

OVERNIGHT VISITOR COUNTS IN AUSTRALIA AND THEIR IMPLICATIONS FOR POPULATION ESTIMATION

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On the night of the 1996 Census, 5.4 per cent of the people counted in Australia were staying away from home (visitors), compared to 4.6 per cent in 1986. Queensland's share of the nations visitors has risen since 1986, largely at the expense of Western Australia's. Queensland is now the most popular destination for interstate and overseas visitors, while New South Wales hosts a large proportion of intrastate visitors. But the overall picture is partly obscured because the Census missed around 100,000 overseas visitors.

INTRODUCTION

This paper examines the extent and distribution of visitors found in Australia on Census night 1996 and the potential impact of non-residents on service provision and planning considerations.

While the value of visitor data to the Tourism industry is generally accepted (and was officially acknowledged by the establishment of the Bureau of Tourism Research in 1987),¹ the worth of such data to a broad range of individuals and organisations was only formally recognised in Australia relatively recently.

As part of comments received by the Australian Bureau of Statistics to their *1996 Review of Demography Statistics*,² nearly 40 per cent of responding agencies specified a need for population statistics relating to visitors as well as residents of an area. The range of organisations which recognised the merit of visitor estimates as part of their population needs included funding bodies (such as the Grants Commissions and Treasury Departments) as well as service departments (Police, Emergency Services, Transport, Education, Health and so on). Such support is consistent with informal comments from a wide variety of individuals and private organisations calling for population estimates which reflect the target markets of their goods and services. In general, access to such (service) population estimates is sought to assist with policy and planning activities (including location of service centres) and the estimation of costs (resource and environmental) associated with service provision.³

Although a range of visitor estimates (such as temporary residents, overnight visitors, commuters and other daytime visitors) are needed for creation of service population estimates, this paper concentrates solely on examining Census-night mobility data in relation to overnight visitor estimation. The analysis has also been limited to an examination of overnight visitor counts at the national and State (Territory) levels. Data and commentary on visitor counts in regional Queensland are available in *Recent Population and Housing Trends Queensland, 1997*.⁴

Unless otherwise specified, the terms *visitors* and *visitor counts* are used throughout this paper to denote the number of persons who were found to be staying away from home on the night of the Census.

An indication of the number of visitors staying in an area (for one or more nights) is provided from Census-night mobility data. Some care is needed, however, when using Census-night mobility data as a guide to visitation patterns throughout the year. This is because the Census date is deliberately chosen to coincide with a time when Australians are least likely to be mobile (i.e. on a week day during a school term period and not on or near a public holiday). Thus, the mobility patterns illustrated from Census-night data are likely to understate short-term mobility (especially for the school-holiday seasons). Furthermore, Census-night mobility data relate to where people were counted on Census night (i.e. population count data) and provide only limited details on location of usual residence. Specifically, usual residence details are restricted to differentiating overseas residents from Australian residents, specifying the State (Territory) of usual residence for interstate visitors and identifying whether intrastate visitors stayed within or outside the Statistical Local Area (SLA) of their usual residence. Despite these limitations, Census data relating to persons counted away from home attest to the level of overnight mobility recorded in Australia on 6 August 1996. And, unlike tourism statistics, such data are available for small geographic levels throughout Australia.

A guide to daytime mobility (on this date) is available from Census details relating to journey-to-work data. Such data has not been examined in this paper but a preliminary analysis of journey-to-work data in relation to commuter populations in Queensland is provided in *Population SnapShot 2*.⁵

NATIONAL TRENDS

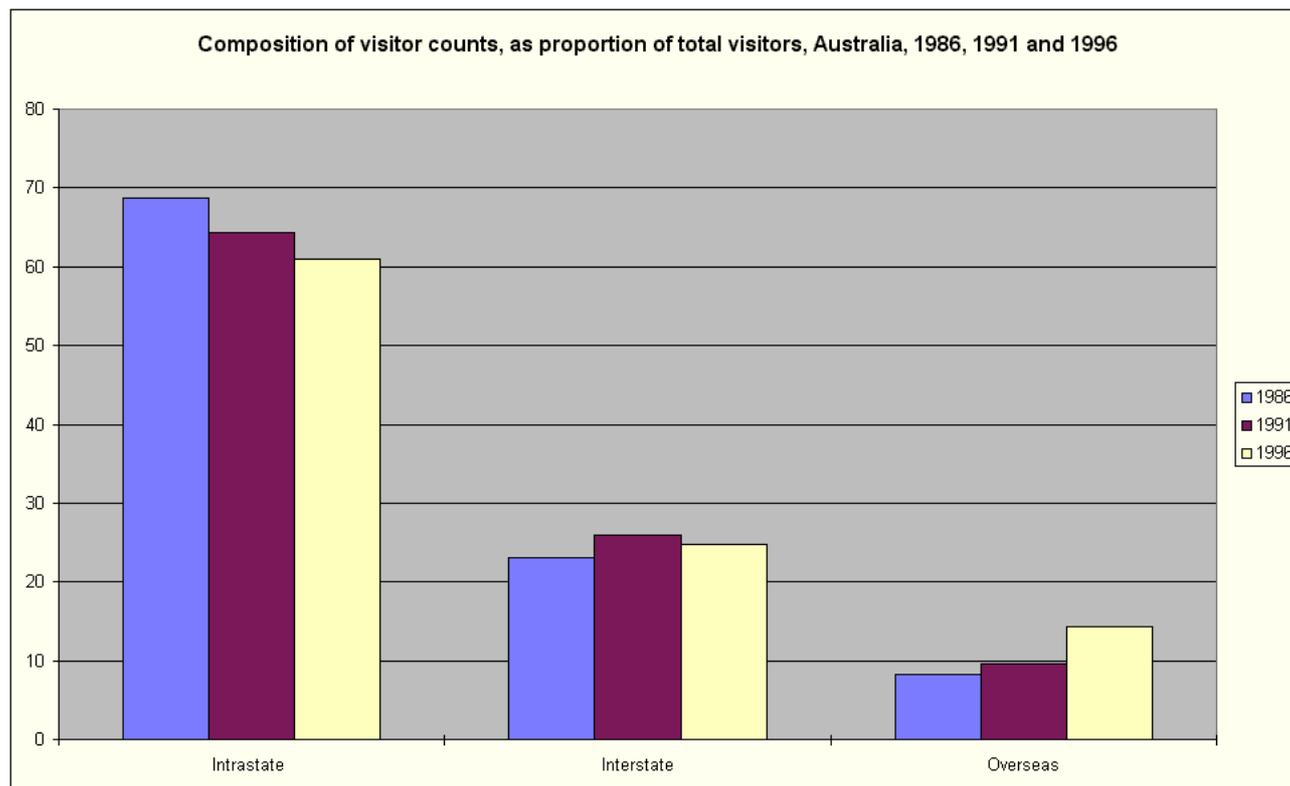
Visitor counts throughout Australia have risen over the past three censuses, from 721,900 (4.6 per cent of the national population count) in 1986 to 972,400 (5.4 per cent of the national population count) in 1996 (refer Table 1). When visitor counts are combined with estimates of Australians temporarily overseas at the time of the Census, these figures provide a broad measure of Australian short-term mobility (for one or more nights), albeit during a non-school-holiday period.

	Intrastate visitors	Interstate visitors	Overseas visitors
1986	496,000	166,300	59,600
1991	526,000	212,500	78,900
1996	592,400	240,400	139,600

Note: Census night was 30 June 1986, 6 August 1991 and 1996
 Source: Australian Bureau of Statistics (ABS), Census of Population and Housing, 1986, 1991 and 1996

In relative terms, the composition of visitors counted in Australia has not altered substantially over the past three Censuses (refer Figure 1). Intrastate visitors continue to account for the largest number (and proportion) of persons counted away from home on Census night. On 6 August 1996, a total of 592,400 people in Australia were found to be visiting within their own State (Territory) and represented 60.9 per cent of all visitors counted in Australia on that date. But despite increases in the number of intrastate visitors counted in Australia over the past three Censuses (from 496,000 in 1986 to 592,400 in 1996), the share of intrastate visitors to total visitors declined steadily during this decade (from 68.7 per cent in 1986 to 60.9 per cent in 1996).

Figure 1: Composition of visitor counts, as a proportion of total visitors, 1986, 1991 and 1996



Census night was 30 June 1986, 6 August in 1991 and 1996

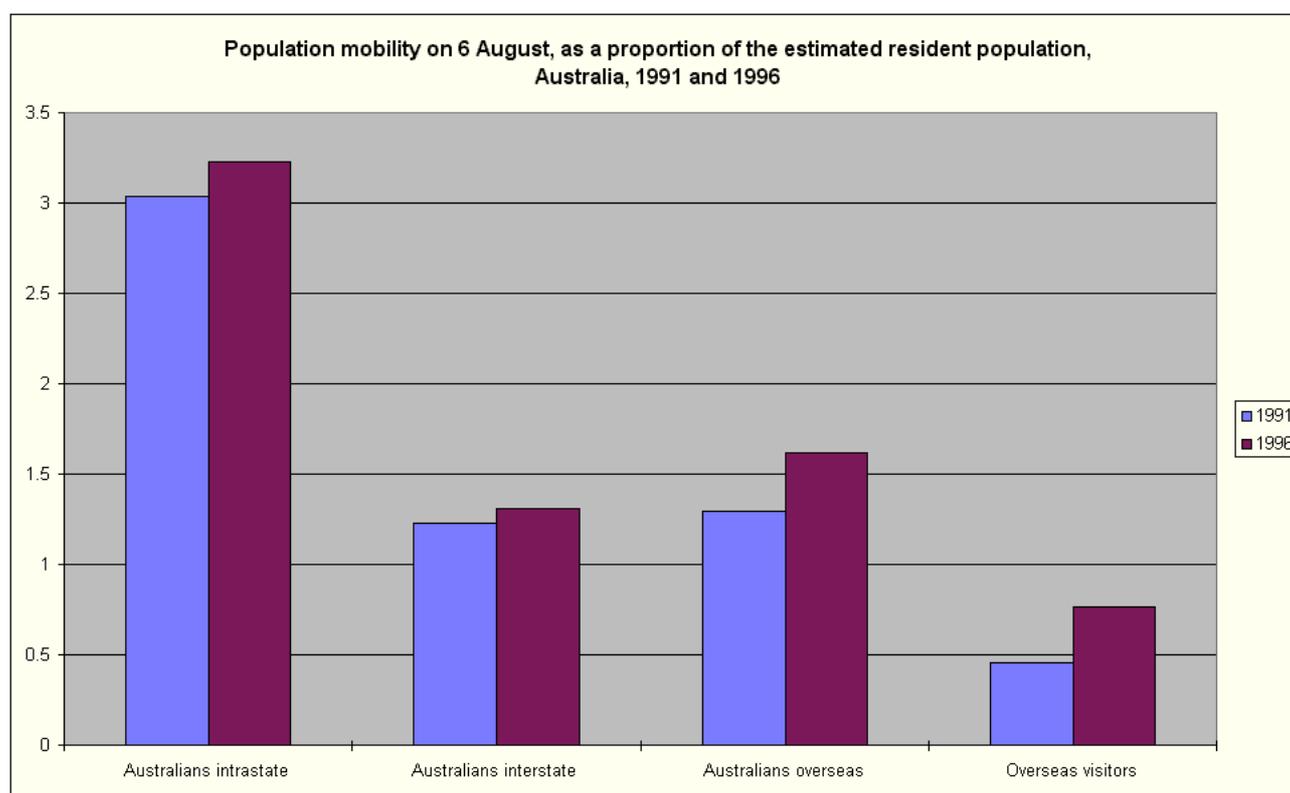
Source: ABS, Census of Population and Housing, 1986, 1991 and 1996

Nearly a quarter (24.7 per cent) of all visitors counted in Australia in 1996 (240,400 persons) were interstate visitors while a further 139,600 (14.4 per cent) were visitors from overseas. Growth in interstate visitors was most marked between 1986 and 1991 (from 166,300 to 212,500) and resulted in their share of total visitors rising from 23.0 per cent to 26.0 per cent during this five-year interval. The number of interstate visitors counted in Australia also grew between 1991 and 1996 but at a less remarkable rate, causing the proportion of interstate visitors (in relation to total visitors) to decline slightly (to 24.7 per cent in 1996).

Conversely, although small in absolute numbers, the count of overseas visitors in Australia has increased at rates sufficient to cause their share of total visitors to rise from 8.3 per cent in 1986 to 14.4 per cent in 1996. Such increases reflected Australia's growing popularity as an international tourism destination during this decade as well as the success of special collection and processing practices introduced in the 1996 Census to improve the overseas visitor count.⁶

Nevertheless, it is estimated that relatively large numbers of overseas visitors were still missed by the 1996 Census. Information from overseas arrival and departure cards suggest that the number of overseas visitors in Australia around 6 August 1996 was approximately 240,000 persons or about 100,000 more than the number counted by the 1996 Census.⁷ Consequently, the differential between overseas visitors and Australians temporarily overseas on 6 August 1996, as depicted in Figure 2, is likely to be overstated. Specifically, the results in Figure 2 suggest that twice as many Australians were overseas on 6 August 1996 than overseas visitors were in Australia on that date. This result is overstated, however, because nearly half the number of overseas visitors in Australia on 6 August 1996 were missed from the Census. In general, therefore, Census counts relating to overseas visitors should be treated as indicative only as they are likely to understate the true extent of overseas visitation throughout Australia on 6 August 1996.

Figure 2: Population mobility on 6 August, as a proportion of the resident population Australia, 1991 and 1996



Source: ABS, *Australian Demographic Statistics*, Dec. Qtr 1992 and June Qtr, Cat. No. 3101.0

Unlike estimates of overseas visitors, estimates of the number of Australians temporarily overseas on Census night are not derived from Census data. Rather, estimates of Australians temporarily overseas on Census night are prepared directly from details on overseas passenger arrival and departure cards.⁸

The number and proportion of Australians who were overseas at the time of the 1996 Census increased from that found during the 1991 Census (refer Figure 2).⁹ The 296,900 Australians recorded as temporarily overseas on 6 August 1996 represented 1.6 per cent of Australia's resident population estimate on that date. This compares with 223,900 Australians (1.3 per cent) estimated to be temporarily overseas five years earlier.

Thus, in total, 1,129,700 Australians and a further 139,600 overseas visitors were recorded as away from home on the night of 6 August 1996. Such persons represented 6.9 per cent of the Australian resident population on that date.

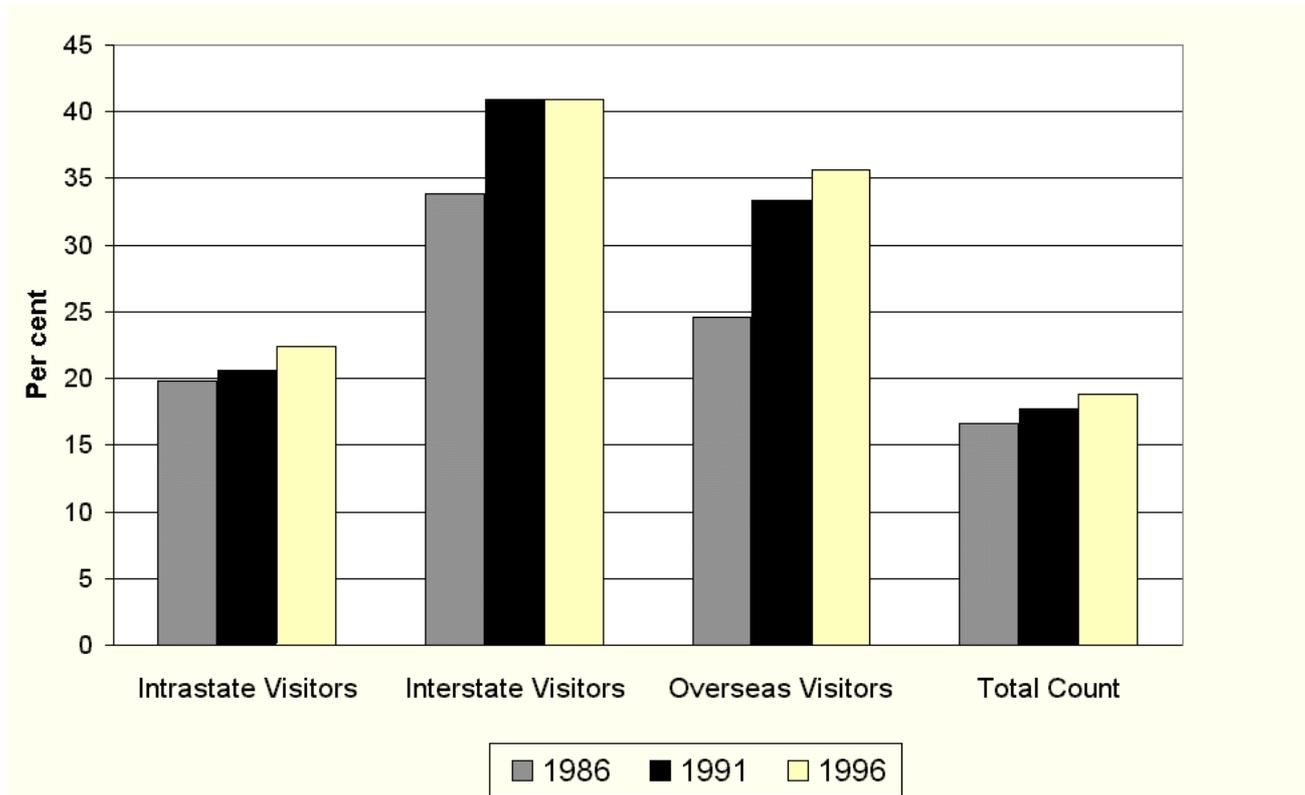
The results presented in Figure 2 suggest that, in 1996, Australians were increasingly likely to be away from home (for a short period) around early August (and possibly throughout the year in general) and that Australians were increasingly likely to choose an international

location for such short-term trips. As the distribution of visitors throughout the nation is not uniform, the impact of such population mobility on service provision and strategic planning will differ throughout Australia.

DISTRIBUTION OF VISITORS BETWEEN AUSTRALIA'S STATES AND TERRITORIES

The largest number of overseas and interstate visitors counted in Australia was found in Queensland. Such visitors represented 35.6 per cent and 40.9 per cent of the national count of overseas and interstate visitors, respectively. These proportions are considerably higher than the State's pro-rata share (18.8 per cent) of the national population count (refer Figure 3).

Figure 3: Proportion of visitor count enumerated in Queensland and Queensland's proportion of Australia's population count, 1986, 1991 and 1996



Census night was 30 June 1986, 6 August in 1991 and 1996

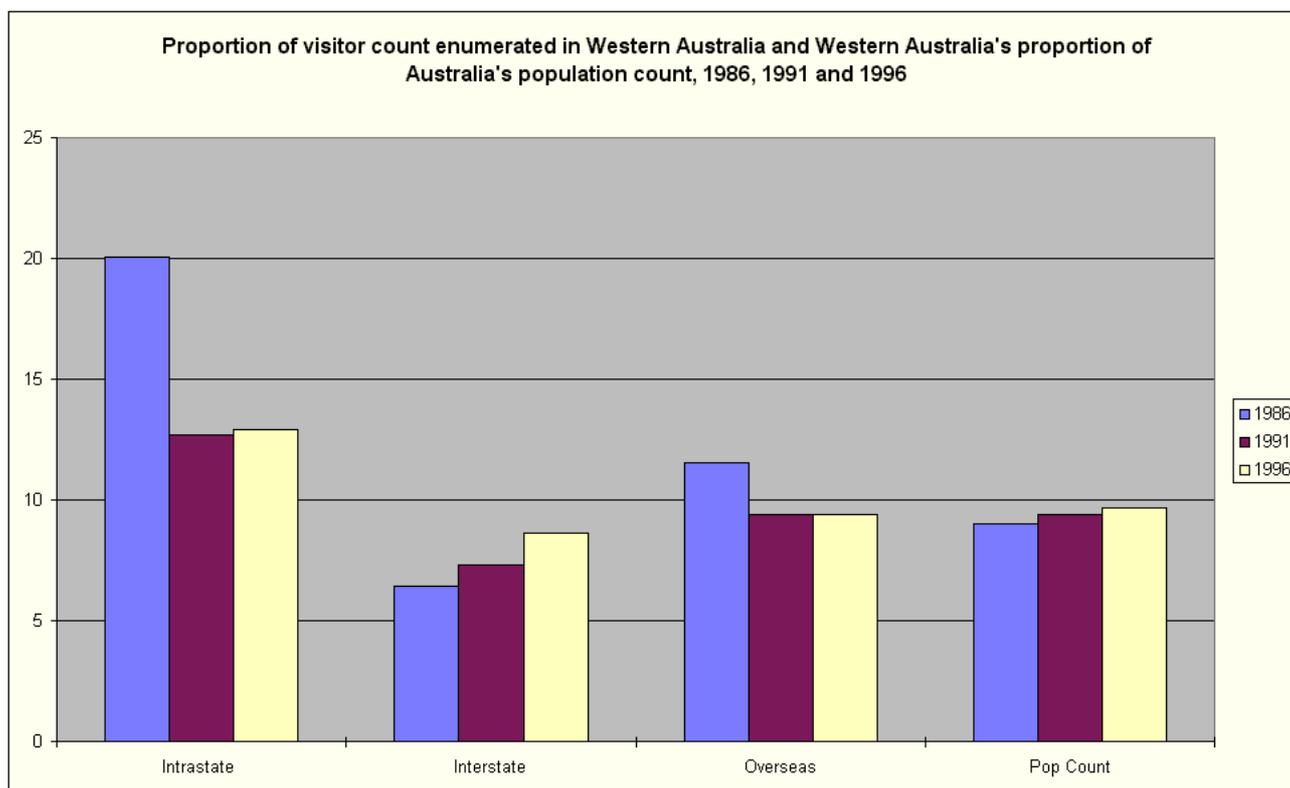
Source: ABS, Census of Population and Housing, 1986, 1991 and 1996

These results reflect Queensland's popularity as a winter-time tourism destination and that an August based Australian Census corresponds with a peak month in the Northern hemisphere summer holiday.¹⁰ They also suggest that while Census-night mobility data are expected to understate overnight mobility rates throughout the year in Australia, they may overstate Queensland averages.

The influence of international tourism on domestic short-term mobility may have been underestimated in the past, especially in terms of selection of the Census date. The 1996 Census data relating to the overseas born and overseas visitors counted in Queensland, suggest a link exists between past migration and tourism. Specifically, half (50.6 per cent) of all overseas visitors counted in Queensland on 6 August 1996 were enumerated in private dwellings (i.e. residences) rather than non-private dwellings (e.g. hotels/motels). But this State average (50.6 per cent) masks the very high rates of private dwellings used by overseas visitors in non-tourist regions of the State. For example, in Logan City, 98.3 per cent of overseas visitors were enumerated in private dwellings. Such findings are consistent with other tourism data which suggest that large numbers of overseas visitors stay with family and friends. Such arrangements increase the likelihood that international timetables influence the holiday and short-term mobility patterns of Australians.¹¹ Less conclusive results are provided from similar Australia-wide data comparisons. Such ambiguity, however, is consistent with the apparent preference for Australians (as well as overseas visitors) to visit Queensland in mid winter, rather than to go elsewhere in Australia. Conversely, the number and proportion of intrastate visitors counted in Western Australia fell dramatically between

1986 and 1991(refer Figure 4). The proportion of the nation's overseas visitors counted in Western Australia also declined between 1986 and 1991, despite the number of overseas visitors found in this State having increased between these two Censuses.

Figure 4: Proportion of visitor count enumerated in Western Australia and Western Australia's proportion of Australia's population count, 1986, 1991 and 1996



Census night was 30 June 1986, 6 August 1991 and 1996

Source: ABS, Census of Population and Housing, 1986, 1991 and 1996

These proportional visitor declines coincided with the Census date being changed from 30 June 1986 to 6 August 1991 (required to prevent the 1991 Census from clashing with the school holidays introduced by the adoption of semester timetables in Australian schools during the 1980s).¹² Contrary to Queensland trends, the altered Census date has produced visitor counts in Western Australia which now correspond more closely with their share of the national population count (refer Table 2).

	Proportion of national visitor count (%)			Proportion of population count (%)	
	1986	1991	1996	1996	1996
NSW	30.4	30.2	29.8	33.8	
Vic	17.2	17.4	16.9	24.4	
Qld	23.4	27.1	28.8	118.8	
SA	6.4	7.1	6.1	8.0	
WA	16.2	11.0	11.4	9.6	
Tas	2.2	2.5	2.0	2.6	
NT	2.8	3.2	3.3	1.1	
ACT	1.4	1.5	1.6	1.7	
Australia	100.0	100.0	100.0	100.0	

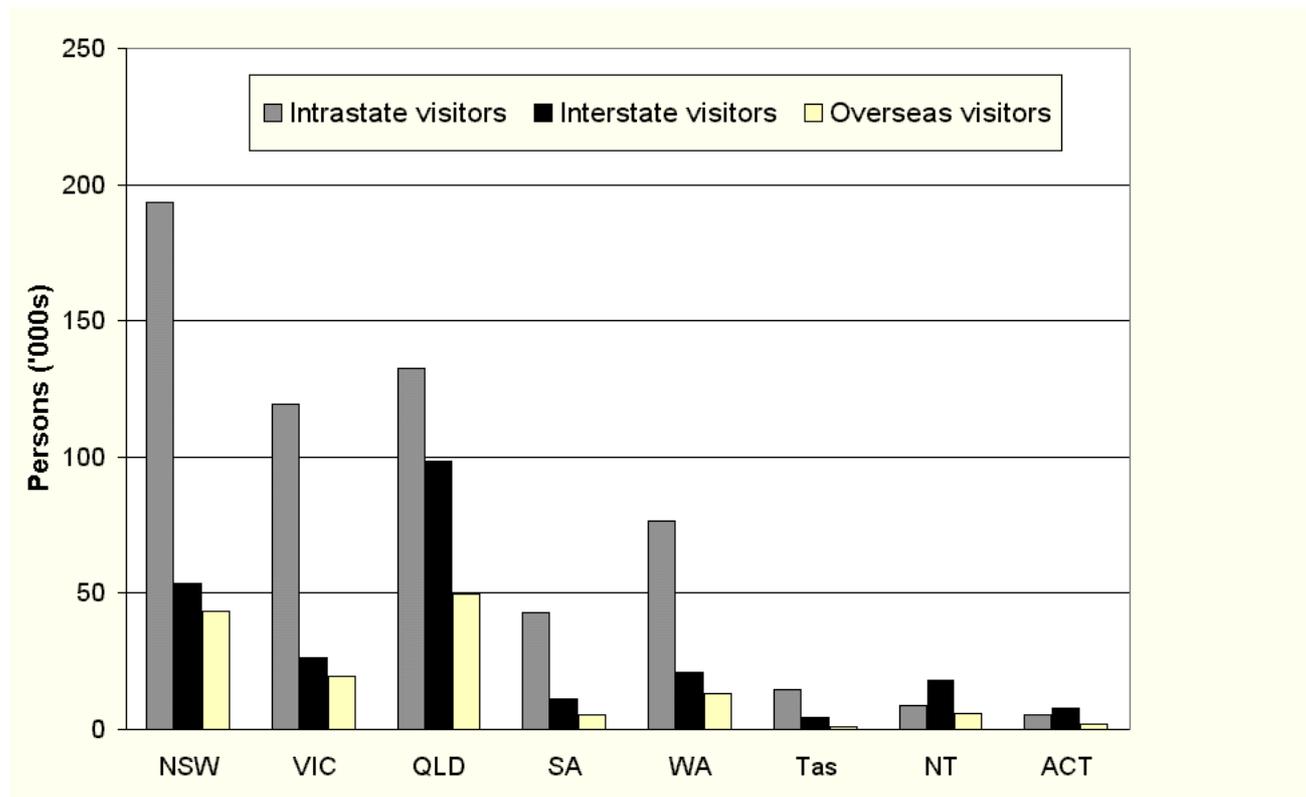
Note and source: See Table 1.

Further comparison of visitor and population count data presented in Table 2, suggests that

the altered Census date had relatively little impact on total visitor counts in Australia's other States and Territories.

New South Wales continued to have the largest share of the national visitor count in 1996 (29.8 per cent). While this proportion is similar to Queensland's share of the national visitor count in 1996 (28.8 per cent), the composition of visitors counted in these two States differs markedly. Figure 5 shows that visitor counts in New South Wales in 1996 were dominated by intrastate visitors while overseas and interstate visitation when compared with similar counts for Queensland were less significant.

Figure 5: Visitor counts by visitor type, States and Territories, 1996



Source: ABS, Census of Population and Housing, 1996

Comparison of details provided in Table 3 and Table 2 indicate that State (Territory) proportions of total intrastate visitors are closely aligned to State (Territory) proportions of Australia's total population counts. Consequently the large (absolute and proportionate) number of intrastate visitors found in New South Wales in 1996 (and also in 1986 and 1991) is consistent with New South Wales being Australia's most populous State.

Table 3: National visitor counts by visitor type, as a proportion of total visitor counts, States and Territories, 1996

	Proportion of national visitor count (%)		
	Intrastate visitors	Interstate visitors	Overseas visitors
NSW	32.6	22.3	30.9
Vic	20.1	10.9	13.9
Qld	22.4	40.9	35.6
SA	7.2	4.6	3.9
WA	12.9	8.7	9.4
Tas	2.4	1.8	0.8
NT	1.5	7.6	4.1
ACT	0.9	3.3	1.5
Australia	100.0	100.0	100.0

Source: ABS, Census of Population and Housing, 1996

Based on similar comparisons, it would appear that the Australian Capital Territory had below per-capita shares of intrastate visitors in 1996 (and also in 1986 and 1991). This result is not surprising given the Territory's small geographic size, which also prevents persons from being classified as 'in-transit on Census night' within the Australian Capital Territory. Conversely, in 1996 (and also in 1986 and 1991) the Northern Territory experienced above per-capita rates of intrastate, interstate and overseas visitation.

Perhaps of most interest to those involved in tourism, however, is the distribution of interstate visitors throughout Australia. Details relating to flows of interstate visitors on Census night in 1991 and 1996 are provided in Table 4. Similar 1986 data are excluded from Table 4 because the altered Census date between 1986 and 1991 prevent such data from being strictly comparable.

Differences in the count of interstate visitors in Australia in 1991 presented in Table 4 (211,700) and Table 1 (212,500) are a consequence of random error and rounding.

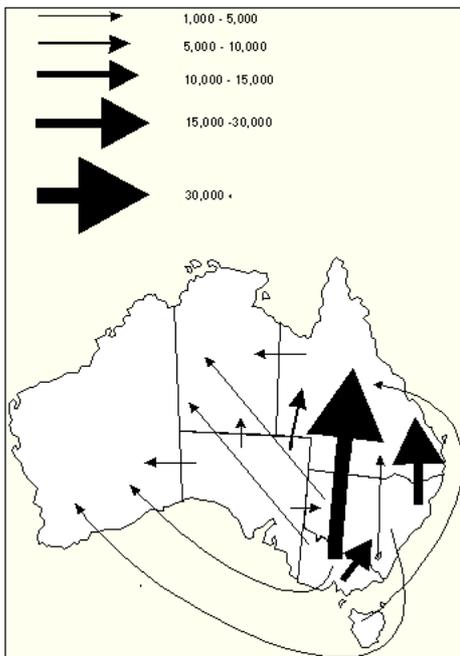
With the exception of the Australian Capital Territory, the flow of visitors between Australia's States and Territories increased between 1991 and 1996 (refer Table 4). The pattern of net flows evident in 1991 was also reinforced in 1996. For example, the States (Territories) which experienced net gains in interstate visitors in 1991 (Queensland, Western Australia and the Northern Territory) had higher net interstate visitor gains in 1996. Similarly, the States with net interstate visitor losses in 1991 (New South Wales, Victoria, South Australia and Tasmania) had increased net interstate visitor losses in 1996. Contrary to this pattern, interstate visitors both to and from the Australian Capital Territory declined between 1991 and 1996. As a consequence, the Territory's net interstate visitor loss in 1996 was less than that experienced in 1991.

	In	Out	Net
1991			
NSW	49,380	56,790	-7,410
Vic	22,460	77,120	-54,660
Qld	86,450	22,430	64,020
SA	11,080	23,030	-11,950
WA	15,560	12,620	2,940
Tas	3,940	8,140	-4,200
NT	16,300	2,790	13,510
ACT	6,530	8,780	-2,250
Australia	211,700	211,700	0
1996			
NSW	53,470	64,070	-10,600
Vic	26,100	86,140	-60,040
Qld	98,350	26,510	71,840
SA	11,040	25,710	-14,670
WA	20,780	13,480	7,300
Tas	4,250	10,210	-5,960
NT	18,170	4,150	14,020
ACT	7,880	9,730	-1,850
Australia ^a	240,400	240,400	0

^a Includes Other Territories
Source: ABS, Census of Population and Housing, 1991 and 1996

In general, the magnitude of net flows increased by around 5,000 persons for the larger States between 1991 to 1996 (refer Table 4). The net flows of interstate visitor movements between Australia's States and Territories on 6 August 1996 are presented in Figure 6. It is apparent from this figure that the Australian population is highly mobile in early August, even though this is not a school-holiday period. Interstate visitors can be expected to include: Australians away from home for business purposes (including conference attendees, seasonal employees such as fruit pickers and rotational employees such as fly-in/fly-out mine workers), temporary residents to sunbelt zones, guests staying with family or friends, and interstate tourists.

Figure 6: Net interstate visitor flows, 1996



Excludes net flows of less than 1,000 interstate visitors
 Source: ABS, Census of Population and Housing, 1996

The largest flow of interstate visitors in Australia in 1996 occurred between Victoria and Queensland. In total, 43,200 Victorians were counted as interstate visitors in Queensland while 4,800 Queenslanders were found to be staying in Victoria on 6 August 1996. Thus, in net terms, Queensland's population count was boosted by 38,400 visitors from Victoria in 1996. The next largest interstate visitor movement in 1996 was between Queensland and New South Wales. Queensland experienced a gain of 21,020 persons through net interstate visitation with New South Wales on 6 August 1996. As partial compensation for its net loss to Queensland, New South Wales had a net gain of 13,640 interstate visitors from Victoria in 1996. Net interstate visitor gains from South Australia to Queensland were also of a significant number in 1996 (7,600 persons).

In general, despite the magnitude of interstate visitor movements increasing between 1991 and 1996, the pattern (and magnitude) of net flows between specific States (Territories) in 1996 hardly altered from those found on 6 August 1991. As a consequence, Figure 6 depicts the interstate visitor flows for both 1996 and 1991. A small yet noteworthy exception to this general pattern, however, is the reversal in net flow between the Northern Territory and Western Australia between 1991 and 1996. In 1991, the Northern Territory had a net gain of 1,500 interstate visitors from Western Australia whereas, in 1996, net interstate visitation resulted in the Northern Territory losing 750 people to Western Australia. In addition, the Northern Territory lost 480 people through net interstate visitation with Tasmania, which also marked a turn-around from the 1991 pattern (in which the Territory had a net gain of 240 interstate visitors from the Apple Isle).

Other small exceptions to the general pattern of minimal change in interstate visitor flows between 1991 and 1996, include the reduction in net interstate visitors from the Australian Capital Territory to New South Wales between 1991 and 1996 (down from 980 to 190, respectively) and the increase in net interstate visitors from South Australia to Victoria during this five-year interval (up from 140 persons in 1991 to 671 persons in 1996).

It is also worth noting that, despite the increase in interstate visitors counted in Queensland between 1991 and 1996, Queensland's share of the national interstate visitor count remained unchanged (at 40.9 per cent) from that recorded in 1991 (refer Figure 3). By contrast, Western Australia's share of total interstate visitation within Australia grew from 7.3 per cent in 1991 to 8.7 per cent in 1996 (refer Figure 4). Minor increases in interstate visitors, expressed in proportionate terms of the national total, were also experienced in Victoria and the ACT between 1991 and 1996.

Such results indicate that, in addition to increasingly choosing overseas locations for short-term trips, Australians also increasingly chose different domestic destinations for their short-term trips between 1991 and 1996. These conclusions confirm the need for visitor data to be monitored regularly since the size and spatial distribution of visitors does not remain static over time. In addition, the growth in interstate and overseas visitors, especially in Queensland, dictates that care is needed when analysing population count data to ensure visitor characteristics are not inadvertently interpreted as relating to the resident population in general.

SUMMARY

Individuals and organisations involved (either directly or indirectly) in providing goods and services are increasingly recognising the value of short-term mobility data to population estimation. Though a range of visitor estimates (such as temporary residents, overnight visitors, commuters and other daytime visitors) are needed to create service population estimates, this paper has concentrated solely on examining Census-night mobility data in relation to overnight visitor estimation.

In total, more than one million (1,129,700) Australians and a further 139,600 overseas visitors in Australia were counted away from home on the night of 6 August 1996. Visitor counts were most marked in New South Wales (mostly intrastate visitors) and Queensland (a combination of interstate and overseas visitors). The largest flow of interstate visitors in Australia in 1996 occurred between Victoria and Queensland. In net terms, Queensland's population on 6 August 1996 was boosted by 38,400 interstate visitors from Victoria, 21,020 interstate visitors from New South Wales and a further 7,600 interstate visitors from South Australia. Western Australia and the Northern Territory also gained population through net interstate visitor movements on 6 August 1996. The remaining Australian States (Territories), as source regions for such movements, experienced net interstate visitor losses. Interstate visitors are expected to include Australians away from home for business purposes (including conference attendees, seasonal employees such as fruit pickers and rotational employees such as fly-in/fly-out mine workers), temporary residents to Queensland's sunbelt regions, guests staying with family or friends, and interstate tourists.

These results suggest that an August-based Census does not necessarily correspond with a time when Australians are likely to be least mobile. Such a conclusion has data quality implications for the Census itself, as well as for those components of service-population estimates which are based on Census data.

The size, growth and altered distribution of visitor counts recorded by the Census of Population and Housing between 1986 and 1996 require that visitors (either intrastate, interstate or overseas) be considered in terms of their impact on regional strategic planning and service provision. Furthermore, to ensure efficient and equitable distribution of goods and services, the demographic characteristics of visitors need to be differentiated from those pertaining to the resident population.

Note

The views expressed in this article are principally the author's and do not necessarily reflect those of the Queensland Department of Local Government and Planning.

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