



COMMONWEALTH GRANTS COMMISSION

DRAFT ASSESSMENT PAPER CGC 2003/73

POPULATION ISSUES

Prepared for the Commission's 2003 Conferences on Draft Assessments

AUGUST 2003

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OVERVIEW

1. This paper reviews the population-related issues raised by the States and summarised by staff in *Discussion Paper CGC 2002/10 Population Issues*. It concludes that the Commission's assessments should continue to use ABS Census data, inter-censal estimates of resident populations, and experimental estimates of the Indigenous populations, as appropriate.

2. These provide the best measures available, in spite of uncertainties about Indigenous population data. The ABS are the experts in this field and we consider that there is a very strong case for upholding the Commission's general principle that Census-based and other ABS data should not be adjusted (unless the ABS accepts the need for adjustments).

3. The inter-censal estimates of resident population (ERP) were originally criticised by some States, but final figures showed that the inter-censal error was much lower than anticipated for Queensland and the Northern Territory. We will continue to use the final estimates, without adjustment.

4. The most difficult issue raised by States was the accuracy of the ABS data for remote Indigenous populations, and of the experimental estimates of Indigenous and non-Indigenous populations. The issue has several dimensions:

- the effectiveness of the Indigenous Enumeration Strategy carried out in the 2001 Census;
- the applicability of the results of the Post-Enumeration Survey (which surveyed 37 000 households but was not conducted in remote areas) to the remote Indigenous population; and
- the inherent uncertainty in all counts or estimates of Indigenous populations.

5. The difficulty in measuring the Indigenous population is the reason the ABS has had special strategies for Indigenous enumeration in each Census since 1976, and why the subsequent estimates of Indigenous resident populations are called 'experimental'.

6. The ABS makes a very significant effort to ensure that its remote Indigenous population count is as good as possible and that the Indigenous experimental estimates are the best available estimates of Indigenous resident populations. The Commission will continue to use them.

7. The remaining issues raised by the States concerned the Indigenous population for Tasmania and gross population flows and transient populations¹. These raise

¹ Transient populations can include a number of groups: Indigenous and non-Indigenous people who may be tourists/visitors, itinerant and fly-in/fly-out workers, some hospital patients, prisoners, and homeless people, plus overseas tourists/visitors and refugees.

the issues of whether sub-groups of the Indigenous population have different effects on the service delivery costs incurred by States and whether States incur extra costs because of population mobility.

8. The Commission does make some allowance for the different effects of sub-groups of the Indigenous population on the basis of remoteness and low English fluency. It will continue to do so.

9. The availability of data on ‘service populations’ (a term used to describe the theoretical population which receives a particular service) would help address the problem of population mobility. The ABS is proposing to investigate service populations nationally.

10. As yet, there is no single accepted way of measuring service populations and there is no national data we feel confident in using. Measuring transient populations, and determining which services they use and at what rates, has also not been done and will not be straightforward.

11. The Commission has concluded that it will not attempt to measure the impact population mobility in general until national service population data are available from the ABS. This is because there is insufficient evidence to support the case that transient groups in general materially impact on service costs, or if they do, to estimate just what these impacts are.

12. However, there is an issue about the effects of the mobility of Indigenous people in remote areas on the costs of providing essential and other services. The Commission has concluded that there is a conceptual case that it should consider recognising the cost impacts in relevant categories. However, there is not sufficient information to identify what impact Indigenous mobility has on State services or to measure the impact on costs with any confidence.

BACKGROUND

13. The Commission’s general approach is, wherever possible, to use data produced by independent expert bodies, such as the ABS. As a general principle, the Commission does not consider it appropriate to make adjustments to published statistics unless there is unambiguous evidence that by so doing it would improve the accuracy of the data and enhance equalisation. It would only adjust ABS data if the ABS accepts the need for adjustments.

14. The Commission’s assessments rely on Census data, inter-censal estimates of resident populations, and experimental estimates of Indigenous populations, all produced by the ABS. The Northern Territory, Queensland and Western Australia criticised these data on a number of grounds.

15. The issues requiring particular consideration were:

- (i) the accuracy of inter-censal ERP;
- (ii) the accuracy of data on remote Indigenous populations;
- (iii) whether the Indigenous estimates for Tasmania were acceptable for use in Commission assessments;
- (iv) whether gross population flows between States should be considered as well as net population changes; and
- (v) whether transient population movements should be considered as well as resident populations.

16. This paper provides the Commission's decisions on each of them. Terms used throughout the paper are explained in Figure 1. Figure 2 maps the processes and outputs which produce the main Census-based population data the Commission uses. It also shows that some ABS collections, such as the Schools Census and the Community Housing and Infrastructure Needs Survey (CHINS) are quite distinct processes from the Census, although CHINS is in some ways related to the Indigenous Enumeration Strategy.

Figure 1 POPULATION TERMS

The *Indigenous Enumeration Strategy (IES)* was adopted by the ABS in 1996 to achieve the most accurate count of Indigenous people in nominated discrete Indigenous communities, and elsewhere. It forms part of the Census, but uses different procedures to collect data. For nominated discrete Indigenous communities the form is filled in by the collector using an interview with one household member. This requires a higher ratio of collectors to households, Indigenous personnel as collectors, and takes longer to carry out.

The *Post-Enumeration Survey (PES)* is a sample survey of households routinely carried out three weeks after the census date. The aim is to enumerate a representative sample independently from the Census to estimate the rate at which the census count has missed people and counted people more than once. For 1996 and 2001 the net under-count rate (which was four to five times higher for Indigenous than non-Indigenous people) was one of the inputs used to adjust the counts of usual residents to produce estimated resident populations.

Census count is the population as enumerated in the Census. It includes overseas visitors and excludes residents overseas. It is the usual resident census count which is used to calculate the estimated resident population.

Estimated resident population (ERP) is the official estimate produced at quarterly intervals during the year, using quarterly information on births, deaths, overseas migration and interstate migration. The ERP is derived from the usual resident census count, which is then adjusted to incorporate allowances for those missed in the census and counted twice, plus additions for residents temporarily overseas on census night.

Experimental estimates are the ERPs broken down into Indigenous and non-Indigenous populations. They are experimental because the standard approach to population estimation is not possible, and they incorporate assumptions about Indigeneity. For example, 'Not Stated' responses are assigned to either Indigenous or non-Indigenous according to the split within the same locality. The final experimental estimates using the 2001 Census were released on 20 March 2003 in *Australian Demographic Statistics*. Experimental estimates of the Indigenous population by State for the years 1991 to 2001 will be produced by the end of 2003. The next set of Census based experimental estimates will be produced after 2006.

Inter-censal estimates are the ERPs at State level produced between Censuses. Net interstate migration, net overseas migration, births and deaths are used to update the Census year ERPs.

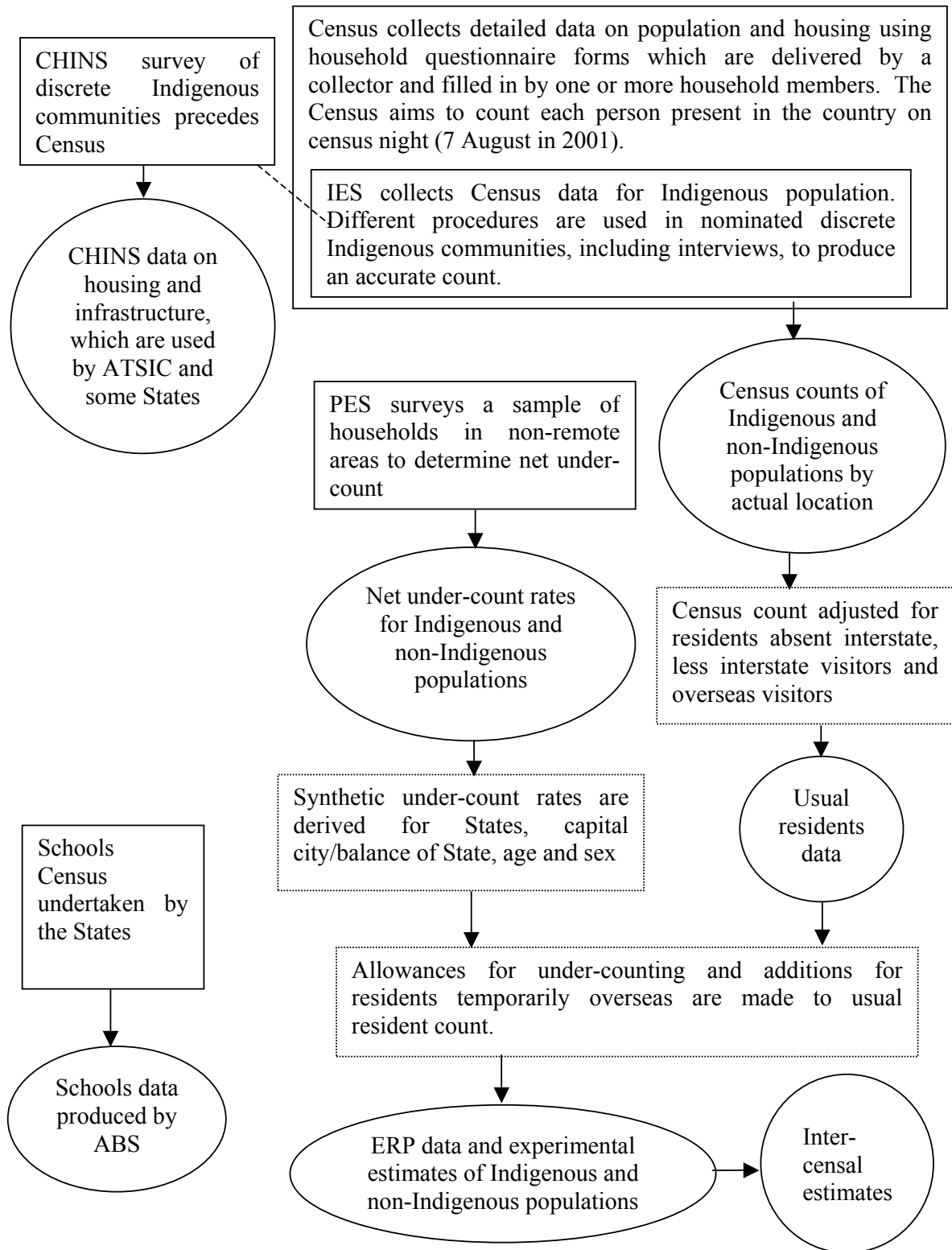
Community Housing and Infrastructure Needs Survey (CHINS) is the survey of discrete Indigenous communities and Indigenous housing organisations carried out by the ABS for ATSI shortly before the Census. In 2001 it surveyed 1216 discrete Indigenous communities, which were mostly in remote and regional areas, but included a few in urban areas. Roughly a quarter of the total Indigenous population is estimated to live in these discrete communities.

Service population is a term used to describe a theoretical 'load' population for a particular service in a particular location. In any one place, there will be as many different service populations as there are services. There is no firm definition, but it is commonly used to mean the average load (over the year), which may be the sum of usual residents who draw upon a particular service plus some proportion of a transient population that also places a load on the service.

Figure 2 MAP OF ABS POPULATION DATA

OTHER ABS COLLECTIONS

ABS POPULATION CENSUS



INTER-CENSAL ESTIMATES OF RESIDENT POPULATION

1999 Review

17. In the 1999 Review, the Commission used ABS inter-censal estimates of resident population in all of its assessments. The Commission's operating principle was that the ABS is the most authoritative source of population data, and our practice has been to accept and use ABS population data and related estimates.

State views

18. During workplace discussions and in its main submission, the Northern Territory argued that under-estimation of its population had a direct and quantifiable effect on the Territory's fiscal position. It said that under-estimates had deprived it of over \$125 million in general revenue grants between 1981 and 1996. In its submission, the Territory proposed that the Commission redress this situation by altering the Debt Charges assessment (see *CGC 2003/57 Debt Charges*).

Staff proposals

19. In discussion paper *CGC 2002/10*, staff concluded that the Northern Territory's ERP had been under-estimated in the past. However, the results of the 2001 Census so far suggested that this was a diminishing problem. Staff concluded that it would be best to await final figures before making a judgement. However, staff noted that there did not appear to be any reliable way of adjusting State ERPs.

Further State views

20. New South Wales, Victoria, Western Australia and the ACT did not comment.

21. Queensland opposed retrospective adjustments, and argued that the accuracy of estimates was a matter for the ABS to resolve. It agreed with the Northern Territory that the inter-censal discrepancy was a significant problem (which may have been based on the available data at the time) and said that there are major ongoing problems with interstate migration estimates which have not been satisfactorily addressed by ABS.

22. South Australia argued that there should be no adjustments for past inter-censal population estimate errors. It opposed the Northern Territory's proposal that the Debt Charges assessment should be adjusted, on the basis that this would be highly speculative.

23. Tasmania opposed retrospective adjustments due to past inaccuracies on the grounds that it would conflict with past practice and increase complexity. It also opposed any adjustment for future errors on the basis that there was no robust method for doing this.

Commission decision

24. On 20 March 2003, the ABS released its final ERPs based on the 2001 Census. The final ERPs showed that the inter-censal error was very low (the Australian population was over-estimated by 0.05%), and was lowest for the Northern Territory and Queensland. Table 1 shows the final inter-censal error for all States. It shows that the Northern Territory population was under-estimated by 219 people or 0.11 per cent. On the basis of these figures, we are confident that the inter-censal estimates are robust and that there is no cause to depart from our normal operating principle and practices. The Commission uses the most recent data for each assessment year in all its calculations. But it does not attempt to make retrospective adjustments to allow for what might have been if that recent data had been used in previous years.

Table 1 INTER-CENSAL ERROR: 1996-2001

	Final intercensal error	Final intercensal error (%)
New South Wales	26 978	0.41
Victoria	-35 593	-0.74
Queensland	-5 783	-0.16
Western Australia	-11 479	-0.60
South Australia	9 586	0.63
Tasmania	1 837	0.39
ACT	4 329	1.36
Northern Territory	219	0.11
Australia ^(a)	-10 550	-0.05

Notes: Intercensal error is the difference between two sets of ERP figures, those based on the 1996 Census and those based on the 2001 Census.

(a) Includes other Territories.

Source: ABS Additional Briefing Information: Population Estimates Released 20 March 2003, Table A2.

REMOTE INDIGENOUS POPULATIONS

1999 Review

25. In the 1999 Review, the Commission used ABS experimental estimates of the remote Indigenous population unadjusted.

State views

26. The Northern Territory sought adjustments to the ABS Indigenous population estimates for remote areas. Its main argument was two-fold:

- (i) that the IES was flawed; and
- (ii) that the 2001 PES Indigenous net undercount rate of 6.1 per cent for Australia (6.9% for the Northern Territory) was too low, being based on surveys of non-remote areas.

27. The Northern Territory provided qualitative evidence which suggested that some young Indigenous males in the Territory, and in particular those from more remote and traditional communities, actively avoided being counted on any lists, Census or otherwise. This was supported by Territory Government data collections on Indigenous community populations which showed a number of irregularities when compared with 1996 Census data.

28. Queensland and Western Australia raised similar arguments. According to those States, the true Indigenous under-count rate could be greater than was used to calculate their ERPs, because of the many difficulties in counting and estimating Indigenous populations.

Staff proposals

29. In discussion paper *CGC 2002/10*, staff said that if strong evidence were provided on the extent of under-counting of remote Indigenous people, staff were inclined to ask the ABS for advice on how to adjust for this. State and ABS views were sought on that proposal.

Further State views

30. New South Wales, Victoria and the ACT made no comment.

31. Queensland argued that some adjustment was required to compensate for under-counting. It said that studies by the University of Queensland and the Centre for Aboriginal Economic Policy Research (CAEPR) indicated that many remote communities in northern Queensland had consistently been under-counted. Those studies used composite population estimates (from administrative data sources) to demonstrate an alternative method. Queensland said that the populations of Queensland and of Australia as a whole were likely to be greater than the ABS figures showed. It said that there was sufficient evidence to justify an adjustment for remote Indigenous communities, especially in Queensland and the Northern Territory.

32. Western Australia was also concerned about remote under-counting and the PES, and cited qualitative evidence of under-counting in Western Australia. It agreed that this was a significant issue for the Commission to resolve. Western Australia also produced a table showing the Schools Census numbers of Western Australia Indigenous primary

school children were 15 per cent higher than the Census counts of the same group. It said oral advice from the ABS was that this may have arisen because a large proportion of Census returns do not include a response to the Indigenous identification question and that 'the Schools data, which includes Indigenous identification for all students would be a more reflective count than the Census.'²

33. South Australia agreed with the Northern Territory that under-counting was a more significant issue in remote areas, and that the ABS' under-count rate was too low. It suggested that the ABS address this through a small PES in sparsely settled areas. It argued that any adjustment to remote Indigenous population data should apply nationally, not just to the Northern Territory.

34. Tasmania supported further research on this topic. It agreed that the issue may be significant for some States and might warrant some action by the Commission.

35. The Northern Territory again raised in bi-lateral discussions its concerns about under-counting of remote Indigenous communities and about the adequacy of the IES, the PES and the experimental estimation methodologies. It proposed that the Commission consider using service population estimates derived from CHINS. It suggested that, for remote Indigenous communities, we replace the ERP data with a composite estimate using the average of the ERP and CHINS data for those communities.

ABS view

36. The ABS has acknowledged that there is uncertainty surrounding Indigenous numbers. The difficulty in measuring the Indigenous population is the reason the ABS has had special strategies for Indigenous enumeration since 1976, and why its estimates are called 'experimental'. According to an ABS publication,

There is a common theme associated with Indigenous population estimates and that is uncertainty. Because of the difficulties associated with estimating the Indigenous population, there is unlikely to be ever one answer to what the Indigenous population is in the absence of a definitive register of the Indigenous population. Effectively the population in technical terms is unbounded.³

37. The ABS has presented persuasive evidence to us⁴ that the IES for the 2001 Census was well designed and well executed. In the ABS' view, the IES provided a better count of the remote Indigenous population in the Northern Territory than had been achieved before. This was partly attributed to the fact that the CHINS survey carried out several months prior to the Census had comprehensively mapped the remote Indigenous communities.

² Letter dated 29 July 2003 from Department of Treasury and Finance, Government of Western Australia to Commonwealth Grants Commission.

³ ABS Demography Working Paper 2001/4, 'Issues in Estimating the Indigenous Population'.

⁴ ABS presentation to the Commission meeting, 21 May 2003, Canberra.

38. The ABS also explained that a PES in remote areas would lack independence and be redundant because it would require using the same personnel and some of the same procedures used in the IES a few weeks earlier. Given that the IES involved intensive collection methods, the ABS argued that a PES for remote areas could produce a lower under-count rate than that derived from the Australia-wide PES.

39. The ABS noted that every attempt had been made to investigate instances where arguments were made that the Census failed to count people. In almost all cases, the ABS data were found to be comprehensive. In the small number of cases where it found that good evidence was supplied, corrections were made to relocate populations across regions⁵. The ABS was confident that total State resident populations were as accurate as possible.

40. In respect of service populations, the ABS considers this is a subject requiring further work. Service population estimates would be distinct from ERPs, because they measure different things. 'Service population' is a term used to describe the theoretical population which receives a particular service. It is said that, over the year, different service populations (which rise and fall) draw on particular services in different locations. For measurement purposes, they may be an approximate average of the usual resident population plus some proportion of the transient population.

41. In the longer term, the ABS proposes to investigate service population estimates nationally. However, it noted that the definition of service populations remained fairly nebulous, and would need to be clarified.

42. The ABS further noted that CHINS did not provide a service population estimate, but rather an alternative estimate of usual residents. As the CHINS figures for communities were provided by an administrative source, they are considered to reflect administrative data⁶. The ABS regards these estimates as less reliable than Census-based estimates.

Analysis

43. The ABS has explained to the Commission the process it used in the IES in the 2001 Census. The IES was a resource-intensive method of measuring an intrinsically hard-to-measure population. The ABS continues to work on improving the IES and Census coverage generally.

44. The ABS puts considerable effort into Census counts of remote Indigenous populations and has investigated statements that particular people or groups have not been counted. With the exception of two localities, these were found to be unsubstantiated.

⁵ ABS has said corrections were made in two localities (one in Queensland and one in New South Wales). Several other adjustments for imputation were also made in places such as mining quarters in Western Australia.

⁶ There is a wide variety of administrative data sets containing demographic information, including school enrolments, clinic registers, hospital births data, Centrelink payments data, and Medicare data.

45. The lack of a PES in remote areas has led to some discord about final estimates for these areas, including arguments that the true figure was either higher or lower than the Census counts. However, the value of undertaking a PES in remote Indigenous communities is not certain. We accept that a PES in sparsely settled areas would not necessarily improve the accuracy of the estimates.

46. The ABS has said⁷ that its Census-based estimates are intended to measure the number of people on the ground at one point in time, and that this may be an imperfect tool for measuring the need for services. There is a conceptual case that estimates of service population would be a better basis than estimates of resident population for our purposes. However, no such data are currently available.

47. The arguments about the accuracy of the Indigenous under-count use administrative data to illustrate the gap between the population counts and the States' own service population estimates. According to the ABS, the administrative data are fraught with potential errors, particularly for Indigenous populations. Given the ABS advice that administrative data are often of questionable quality, we think that composite estimates derived from CHINS or other administrative data would not give a better result than the ABS experimental estimates.

Commission decisions

48. The Commission acknowledges the doubts in some States about the quality of Indigenous population data. However, it is convinced that the ABS makes a considerable effort to ensure that the Census counts and experimental estimates of the Indigenous population are the best available estimates of resident population. The ABS considers its data are as accurate as possible. The Commission is sufficiently confident about the accuracy of the ABS data on the Indigenous population for it to continue to use them for its purposes.

49. The ABS is proposing to undertake some work on service populations. The Commission will reconsider this issue when the results of that work are available.

INDIGENOUS ESTIMATES IN TASMANIA

1999 Review

50. In the 1999 Review, the Commission used ABS experimental estimates of the Indigenous population, unadjusted. However, it accepted that the effect of the Indigenous population on the costs of providing many State government services is not uniform and varied for many reasons including characteristics of the Indigenous population.

⁷ ABS Seminar, 6 May 2003, Darwin: 'ABS Population Numbers: How are they Compiled, What do they Mean?'

It decided to reflect those differences by making a distinction within the Indigenous population. It chose remoteness as the basis of that distinction because was a marker of greater disadvantage in the Indigenous population and could be readily implemented using cross-classified data from the Census.

Staff proposals

51. In discussion paper *CGC 2002/10*, staff concluded that estimates of the Indigenous population derived from Census counts could over-estimate the level of need in Tasmania. This is because self-identification as an Indigenous person in Tasmania may not mean that the person has the same impact on government services as a similarly self-identified Indigenous person in the Northern Territory. The paper concluded that some adjustment to Tasmanian data may be necessary. The views of the States were sought.

State views

52. New South Wales, Victoria, Western Australia, the ACT and the Northern Territory made no comment.

53. Queensland agreed that there was a potential problem, and proposed that we use other sources to validate the data, such as Tasmanian government sources.

54. South Australia argued that there were real cost differences between Tasmania and the other States due to cultural, linguistic and alienation characteristics. It suggested that the Commission should use a more sophisticated measure to distinguish between Indigenous groups with different service delivery costs. For example, English fluency could be used more frequently to distinguish between Indigenous groups imposing different cost structures.

55. Tasmania explained the three-tier system used by some of its services to determine Indigeneity, but argued that it was far from a consistent, accurate or robust measure. It opposed using an alternative method to that used by the ABS Census because using a fundamentally different population measure for a single State would raise other problems.

Analysis

56. The ABS has looked at the issue of a growing number of people identifying themselves as Indigenous in the Census. It concluded that this was primarily an urban phenomenon⁸, and that as self-identification is a fundamental aspect of the Census, there was no reliable way of adjusting for this.

57. The question is whether Tasmania's case is different from the other States. There is a conceptual case that self-identification and subsequent imputation may produce

⁸ ABS Occasional paper (1999) 'Population Issues, Indigenous Australians, 1996', Cat No. 4708.0

disparities because there may be collective differences in the propensity to self-identify. However, there is no evidence to establish how this may affect Indigenous population data generally, and no evidence that it has a greater or lesser effect on Tasmania's data.

58. South Australia's argument that we should make distinctions within the Indigenous population according to the expected impact on the use and unit cost of government services is a feature of our assessments. The primary basis for that distinction is remoteness but we also use the number of Indigenous persons in each State with low English fluency where it is appropriate. Those distinctions enable our assessments to differentiate between groups who are more or less costly to service.

Commission decisions

59. The ABS has not considered it appropriate to adjust the data for any State because of reduced comparability across States introduced by self-identification. There is insufficient evidence to consider that issues arising from self-identification are significantly different in Tasmania from elsewhere. We therefore propose to continue to use the experimental estimates data supplied by the ABS. We will also continue to use other indicators such as remoteness and English fluency, where necessary, to make distinctions within the Indigenous population to better reflect the relative impact on State costs.

GROSS POPULATION MOVEMENTS

1999 Review

60. The Commission's current methods of assessment use net migration in the population of each State at the end of December to determine relativities. Gross flows are not taken into account because resident population is the basis of all assessments.

State views

61. In discussing interstate mobility, the Northern Territory said that the ABS net migration data showed that it had a much higher level of gross population movement than other jurisdictions. It argued that using net data resulted in an underestimate of the costs it faced because the net data did not adequately capture the large interstate flows which impact on demand for services and administrative scale costs.

Staff proposals

62. In discussion paper *CGC 2002/10*, staff noted that the Commission's current assessments use the net impact of population migration because they are based on ERPs. It

suggested that the relevance of gross population flows to the costs of providing services would best be dealt with on a category by category basis. It sought the views of the States on where the impact might be material and how it should be measured.

Further State views

63. New South Wales, Victoria, Western Australia, the ACT and the Northern Territory made no comment.

64. Queensland argued that gross population movements were not material.

65. South Australia stated that it was unaware of any evidence to show that gross population movements would impact on either the demand for or unit cost of the services. It suggested that in the absence of reliable data, the Commission should not assess the impact of gross populations on the cost of service delivery.

66. Tasmania cautiously supported using gross population movements on a category by category basis. It noted that this was a significant issue for Education. It was not sure how it might be done in practice, and reserved judgment pending more specific proposals.

Analysis

67. There is a conceptual case that gross flows impact on the cost of certain services. For example, an area where the number of people who move in and move out is the same will show no change in population (apart from births and deaths), but is likely to experience a higher number of school enrolments in the course of the year and would need to offer orientation to more students than would be the case in a stable population.

68. There are data available at a State-wide level, which the ABS uses to calculate net migration in the inter-censal estimates. However, there is no evidence of materiality and the States have not proposed any method to make an appropriate adjustment.

Commission decision

69. The Commission acknowledges that there is a conceptual case for considering gross population flows on a category by category basis. While it is possible to measure gross population flows, States have not provided sufficient evidence of how these affect costs. In the absence of relevant cost data to decide whether the effect is material, the Commission does not propose to assess needs relating to any effects gross population movements may have on service delivery costs.

TRANSIENT POPULATIONS

1999 Review

70. The Commission's current methods of assessment deal with estimated resident populations and do not take account of transient population movements.

State views

71. Queensland and the Northern Territory argued that the mobility of their populations and interstate flows affected their costs.

72. Queensland said that temporary mobility of its population was substantial and was of rising importance throughout Australia. It said that temporary movers placed demands on the local infrastructure, services and facilities. For some regions, particularly holiday areas, the impacts of those temporary population movements were more significant than permanent inflows. In those cases, services such as water and sewerage have to meet peak demands.

73. The Northern Territory said that Indigenous people were inherently highly mobile. While some Indigenous movement was predictable, such as that due to seasonal influences, other movement was not. This high mobility and unpredictability was said to have a significant impact on the demand for and nature of services, such as teacher time spent orientating new students, the need for temporary accommodation, and the capacity of essential power, water and sewerage services.

Staff proposals

74. In discussion paper *CGC 2002/10*, staff said that the lack of data could prevent the Commission from recognising any cost impacts of transient populations. It suggested that the impact of transient populations on costs was best dealt with on a category by category basis where specific evidence could be considered.

75. The paper noted that transient populations could include various groups: both Indigenous and non-Indigenous people, who may be tourists/visitors, itinerant or fly-in/fly-out workers, hospital patients, refugees, homeless people, or overseas tourists. Transient populations within a State may include people usually resident there, but travelling away from home.

Further State views

76. New South Wales, Victoria, Western Australia, the ACT and the Northern Territory made no comment on this issue in their rejoinder submissions.

77. However, in response to a staff email request (see Attachment A) New South Wales, Queensland, Western Australia, South Australia and the Northern Territory provided evidence that Indigenous mobility impacts on the cost of certain services. Queensland argued that tourists and visitors also impact on the cost of providing certain services (such as police). Western Australia argued that transient workers affected service provision requirements and Tasmania argued that the mobility of its own residents impacted on the cost of education.

78. Queensland said that the service population at any one point in time generated demand for services. For example, it provided a broad range of services, such as health, police, emergency services and urban transit, to significant populations of visitors. It argued that these were partly accounted for in the socio-demographic factor when as-enumerated populations⁹ were used. However, if usual resident Census data were used, the assessments were considered inaccurate.

79. Queensland proposed that a transient population factor be calculated to adjust per capita needs to account for the increased demand for some services. It proposed two options for calculating such a factor:

- (i) comparing the number of persons enumerated at the time of the Census with the number of usual residents; or
- (ii) comparing the number of usual residents with the numbers of interstate and overseas visitors.

80. South Australia argued that there were very little data available to show that intrastate population flows affected expenditures. It suggested that in the absence of reliable data, the Commission should not make an assessment.

81. Tasmania argued that transient population movements were not significant and that the practical difficulties in quantifying movements and their impacts on costs would be too great. It concluded that the Commission should not attempt an assessment.

Analysis

82. There was a range of views on whether there was sufficient evidence to warrant further examination of these issues.

83. However, only Queensland proposed ways of measuring the effects. Both of these methods have limitations.

84. The transient population factor proposed by Queensland using Census data would be distorted by the timing of the Census in mid-winter. While this might produce a meaningful maximum for Queensland and the Northern Territory, it would understate the transient populations of the southern States.

⁹ As-enumerated refers to those people actually counted in the ABS Census, which includes overseas visitors.

85. We also considered using tourism data to provide a basis for comparison between ERPs and the total number of interstate and overseas visitors. However, the tourist numbers are not necessarily additional to the ERP, as some proportion of the resident population will also be travelling interstate or overseas at any one time (and may be more likely to travel in peak tourist season). Some tourists would also be part of the resident population from elsewhere in the State.

86. These considerations suggest that, in practice, measuring the transient population is not straightforward. Even if it were, before an allowance could be assessed, we would require information on how transient populations affect the nature and level of services provided and State costs.

87. We note that the patterns of service demand of most transient groups are likely to be quite different from those of resident populations. The average tourist or seasonal worker is likely to impact on the cost of a narrow range of government services, and may not produce the same 'load' as a resident. In addition, any effect may be different for infrastructure and staffing. As a result, a transient population factor would need to incorporate an additional measure (similar to full-time equivalency in the workforce) to allow for the impact on State capital and operating costs for each service affected. We do not have information that would allow us to measure that link. It would not be a straightforward task to specify such a link and we are not aware of any work in this area.

Commission decision

88. There is an intuitive argument that transient people affect the demand for some State services and through that impact affect the costs States incur. However, except for Indigenous people (see below), the general conceptual case for making an allowance for their impact on costs is unclear because there is little evidence that indicates how States decide what capacity of facilities and services they will provide in various locations, or evidence that links mobile populations to State costs. Nor have we been able to devise a reliable method of measuring the transient population using Census or tourism data.

89. The Commission has concluded that it will not attempt to measure the impact of general population transience until national service population data are available from the ABS and there is information on how transient populations affect State costs. We would, however, reconsider the issue if there was a strong argument in logic that population mobility affected costs of providing particular services, there was evidence to support that argument, and the effect was material.

INDIGENOUS MOBILITY

90. Among the transient groups, there is qualitative and quantitative information that supports the argument that Indigenous people (particularly those in remote areas or those with a greater adherence to traditional culture) consistently exhibit high mobility for

many reasons. They may be visiting relatives, attending ceremonies or other gatherings, seeking services in towns, or may regularly re-locate depending on the season. Some States, especially the Northern Territory, have said that Indigenous mobility is acknowledged by service providers and ‘built in’ to their service provision in various ways. This is particularly so in the context of the high proportion of the population of comparatively small remote area communities that move and the essential nature of many of the facilities and services involved — housing, power, water and sanitation services and community health facilities.

91. The Northern Territory has submitted that responding to these needs means that there are a greater number of outlets with core staffing at all times. Also, extra staff are flown in quickly to meet the needs of a community when many visitors/family arrive.

92. The impact of Indigenous mobility could justify being considered as a special case because:

- (i) the Indigenous population is highly mobile — there is some evidence from CHINS data that discrete Indigenous communities experience high rates of mobility;
- (ii) State responses to mobile populations mean that the level of essential services and related activities provided in Indigenous communities is greater than would be needed to service the usual resident population — that is, capacity is provided to service visiting populations (or at least part of them) and/or the extra volumes of demand¹⁰ result in higher levels of operating expense due to greater incidence of breakdown and higher maintenance and repair costs;
- (iii) the States have provided evidence that allowances for Indigenous mobility are built into some services and produce additional capital and recurrent costs; and
- (iv) the costs are likely to be material.

93. However, as acknowledged by the Northern Territory, quantifying intrastate mobility is difficult. Hunter and Smith¹¹ noted that all data collection exercises involving Indigenous Australians can experience data quality problems arising from the high level of mobility of individuals and families moving between dwellings and communities. The CHINS data allow us to obtain some estimates of mobility, but they do not appear reliable.

94. We considered making an allowance for the effects of mobility on the cost of providing services using a population mobility factor or by applying a mobility cost weight to the Indigenous population. We considered this for some services, such as the Services to Indigenous Communities and the Community Health categories. We asked States to

¹⁰ ABS Cat. 4710.0 Housing and Infrastructure in ATSI Communities, 2001.

¹¹ Hunter, BH and Smith, DE, *Surveying Mobile Populations: Lessons from recent longitudinal surveys of Indigenous Australians*, CAEPR Working Paper 203/2000.

consider various options for measuring a proposed Indigenous mobility factor, all of which would use CHINS data.

95. Attachment A provides a copy of the request to States and Attachment B summarises the responses.

State views

96. The majority of States (New South Wales, Queensland, Western Australia, South Australia, the ACT and the Northern Territory) agreed that Indigenous mobility impacted on costs. However, many States expressed concerns about the proposed methods of measuring mobility factors and about the quality of the CHINS data.

97. New South Wales said that mobility also impacted on the cost of services to Indigenous populations in non-discrete communities not surveyed by CHINS. Tasmania noted that there were very limited CHINS data for Tasmania and Victoria, which might make it difficult to develop a factor for them.

98. The ACT suggested that we undertake further analysis before making a decision. Victoria did not accept that the impact of mobility on costs had been proven. In any case, it considered that the additional weights applied to remote Indigenous populations in many categories would capture any additional costs caused by population mobility.

Analysis

99. There is a strong conceptual case that Indigenous mobility affects the cost of providing services, particularly in remote areas. Some States have provided data on the cost impacts of the mobility of their Indigenous people. For example:

- (i) New South Wales noted that Indigenous mobility causes the State's Aboriginal Housing Office to build an additional bedroom per house; and
- (ii) the Northern Territory estimated that mobility produced significant costs, especially in the budgets for:
 - remote housing (increased by 25 per cent),
 - urban housing (increased by 43 per cent),
 - education (increased by 10 per cent),
 - community government¹², health and police were estimated to be increased by 5-10 per cent, and

¹² Community government dealt with infrastructure breakdowns, increased rubbish collection, and higher vandalism and security costs due to transient populations. Additional maintenance and depreciation of equipment were unquantified.

- it was unable to quantify the cost impact on remote essential services¹³.

Attachment B provides further details.

100. Remote communities are more likely to be affected by population fluctuations because they are typically smaller and because of the relatively poor access to services which itself contributes to mobility. However, the actual cost impact of Indigenous mobility may be greater in locations which act as service destinations, such as rural and urban communities.

101. We conclude that mobility could have a significant impact on the capital costs (and therefore the depreciation costs) of States. It also has an impact, but probably smaller, on some operating costs. The categories most likely to be affected are Housing, Services to Indigenous Communities and possibly Health and Education.

102. Staff are seeking further data to clarify the different costs to State governments by function and location, and how they relate to capital or recurrent expenses.

103. According to the ABS, the CHINS data have been extensively validated but are more reliable at the State and ATSI region level than at the community level (for which there are many 'Not Stated' responses). Even so, there are concerns about the data because:

- (i) the survey covered only discrete communities which in total represent about 25 per cent of the Indigenous population and it covers very small proportions in Victoria and Tasmania; and
- (ii) the data were collected from individual communities partly to inform decisions on the allocation of funding for infrastructure which suggests respondents could have an incentive to overstate needs.

104. Overall, we accept that CHINS is unlikely to provide an appropriate source of information on the likely impacts of Indigenous mobility on costs of providing services.

105. It is also the case that the additional cost weights we apply to remote Indigenous people in many categories are based on judgement. The effects of population mobility could be partly reflected in those allowances.

Commission decisions

106. The Commission accepts that a conceptual case exists for recognising the impact of Indigenous mobility on costs. There is evidence that Indigenous mobility is high, and that some States incur costs due to this in varying ways. The cost impact is material for the Northern Territory, and possibly also for New South Wales, Western Australia, Queensland and South Australia. We are not inclined at this stage to assess a mobility

¹³ Essential services include power, water, sewerage, ablution/toilet facilities, internal and access roads, airstrips, barge landings, telecommunications and cyclone shelters.

factor because reliable data to do so are not available. It is also possible that any allowance would double count parts of the existing cost weights for remote Indigenous people. However, if adequate evidence of the relationship between mobility and costs of providing particular services can be provided, and if these costs have not already been recognised in the assessment, we would reconsider this decision.

ATTACHMENT A

E-MAIL REQUEST FOR COMMENTS (SENT FRIDAY 13 JUNE 2003)

Dear

I'm circulating the above attachment to all of the States to get a quick response on a proposed mobility factor for assessment in the Services to Indigenous Communities category, and the options for measuring it. The attachment is an extract from an early version of the draft assessment paper.

The proposed new mobility factor is intended to take into account the cost impact on State governments arising from the high mobility of the Indigenous population, especially in the remote areas. The logic for the factor is based on the premises that:

- the Indigenous population is highly mobile;
- the mobility of the Indigenous population has relatively large impacts on the populations of Indigenous communities; and
- because of the mobility of the population, the level of essential services and related activities provided in Indigenous communities is greater than would be needed to service the usual resident population – that is, capacity is provided to service visiting populations (or at least part of them).

It is possible that analogous arguments about the impact of mobile or transient populations on the demand or unit costs of services could be applied to other categories. However, at this stage, the combination of the special circumstances of the Indigenous population and the importance of essential and related community services is considered to produce the largest effects. It is therefore proposed that any such population mobility factor would be specific to the Services to Indigenous Communities category. It would apply to three expenditure components in the category: Remote Community Government, Non-Remote Community Government, and Remote Essential Services. It would be additional to the existing factors.

There are some further questions we need to answer if we can:

1. What population do you use in deciding service provision levels for Indigenous communities? To what extent does the capacity of essential services and related

- activities in Indigenous communities allow for visitors and transient populations? (Census, CHINS, or administrative lists)?
2. How are costs affected by mobile Indigenous populations (eg. Do they increase by between 0-9%, 10-49%, 50-99%, 100% or more)?
 3. What suggestions do you have for how this cost impact could be measured? What data might best measure the 'service population' for each Indigenous community? (We are considering CHINS data for this purpose).
 4. Are there other categories in which this factor should be included? Why?

We need your comments on this by cob Thursday 26 June in order to finalise the draft assessment paper for this category. We would be very grateful if you could treat this request as a high priority, and email your comments to me as soon as possible. The 2001 CHINS report is available on the ABS website. Please go to www.abs.gov.au and select Products and Services (left column), then ABS Catalogue. It's Cat. No. 4710.0 and there is a charge of \$34.00 to download. There is also a CD-ROM available with the results.

Many thanks and best wishes,

Jane C. Goffman
Expenditure Section

ATTACHMENT:

Mobility of the service population

1. A further mobility factor is proposed to take account of the high mobility of the service population, which we consider strongly impacts on the costs of service provision. Although there is no firm definition of 'service population' as yet, the concept of a 'service population' is that in the course of the year, there will be fluctuating levels of demand as temporary populations impose demands on local services and facilities and as usual residents come and go. The Indigenous population is known to be extremely mobile, creating higher demand for services than the resident population figures would suggest, and boosting the demand in multiple communities. There is ample evidence that Indigenous service providers cater to an estimate of the service population, using a variety of methods.

2. ***State views.*** The Northern Territory has argued that the Indigenous service population is the relevant population to assess due to its very high mobility. There is good evidence that this mobility inflates demand for services in both remote and non-remote Indigenous communities. Queensland has expressed similar views in relation to *Discussion Paper CGC 2002/10 Population Issues*.

3. ***Staff views.*** There is not as yet any agreed measure of service populations, and the ABS is continuing to examine the options for measuring this nationally. However, the CHINS data provides an alternative estimate of the number of usual residents, and the

survey specifically addresses the question of population increases for particular reasons for different lengths of time. The CHINS data therefore appears to provide the best available tool for constructing a mobility factor.

4. A mobility factor could be calculated using one of three methods:
 - (i) Option 1. On a community by community basis, by taking the difference between the estimated resident Indigenous and non-Indigenous population figures and the Community Housing and Infrastructure Needs Survey (CHINS) figures for usual residents (both of which are produced by the ABS), and producing a weighted multiplier (for example, if the resident population were 50 but the CHINS population were 75, the multiplier would be 1.5 for that community, weighted by its relative proportion of the total estimated Indigenous population in relevant communities for the State); or
 - (ii) Option 2. On a community by community basis, by taking the results of the CHINS survey in response to questions about large increases in the population for cultural and seasonal reasons. For example, if the usual resident population were 75 but it were to increase by 50 or more for 4 weeks or more of the year, the multiplier would be 1.33 for that community, weighted by its relative proportion of the total usual resident population in relevant communities for the State; or
 - (iii) Option 3. On a State-wide basis, by taking the midpoint between the ERP of Indigenous communities and the CHINS data for the same communities, and dividing by the ERP figure. This broad method appears to be supported by independent work carried out by a consultant in Queensland¹⁴, which showed that on average the service population in Indigenous communities was approximated by the midpoint between the two data sets.

¹⁴ Morton, Alan 'Review of Funding to Aboriginal and Islander Councils', Report to Queensland Department of Aboriginal and Torres Strait Islander Policy and Development, March 2001.

ATTACHMENT B

PROPOSED MOBILITY FACTOR – SUMMARY OF RESPONSES RECEIVED

Q1. What population do you use in deciding service provision levels for Indigenous communities? To what extent does the capacity of essential services and related activities in Indigenous communities allow for visitors and transient populations?

1. New South Wales said that the Department of Education and Training (DET) uses administrative lists to determine service levels. The Aboriginal Housing Office (AHO) uses CHINS data for some purposes but in general uses Census data. NSW Health does not use CHINS data.

2. Victoria did not comment on this or the other questions.

3. Queensland said it used estimates derived from Census data and actual demand. Peak demand included an allowance for visitors.

4. Western Australia said it now uses CHINS data but also carries out its own survey using health officers (Environmental Health Needs Survey). It considered CHINS data to be unreliable. Its own survey data, which it expects to begin producing annually, will collect information on the quarterly variations in populations.

5. South Australia did not comment on this or the other questions, except for Q3.

6. Tasmania explained that the majority of its Indigenous population lived in the main population centres and that the provision of services was made without detailed distinctions. CHINS identified two urban Indigenous housing organisations and one discrete community, accounting for only 118 dwellings.

7. The ACT noted that it did not have any discrete Indigenous communities and therefore could not comment on this or the other questions.

8. The Northern Territory said it used various service population estimates depending on the service. These included some allowance for visitors and transient populations, but the difficulties in recruiting staff to remote areas and transferring staff between areas meant that there was greater reliance on temporary measures (for example, transportable classrooms, relief teachers). Service delivery was adapted where possible to

accommodate mobility, requiring more coordination, more administrative tasks, and higher workloads.

Q2. How are costs affected by mobile Indigenous populations?

9. New South Wales said its education department reported that transient populations achieved significantly lower educational outcomes. Higher costs arose from programs targeted to special learning needs of transient students, and the need for infrastructure which potentially duplicated provision or created excess capacity. According to the AHO, transient populations lead to overcrowding, and increased maintenance costs. While this was unquantified, it was known that an additional bedroom was allowed for in housing construction and/or purchase.

10. Queensland said service delivery costs were not significantly affected by mobility (0-9 per cent). However, it noted that seasonal variations and special occasions created a requirement for some additional infrastructure, which was very difficult to measure. It suggested that mobility patterns could be similar to those in non-Indigenous remote communities.

11. Western Australia said it could not yet provide this information as it had only recently begun to develop needs-based Regional Housing and Infrastructure Plans (which use CHINS data) and that mobility-related issues such as transitional arrangements, camping facilities and visitor accommodation were previously an ATSIC responsibility.

12. The Northern Territory provided data and argued that housing was most strongly affected by mobility (25 per cent for remote housing and 43 per cent for urban housing) due to cost increases in maintenance and management.

13. Based on the information provided, 20 per cent of maintenance costs were on seasonally occupied outstations. Deaths also produced maintenance costs associated with mobility. The Northern Territory said that at any one time, it is considered that 10 per cent of the housing stock is vacated for ceremonial reasons. These periods of vacancy vary depending on the status of the deceased. The additional maintenance costs of pressure-cleaning and re-painting associated with deaths were estimated to account for a further 8.6 per cent of total expenditure. Depreciation could also be accelerated by mobility, as the wear-and-tear on housing stock due to cycles of over-crowding and vacancy appears substantial.

14. In terms of health and education, it appears that Indigenous mobility causes additional management costs due to more administrative records, and that workloads are increased by approximately 10 per cent overall to improve continuity of care. Indigenous mobility is said to contribute to poorer health and education levels, which itself creates additional workloads for health workers and teachers. Relocation of transportable classrooms and the use of relief teachers were not quantified, but further data have been sought.

Q3. What suggestions do you have for how this cost impact could be measured? What data might best measure the 'service population' for each Indigenous community? (We are considering CHINS data for this purpose)

15. New South Wales suggested that DET could provide updated information about student FTE numbers for schools across the State.

16. Queensland said that the CHINS population estimates were unreliable, especially for larger communities. It suggested that a more accurate method would be to create a composite estimate from several administrative data sets (as was done in CAEPR discussion paper No. 243/2003, *Options for benchmarking ABS population estimates for Indigenous communities in Queensland*).

17. Western Australia had concerns with using CHINS data but was not able to suggest any alternative. It said that Western Australia used its own Environmental Health Needs Survey.

18. South Australia suggested that the mobility factor based on the CHINS data be discounted.

19. The Northern Territory proposed using the average of the CHINS estimates and the ERPs for remote Indigenous communities and argued that several researchers had independently concluded that this approximated a service population estimate.

Q4. Are there other categories in which this factor should be included? Why?

20. New South Wales reserved comment at this stage.

21. Queensland did not comment on this question.

22. Western Australia suggested that Health and Law and Order categories could be considered. It noted that mobility would be relevant to these categories for both Indigenous and non-Indigenous communities.

23. The Northern Territory argued that Housing, Education, Health and Police were affected differently. In general, each service's staff experienced higher workloads due to more administrative tasks, and physical infrastructure required higher maintenance costs. In remote areas, it said that mobility accounted for 25 per cent of the housing budget, 10 per cent + of the education budget, and 5-10 per cent of the health and police budget. In urban areas, it said that mobility accounted for 43 per cent of the housing budget.