17%	9%
Kyogle	0	9,478	3	9,136	-	-4%
Lachlan	3	7,208	0	6,572	-	-9%
Leeton	0	10,824	0	11,171	-	3%
Lismore	27	41,695	59	42,344	119%	2%
Lithgow	0	18,449	14	19,371		5%
Liverpool Plains			0	7,300	-	-
Lockhart			0	3,102	-	-
Mid-Western Regional			6	21,053	-	-
Moree Plains	0	15,027	0	14,164	-	-6%
Murrumbidgee	0	2,318	0	2,419	-	4%
Nambucca	0	17,072	9	17,873	-	5%
Narrabri	0	13,753	3	13,018	-	-5%
Narrandera	0	6,970	0	6,027	-	-14%
Narromine	0	6,371	3	6,393	-	0%
Oberon	0	4,378	0	5,059	-	16%
Orange	4	32,947	15	34,914	275%	6%
Palerang			4	12,357	-	-
Parkes	3	14,576	0	14,262	-100%	-2%
Queanbeyan	5	26,505	16	36,108	220%	36%
Richmond Valley	0	9,816	4	21,784	-	122%
Snowy River	0	16,548	3	18,896	-	14%
Tamworth Regional	23	34,059	26	53,533	13%	57%
Temora	0	5,756	0	5,714	-	-1%
Tenterfield	0	6,285	0	6,547	-	4%
Tumut Shire	0	10,677	0	10,695	-	0%

Tweed	14	64,613	16	81,381	14%	26%
Upper Lachlan			0	6,826	-	-
Uralla	0	5,784	0	5,654	-	-2%
Wagga Wagga	16	54,269	16	57,436	0%	6%
Walcha	0	3,147	0	3,198	-	2%
Walgett	0	8,016	0	7,273	-	-9%
Warren			3	2,667	-	-
Warrumbungle Shire	0	3,217	0	9,835	-	206%
Weddin	0	3,735	0	3,567	-	-4%
Wellington	0	8,392	0	8,156	-	-3%
Yass Valley	3	9,001	4	13,125	33%	46%
Young	0	10,790	3	11,762	-	-
Unincorporated NSW	0	3,534	0	1,634	-	-
Copmanhurst	0	3,867			-	-
Yarrowlumla	9	8,858			-	-
Barraba	0	2,209			-	-
Bingara	0	2,043			-	-
Casino	0	10,546			-	-
Coolah	0	3,664			-	-
Coonabarabran	0	6,733			-	-
Crookwell	0	4,173			-	-
Culcairn	0	4,000			-	-
Dumaresq	0	3,772			-	-
Evans	0	4,613			-	-
Grafton	4	16,490			-	-
Gunning	0	2,168			-	-
Holbrook	0	2,465			-	-
Lockhart	0	3,440			-	-
Maclean	3	15,522			-	-
Manilla	0	3,059			-	-
Mudgee	0	16,452			-	-
Mulwaree	0	5,464			-	-
Nundle	0	1,292			-	-
Nymboida	0	4,263			-	-
Parry	0	11,617			-	-
Quirindi	0	4,780			-	-
Rylstone	0	3,640			-	-
Severn	0	2,731			-	-
Tallaganda	0	2,336			-	-
Ulmarra	0	6,052			-	-
Windouran	0	412			-	-
Yallaroi	0	3,143			-	-
TOTAL	235	1,233,463	352	1,343,448	50%	9%