



# **COMMONWEALTH GRANTS COMMISSION**

**DISCUSSION PAPER CGC 2002/22**

## **DISPERSION**

Prepared for the Commission's Staff Conference  
November 2002

SEPTEMBER 2002

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## INTRODUCTION

1. This paper presents State arguments in the 2004 Review Submissions on the dispersion factor, and Commission staff responses to them. It also outlines the recommendations Commission staff are inclined to make to the Commission, subject to the outcome of the Staff Conference in November 2002.

### *Population Dispersion and Costs*

2. Population distribution in Australia varies greatly across States. Table 1 shows population density in the capital city and non-capital city areas in each State. It also shows the percentage of population living in the capital city for each State. Overall, Victoria and the ACT have the highest population densities while Western Australia and the Northern Territory have the lowest. Of the States that have relatively low proportions of population living away from their capital cities (Victoria, Western Australia and South Australia), Victoria has the highest population density in its non-capital city areas. Of those States that have relatively high proportions of population living away from their capital cities (Queensland, Tasmania and the Northern Territory), the Northern Territory has the lowest population density in its non-capital city areas<sup>1</sup>.

**Table 1** POPULATION DENSITY FOR CAPITAL CITY AND NON-CAPITAL CITY AREAS BY STATE

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
All (population per km <sup>2</sup> )	7.5	19.2	1.9	0.7	1.5	6.8	127.2	0.1
Capital city (population per km <sup>2</sup> )	308	408	321	231	543	140	370	407
Non-capital city (population per km <sup>2</sup> )	2.9	5.6	1.1	0.2	0.4	4.0	0.3	0.1
Population living in the capital city (%)	62	72	44	72	73	41	100	44

Source: ABS 1996 Census of Population and Housing.

3. In general, it costs more to provide government services to a dispersed population than to a compact urban population. Communication, travel, freight and employee benefits such as locality allowances, generally cost more in dispersed locations. The dispersion factors allow for the impact on costs arising from interstate differences in population settlement patterns. Other disability factors, such as socio-demographic composition, allow for differences in demand.

<sup>1</sup> Other relevant indicative statistics can be found in Commonwealth Grants Commission, *Report on General Revenue Grant Relativities, 1999 Review, Working Paper*, Volume 3, Dispersion, Table 8, p122.

4. Under the 1999 Review method, dispersion factors were applied to most expenditure categories, as shown in Attachment A. While a dispersion disability was not assessed explicitly for Hospitals expenditure, the hospital costs factor made allowance for similar influences.

5. Overall, the dispersion factors have important effects on the distribution of untied assistance. Compared with an equal per capita assessment, they redistributed \$271.8 million<sup>2</sup> of the notional grants for 1998-99 away from New South Wales, Victoria, South Australia, Tasmania and the ACT, to Queensland, Western Australia and the Northern Territory.

### ***The 1999 Review Method***

6. In the 1999 Review, a simplified model was used to assess the impact of the non-urban population on the costs States incur in providing government services. The model was based on the observation that some inputs used in providing services cost more when the services are provided outside major population centres. It generally used where people lived as a proxy for where services were delivered, and distance of population from major population centres (capital cities and regional centres) as the main influence on the level of costs. Thus the greater the proportion of a State's population that lived away from the regional centres or the capital city, the greater the disability.

7. The 1999 Review dispersion assessment method involved the following major processes.

- (i) ***Identifying inputs that incurred higher costs.*** Submissions and earlier research by the Commission indicated that inputs such as freight, communication, travel and staff on-costs (locality allowances, housing subsidies and removal costs) generally resulted in higher costs outside major urban areas.
- (ii) ***Establishing a simplified and standardised pattern of service delivery.*** The Commission concluded that the States used decentralised arrangements to deliver most services. Within those arrangements, agency central offices were almost always located in the capital city and provided a range of services that affected all service delivery outlets, such as corporate planning, co-ordination, policy development and training. Capital cities were also frequently the source of significant inputs used in providing services.

By contrast, regional offices provided a range of management, administrative, training and support tasks that were more directly related to the delivery of services.

However, States decided on their regional structures based on a variety of factors. To reduce the extent to which the policy decisions of

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<sup>2</sup> This was about 17 per cent of the total redistributed amount of \$1 581.2 million.

individual States might affect the assessments, the Commission identified regional centres in each State using a standardised definition based on a minimum level of government administrative employment<sup>3</sup>.

Attachment B sets out the regional centres used in the 1999 Review and subsequent updates. Subject to the outcome of the November Conference, staff will propose that these regional centres be retained for the 2004 Review.

- (iii) ***Establishing the links between where people lived and the level of each type of cost.*** The Commission found that some costs were typically influenced by distances of the locations from regional centres and capital cities, while others were affected not only by distances but also by a concept of the remoteness of the locations. It used price schedules obtained from private sector service providers or an average of the policies of the States to measure the relationship between distance (or remoteness) and the level of costs.

The costs of inputs such as communication and travel were observed to be affected by distance. For travel costs, the disability reflected:

- the proportion of the State population living outside the capital city;
- the estimated road distances between where people live and the nearest urban centre, regional centre or the capital city; and
- the relationship between estimated road distance and cost.

For costs that were affected by remoteness and distance (such as staff locality allowances), the disability reflected:

- the proportion of State population living in remote and rural regions (defined according to the Australian Bureau of Statistics (ABS) Rural, Remote and Metropolitan Area (RRMA) classification<sup>4</sup>); and
- the relationship between remoteness/distance and cost.

The Commission also found that the relationships between cost and distance or remoteness did not fully cover the very high costs incurred in extremely remote areas or areas that were sometimes inaccessible

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<sup>3</sup> With adjustments to prevent centres being situated close together, such as Tamworth and Armidale, and Burnie and Devonport.

<sup>4</sup> The Commission adjusted the RRMA classification in some cases. In particular, Broken Hill (New South Wales) and Mildura (Victoria) were re-classified as remote areas while French Island (Victoria) and Kangaroo Island (South Australia) were re-classified as non-remote areas.

because of seasonal climatic conditions<sup>5</sup>. Additional weights were given to these areas.

- (iv) ***Making allowances for different input mixes.*** In some cases, the Commission made allowances (called input weights) for the observation that quantities of some inputs used to provide services in remote<sup>6</sup> areas were higher relative to those in non-remote areas.

For example, data provided by Queensland indicated that the number of telephone calls per student was noticeably higher in the remote areas than in areas closer to the capital cities. The Commission also noted the greater amount of staff travel in remote areas. The input weights used in the 1999 Review are shown in Table 2.

**Table 2** INPUT WEIGHTS, 1999 REVIEW

Cost Component	Remote Area	Rainfall Affected Areas and Isolated Islands
Telephone <sup>(a)</sup>	3	4
Local Travel <sup>(b)</sup>	1.25	1.75
General Freight <sup>(b)</sup>	1.25	1.50

(a) Based on Queensland schools data.

(b) Based on Commission judgement.

- (v) ***Identifying the standard proportion of expense for each component in each expenditure category.*** The standard proportions were called the expenditure weights, and were based on actual data obtained from each State on freight, communication, travel and staff on-cost expenses incurred in providing each service. The Commission adjusted some of these weights because it considered that State accounting records, from which the data were drawn, understated some expenses. For example, freight costs were not separately identified if materials were purchased locally.

<sup>5</sup> Remote areas were defined by reference to the RRMA classification and rainfall affected areas were defined as areas which may be inaccessible by road for more than five months in a year due to monsoon conditions. Isolated islands were also treated as very remote. Isolated islands included Mornington and the Torres Strait Islands of Queensland, King and Flinders Islands of Tasmania, Bathurst-Melville Islands, Wessel Group and Groote Eylandt of the Northern Territory.

<sup>6</sup> Including rainfall affected areas and isolated islands.

## GENERAL ASSESSMENT ISSUES

8. The key issues for the 2004 Review are the range of costs affected by the pattern of population settlement in each State and the extent to which these dispersion-related cost are disabilities or the results of policy choices by the State.

9. There are also a number of issues concerning the basic methods used to measure the disabilities. They are:

- (i) whether the Accessibility/Remoteness Index of Australia (ARIA) should be used in the assessment;
- (ii) whether travel time rather than road distance should be used as the basis of calculating the travel related disabilities; and
- (iii) whether the 1999 Review input weights should be updated to capture the differences in input mixes between remote and non-remote areas.

Issues associated with the assessment method for each dispersion-related cost component are discussed later.

### *Dispersion-affected Costs and the Distinctions between Disabilities and State Policies*

10. *State views.* Victoria has consistently argued that the developments in information technology, telecommunications and other approaches to service delivery should reduce the range and level of the dispersion-related costs. It also argued in its 2004 Review Submission that the availability of modern technology and approaches to service delivery implied that States which continued to incur high levels of dispersion-affected costs did so in part because of their own policy decisions.

11. Its arguments were primarily directed at the telephone and travel cost elements of the assessment. At the detailed level, Victoria submitted that the disability and its effects relating to these components were overstated in the following ways:

- (i) the relationship between telecommunication costs and distance overstated the impact of distance because the cost of long distance voice calls had fallen greatly due to deregulation and increased competition between providers;
- (ii) the estimated additional telephone and travel use in remote areas, rainfall affected areas and isolated islands was too high because many telephone voice calls had been replaced by lower cost email and Internet communications; and
- (iii) the standard proportions of service delivery costs attributed to telecommunications and travel expenses were about 40 per cent too high due to these developments.

12. Victoria also submitted that the use of teleconferencing, videoconferencing and telemedicine had reduced the frequency of staff travel in the Health, Education, and Law and Order categories. It suggested that the expenditure weights for all travel components in all categories, and the dispersion-related costs embedded in the Hospital assessment, should be discounted by 10 per cent<sup>7</sup>.

13. By contrast, Queensland argued that the higher per capita costs incurred in providing services to rural and remote areas were largely beyond the control of individual States (thus they represented a disability). It argued that a wide range of social, economic and geographic circumstances meant that it was necessary for it and other States in similar situations to provide services in rural and remote communities. Moreover, in those areas, it was not always cost-effective or possible to adopt technology-based approaches to service delivery, because market realities together with demographic and geographic circumstances combined to make the per capita costs of using technology in those areas high.

14. Western Australia made similar arguments. It argued that new technologies had not reduced dispersion-related costs in that State. Rather, they had improved service standards and bridged the gap in service standards between the regional and metropolitan areas. Furthermore, new technologies had been expensive to acquire and maintain. Western Australia argued that, compared with the eastern States, limited competition between the carriers, hardware manufacturers and suppliers, resulted in higher prices for communication services and equipment.

15. Tasmania and the Northern Territory also argued that while the use of (new) technology had generally improved the level and quality of services provided in the remote areas, it had not reduced the costs of providing services.

16. Western Australia, Queensland, Tasmania and the Northern Territory also noted that deficiencies in infrastructure prevented them from using technology in a cost-effective and reliable manner.

17. ***Options for assessment.*** The issues concerning the range and levels of appropriate costs that should be considered to be affected by dispersion, and the ability to distinguish between disabilities and policy effects, are longstanding.

18. The Commission's approach has been to examine the range of services States provide and the manner in which they are provided to establish a notional standard policy for each type of service. It also considers whether some States face costs that others do not, or face circumstances in which they must adopt different methods of service delivery. It identified types of costs that generally increased with distance or remoteness under the standard policy and established standard levels of dispersion-affected expenses. The use of recent data from all States will allow the Commission to develop standards that reflect the current average policy of the States.

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<sup>7</sup> Based on an estimated cost saving of 50 per cent for the 20 per cent of the occasions when telecommunication technologies substitute for traditional methods.

19. For the 2004 Review, staff propose to recommend to the Commission that the relationship between distance and cost be updated using the latest price schedules and that expenditure weights be updated using recent data on State expenses. This will allow the assessments to reflect the current impact of technology, for example, through:

- (i) current price data for the telephone component; and
- (ii) current expenditure on telecommunications by each of the relevant service agencies in each State.

20. Commission staff are also undertaking a study to identify the ways States use technology and in what circumstances they use it (see Discussion Paper CGC 2002/71 *Implication for Assessments of Developments in Technology and Public Administration Practice* for detail). The study aims to inform the Commission of the coverage, mix, reliability and capacity of information and communications technology infrastructure currently in place and to identify the differences in the cost of using technology in different areas.

### ***The Potential Use of the Accessibility/Remoteness Index of Australia***

21. In the 1999 Review, the RRMA classification was used to measure remoteness. Since then, the Accessibility/Remoteness Index of Australia (ARIA)<sup>8</sup> has replaced the RRMA Classification as the means of identifying remoteness (inaccessibility) in most analytical work in Australia.

22. The ARIA classification interprets remoteness as accessibility to service centres with a population greater than 5 000. Remoteness values were derived for all the population localities from the road distance to four categories of service centres. Values for populated localities were interpolated to a 1-km square grid, which could then be used as the building blocks to provide average ARIA scores for any geographic area<sup>9</sup>.

23. The ABS has incorporated a variation of ARIA scores — known as ARIA+ — into the 2001 edition of the Australian Standard Geographical Classification (ASGC) and this variation has been used for the 2001 Census of Population and Housing as a measure of remoteness<sup>10</sup>. Table 3 sets out the five categories of remoteness defined by the ABS using the ARIA+ scores.

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<sup>8</sup> Developed by the National Key Centre for Social Applications of Geographical Information Systems at the University of Adelaide, sponsored by the Commonwealth Department of Health and Aged Care.

<sup>9</sup> Based on Commonwealth Department of Health and Aged Care, *Measuring Remoteness: Accessibility/Remoteness, Index of Australia (ARIA)*, Revised Edition, Occasional Paper: New Series Number 14, October 2001.

<sup>10</sup> ARIA+ differs from ARIA because an extra category of service centres has been added to the classification framework.

**Table 3** CATEGORIES OF REMOTENESS DEFINED BY ABS USING ARIA+<sup>(a)</sup>

Category of remoteness	Census Collection Districts with an average ARIA+ index value of:
Major cities of Australia	between 0 and 0.2
Inner regional Australia	greater than 0.2 and less than or equal to 2.4
Other regional Australia	greater than 2.4 and less than or equal to 5.92
Remote Australia	greater than 5.92 and less than or equal to 10.53
Very remote Australia	greater than 10.53 (up to 15.0)

(a) An extra category is also defined for Census Collection Districts to cover 'Migratory' areas that were defined at the time of the 2001 Census.

Source: ABS, *Outcomes of ABS Views on Remoteness Consultation*, Australia, Information Paper, 2001, ABS Catalogue No. 1244.0.00.001.

24. **State views.** Queensland argued that in addition to Thursday Island, the other sixteen islands in the Torres Strait should also be classified as rainfall affected areas and isolated islands.

25. Western Australia supported, in principle, the use of ARIA as the measure of remoteness. However, it noted that ARIA has not adequately differentiated degrees of remoteness within very remote areas and suggested a 'very isolated' category be introduced to cover all areas with an ARIA score greater than 11.0.

26. South Australia sought to classify Kangaroo Island as a remote area because, while the island is only 118 km from Adelaide by a straight-line measure, travelling to it takes four and a half hours and involves winding roads and ferry transport. South Australia also noted that both RRMA and ARIA classifications treated Kangaroo Island as remote.

27. The Northern Territory supported, in principle, the use of ARIA as the measure of remoteness, notwithstanding some reservations. It submitted that ARIA:

- (i) is a poor measure of accessibility because road conditions and seasonal inaccessibility are ignored;
- (ii) fails to adequately reflect actual service delivery environments because it measures distances to service centres that sometimes cross State borders; and
- (iii) fails to distinguish degrees of 'remoteness' within its very remote category.

28. **Options for assessment.** The question is, to what extent should the ARIA+ classification be used in the Commission's assessments? There are two ways ARIA+ might be used. It could be used to:

- (i) replace the distance and remoteness measures used in the 1999 Review; or

- (ii) identify remote areas in the assessment.

29. Since ARIA scores are based on distances of locations by road to service centres, staff propose to investigate the possibility of using average ARIA index values for the 2001 Census Collection Districts<sup>11</sup> to replace distances used in the 1999 Review method. This approach should simplify the assessment, but there would also be some disadvantages with it because:

- (i) service centres are defined according to population size rather than availability of government services, hence some centres that are located long distances from capital cities are considered to be comparatively accessible, but may still incur high dispersion-affected costs;
- (ii) ARIA scores suffer from a 'State boundary problem'; and
- (iii) the degrees of remoteness in the very remote areas are not well differentiated.

30. The advantages of ARIA+ compared with RRMA as an indicator of remoteness have been set out in Discussion Paper CGC 2002/21 *Socio-Demographic Composition*. Subject to the outcome of the November Conference, staff are inclined to recommend to the Commission that, for the reasons given in CGC 2002/21, the ARIA+ classification be adopted as the measure of remoteness in the assessment of dispersion disabilities. However, since the ARIA classification is based on road distance<sup>12</sup> and does not take into account road conditions or seasonal inaccessibility, staff also propose to recommend to the Commission that the rainfall affected areas and isolated islands as defined in the 1999 Review be retained to take account of the additional costs of providing services to these seasonally inaccessible areas.

31. Concerning Queensland's argument, staff note that all 31 Census Collection Districts included in the Statistical Local Area of Torres were treated as rainfall affected areas and isolated islands in the 1999 Review dispersion assessment.

32. Staff also think that the use of ARIA+ would take account of the concern of Western Australia.

### ***Travel Time Versus Actual Distance***

33. ***State views.*** Tasmania argued that dispersion costs were driven by travel time rather than distance. It suggested two amendments.

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<sup>11</sup> These data can be obtained from the ABS.

<sup>12</sup> The distance is adjusted for islands (see Commonwealth Department of Health and Aged Care, *Measuring Remoteness: Accessibility/Remoteness, Index of Australia (ARIA)*, Revised Edition, Occasional Paper: New Series Number 14, October 2001, for detail).

- (i) Use of travel time rather than distance as the main determinant of cost levels because travel time better reflects the loss of productive work time.
- (ii) Weight the distances to be travelled by the population living in the area to reflect the frequency of travel required.

34. **Options for assessment.** Staff propose to consider the first point further, and will use published information on travel time. Staff think the second point was taken into account by the 1999 Review method in which distances were estimated road distances and the assessed cost indices were weighted by the proportion of the population living in the area.

### ***Input Weights***

35. **State views.** Victoria argued that the input weights assessed to account for higher phone call usage in remote areas, and rainfall affected areas and isolated islands, were too high. It argued that, based on Telstra data, input weights of 2 to 2.4 would be more appropriate than the currently assessed weights of 3 to 4.

36. **Options for assessment.** Staff will examine possible changes to input weights as a normal part of the 2004 Review process. We will be seeking information from States on input mix patterns in remote relative to non-remote areas for all cost components and on changes in input mixes arising due to improved access to the Internet. We note that the weights suggested by Victoria on the basis of Telstra's average number of long distance calls between non-metropolitan and metropolitan areas are highly aggregated, and may not directly relate to delivery of State type services, as the Queensland schools data did.

## **COST COMPONENTS**

37. In the 1999 Review, the costs incurred in providing services which were considered to be influenced by population dispersion were:

- (i) telephone calls;
- (ii) freight costs, including:
  - general freight — the cost of transporting goods to various locations; and
  - remote removals — the cost of relocating State government employees to remote areas;
- (iii) travel costs, including:

- air travel — the cost of State government employees travelling by air where distances exceeded 250 kilometres or travelling to remote areas, rainfall affected areas and isolated islands<sup>13</sup>;
  - inter-regional travel — the cost of State government employees travelling by road where the distance was less than 250 kilometres between (i) capital cities and regional centres, and (ii) regional centres and localities; and
  - local travel — the cost of State government employees travelling by road on a regular basis in and around localities; and
- (iv) locality allowances — the cost of additional direct and indirect benefits given to State government employees to work at specific locations, particularly remote areas.

38. Among the dispersion cost components, locality allowances and local travel had the greatest impacts on grant redistribution, followed by air-travel, telephone calls, remote removal, inter-regional travel and general freight.

39. The key issues are whether:

- (i) all major types of cost affected by dispersion are recognised;
- (ii) the travel cost components adequately reflect service delivery methods; and
- (iii) the assessment correctly represents the importance of locality allowances.

### *Scope of the Cost Components*

40. *State views.* Queensland and Western Australia argued that the assessment of locality specific disabilities such as dispersion, should include the full cost of staff turnover, including costs of recruiting and retaining specialist staff in regional and remote areas<sup>14</sup>.

41. Queensland also suggested that the costs of data telecommunications and mobile phone technology should be included in the telephone cost component to account for their greater cost (due to more expensive technologies required) and use in the rural and remote areas.

42. Queensland, Western Australia and the Northern Territory argued that additional costs were incurred in the repairs and maintenance of buildings and equipment in

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<sup>13</sup> Except for Police and Hospital Services categories, air travel was restricted to travel between capital cities and regional centres.

<sup>14</sup> For example, Queensland asserted that the cost of recruiting one overseas Specialist Medical Officer to work at Toowoomba was \$300 000. Of the 30 specialist staff at that hospital, 14 were recruited internationally.

remote areas. They said that charges for repair and maintenance services, often provided by the private sector, were higher in the remote areas due to lack of competition. These costs were not covered by the 1999 Review dispersion disabilities.

43. **Options for assessment.** Based on evidence presented at workplace discussions for the 2004 Review, staff think it is possible that staff turnover and the resulting recruitment and training costs, and repairs and maintenance costs, are comparatively higher in remote areas than they are in more accessible areas. Therefore, subject to the outcome of the November Conference and verification against more comprehensive data, staff propose to recommend to the Commission that:

- (i) the scope of the 'remote removals' cost component be expanded to include the costs of staff recruitment and training to prepare staff for working in remote areas, especially in Indigenous communities;
- (ii) the scope of the 'telephone' cost component be expanded to include expenditure on mobile phone and Internet access; and
- (iii) a 'repairs and maintenance' cost component be included.

44. We will be seeking information from the States to verify and implement these proposals through a Special Data Collection for dispersion. Content of the proposed data collection is in Attachment C.

### ***Travel Cost Components***

45. **State views.** Queensland argued that the 1999 Review of travel components, in particular those relating to air travel, inaccurately reflected its situation because it:

- (i) underestimated the extent of staff air travel to remote districts<sup>15</sup>;
- (ii) failed to take into account the need to use more expensive helicopter travel in rainfall affected areas and isolated islands such as in Cape York and the Torres Strait; and
- (iii) applied weights which are too low for rainfall affected areas and isolated islands, and for the air travel component.

46. **Options for assessment.** These issues will be reviewed in the light of data provided by the States. Data that will assist the review is outlined in Attachment C.

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<sup>15</sup> The example given related to delivering special education services, including music and physical education. In order to reduce unproductive travel time and to increase student-teacher contact time, teachers flew eight times a year to schools in areas such as Longreach and the Torres Strait.

### ***Locality Allowances***

47. ***State views.*** Western Australia argued that its disability for locality allowances was too small. As an example, it said that its dispersion-related allowances for teachers of \$39.9 million in 2001-02 was much greater than the allowance reflected in the Commission's assessments of around \$28 million for 2000-01<sup>16</sup>.

48. Tasmania and the Northern Territory argued that additional costs of attracting and retaining General Practitioners (GPs) and/or Visiting Medical Officers (VMOs) to work in rural and remote areas should be recognised.

49. ***Options for assessment.*** We will seek information on States' expenses on locality allowances via the Special Data Collection. In particular, States will be asked to provide a list of locations where they experience extreme difficulties in attracting and retaining staff, including GPs and VMOs, and details of incentives they offer to try to overcome the difficulties.

## **THE RELATIONSHIP BETWEEN DISTANCE AND COST**

50. In the 1999 Review, notional costs, based on the relationship between distance and costs, were estimated for each cost component for each location in each State. A State average cost index for each cost component was constructed by weighting the notional costs by the proportions of population living in the corresponding locations, and summing them. As mentioned before, unit costs for telephone charges, freight costs, air fares and road travel costs were based on cost data obtained from the providers of relevant services. For locality allowances, an average cost schedule was prepared using data obtained from each State for a sample of locations and a set of occupations.

51. Issues to be addressed here include:

- (i) whether using the proportion of the total population living in a location as a weight is appropriate for all categories; and
- (ii) whether the cost weight assessed for unsealed roads is appropriate.

### ***Appropriate Demand Measures for Weighting Cost Indices***

52. ***State Views.*** During its workplace discussions, South Australia argued, in the context of the National Park and Wildlife assessment, that dispersion costs should be related to the dispersion of the parks rather than the population.

53. ***Options for assessment.*** As mentioned above, notional costs for each location were weighted by the proportion of population in each location in assessing most

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<sup>16</sup> Another example given was that housing subsidies grew rapidly over time.

categories in the 1999 Review. Generally, population weights were assumed to be a good proxy for demands for services. However, for the following categories, variations of the general method were used. The measures of demand were based on:

- (i) the distribution of agricultural employment in the Primary Industry category;
- (ii) the distribution of mining employment in the Mining, Fuel and Energy category; and
- (iii) the distribution of Indigenous people in the Aboriginal Community Services category.

54. Conceptually, it would be appropriate for measures of demand in the dispersion disability to reflect the nature of services being provided. This means the assessment should take into account the distribution of the relevant service population for a category as far as practicable. For example, it may be more accurate in the National Parks and Wildlife Services category to base the dispersion assessment on the distribution of national parks in each State. However, doing so may not have a material effect impact on grant distribution.

55. Subject to the outcome of the November Conference, materiality and availability of data, staff will consider whether the dispersion assessment should be amended in cases (such as National Parks and Wildlife Services) where there may be differences between the geographic distribution of the demand for the service and the population.

### ***Unsealed Road Travel***

56. ***State views.*** Based on running costs data for four wheel drive (4WD) vehicles, the Northern Territory suggested increasing the weight for unsealed road travel from 1.1 to 1.54. It argued that its climate and terrain mean an above average proportion (around 40 per cent) of use of 4WD vehicles which are expensive to run.

57. ***Options for assessment.*** Staff will investigate the costs of and need to use 4WDs on unsealed roads.

## **EXPENDITURE WEIGHTS**

58. The expenditure weights used in assessing the dispersion factor represent the average proportion of expenditure States incur on each cost component in each category, and indicate the relative importance of the cost components in that category. They were based on information provided by all States during the 1999 Review. However, the data provided by States were adjusted to allow for indirect and hidden costs (where the relevant costs were included as part of some other expense item) as follows:

- (i) for telephone costs, an upward adjustment of 10 per cent was made because communication costs are often included as part of services purchased by State agencies;
- (ii) for road travel costs, an upward adjustment of 10 per cent was made for similar reasons;
- (iii) for general freight costs, an increase of 100 per cent was made because freight charges are not accounted for separately in the cost of goods and material purchased locally;
- (iv) for inter-regional travel and air travel costs, upward adjustments of 50 and 5 per cent were made respectively to allow for unproductive travel time; and
- (v) for locality allowances, an upward adjustment of 40 per cent was made to allow for housing subsidy costs.

59. *State views.* New South Wales suggested that the Commission review the 'loading' it assigned to dispersion factors because telemedicine had been cost effective in comparison with traditional methods of service delivery.

60. The Northern Territory suggested that the expenditure weights for telephone costs should reflect the increasing use of telecommunication technology such as Internet access, teleconferencing and videoconferencing.

61. *Options for assessment.* Category-specific expenditure weights for dispersion will be revised using updated data to be sought from the States as part of the normal processes of the 2004 Review. As Western Australia and the Northern Territory argued, the increase or decrease in expenditure weights would depend on the balance between the changes in unit costs and the changes in the use of services.

## **ISSUES RELATING TO THE DEPRECIATION ASSESSMENT**

62. In the 1999 Review, the Depreciation assessment used the freight component of the dispersion assessment to capture the impact of dispersion on construction costs — the additional costs of transporting building materials to remote areas for capital works. Discussion Paper CGC 2002/25 *Depreciation* identified a new disability component arising from the additional costs of employing workers to construct buildings in remote areas, and proposed to include this effect in the depreciation assessment to better account for the impact of dispersion on construction costs.

63. A cost index for the proposed component could be constructed by relating it to:

- (i) that for locality allowances paid in remote areas;

- (ii) travel time or distance of location from nearest urban or regional centres; or
- (iii) award payments, standardised across States, to typical tradespeople by locations.

64. To help decide which of these approaches would be the most appropriate, staff will seek information from States, via the Special Data Collection, on what factors affect payments to construction workers in remote areas, and the level of those payments.

65. Discussion Paper CGC 2002/25 *Depreciation* has also asked for information on costs of plant hire because these costs might not have been captured through the freight component in the 1999 Review. It suggested that, subject to materiality and the availability of data, staff would consider whether a new dispersion element was required to capture differential cost impacts of hiring major plant and equipment.

### **SPECIAL DATA COLLECTION FOR DISPERSION**

66. Attachment C summarises data required from the States for the dispersion assessment in the 2004 Review. A detailed data request will be forwarded to each State shortly.

**EXPENDITURE CATEGORIES ASSESSED FOR DISPERSION IN THE 1999  
REVIEW**

<b>Group</b>	<b>Category</b>
Education	Pre-Schools
	Government Primary
	Government Secondary
	Vocational Education and Training
Health	Hospital (Cost of Patient Transport)
	Nursing Homes
	Mental Health
	Community Health
	Public Health
Law and Order and Public Safety	Police
	Administration of Justice
	Corrective Services
	Public Safety and Emergency Services
Welfare	Family and Child Welfare
	Aged and Disabled Welfare
	Other Welfare
	Housing
Culture and Recreation	Culture and Recreation
	National Parks and Wildlife Services
Services to Industry	Primary Industry
	Mining, Fuel and Energy
Aboriginal Community Services	Aboriginal Community Services
General Public Services	Other General Public Services
Transport	Roads
Economic Affairs and Other Purposes	Regulatory and Other Services

## REGIONAL CENTRES USED IN THE 1999 REVIEW

NSW	VIC	QLD	WA	SA	TAS	ACT	NT
<b>Sydney</b>	<b>Melbourne</b>	<b>Brisbane</b>	<b>Perth</b>	<b>Adelaide</b>	<b>Hobart</b>	<b>Canberra</b>	<b>Darwin</b>
Albury	Ballarat	Cairns	Albany	Mount Gambier	Burnie-Somerset		Alice Springs
Broken Hill	Bendigo	Bundaberg	Bunbury	Port Lincoln	Launceston		
Coffs Harbour	Geelong	Maroochydore-Mooloolaba	Geraldton	Port Augusta			
Dubbo	Mildura	Mackay	Kalgoorlie-Boulder	Remark			
Goulburn	Shepparton-Mooroopna	Mount Isa	Port Hedland	Whyalla			
Lismore	Traralgon	Rockhampton					
Newcastle	Warrnambool	Toowoomba					
Orange	Wodonga	Townsville					
Tamworth							
Wagga Wagga							
Wollongong							

## SUMMARY OF DATA REQUESTED FROM STATES, 2004 REVIEW

Item	Data request from States for each expenditure category assessed in dispersion assessment
Telecommunications <sup>(a)</sup>	States' expenses on telephone and mobile phone calls, Internet access, conferencing through audio and video communication in relation to delivery of services.
General freight <sup>(a)</sup>	States' expenses on transporting goods to various locations in relation to delivery of services.
Remote removal <sup>(a)</sup>	States' expenses on relocating employees to remote areas, including costs of staff recruitment and retaining including to Indigenous communities.
Air travel <sup>(a)</sup>	States' expenses on air travel by State government employees in relation to delivery of services.
Inter-regional travel <sup>(a)</sup>	States' expenses on road travel by State government employees in relation to delivery of services between (i) regional centres and capital cities, and (ii) regional centres and localities.
Local travel <sup>(a)</sup>	States' expenses on road travel by State government employees in relation to delivery of services in and around localities.
Locality allowances <sup>(a)</sup>	States' expenses on additional direct and indirect benefits given to State government employees to work at specific locations. Also, a list of locations, and costs associated with them, where States experience extreme difficulties in attracting and retaining staff, including GPs and VMOs.
Repairs and maintenance <sup>(a)</sup>	States' expenses on repairing and maintaining buildings and equipment, in particular in remote areas.
Input weights	Data on different patterns of input mixes relating to the cost components between remote and non-remote areas. In particular, data on input mixes corresponding to the remoteness categories defined by the ABS in Table 3.
Data specific to Depreciation assessment <sup>(a)</sup>	Payments to construction workers to work in remote areas and costs of hiring plant and equipment for construction in capital cities, regional centres and other locations.

(a) Referring to intra-State expenses.