



# **COMMONWEALTH GRANTS COMMISSION**

**DRAFT ASSESSMENT PAPER CGC 2003/37**

**POLICE**

Prepared for the Commission's 2003 Conferences on Draft Assessments

**AUGUST 2003**

## **NOTE**

Included in this paper are the results of preliminary calculations based on the methods proposed throughout the paper and using the data currently available. Those results are indicative only and should be seen as work in progress. Ongoing changes are being made to standards and factor calculations as new data come to hand. Moreover, the calculations have been done using a prototype assessment system and are subject to ongoing revision as checking processes proceed.

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## INTRODUCTION

1. This paper presents a draft assessment for the Police category for the 2004 Review. It builds on the staff proposals set out in *Discussion Paper CGC 2002/36, Law and Order* and State comments provided at the 2002 Conferences and in the 2003 Rejoinder Submissions.

2. Table 25 summarises the Police assessment structure for the 2004 Review.

## THE 1999 REVIEW ASSESSMENT

### *Description of the category*

3. In the 1999 Review, the Police category comprised expenditure on administration, supervision, support and operation of police services. More specifically, the category included expenditure on:

- (i) all activities concerned with the prevention of illegal activities and apprehension of criminals;
- (ii) traffic control by police; and
- (iii) police colleges, police training and police laboratories.

4. No Commonwealth specific purpose payments were included in the category.

### *Importance of current assessment*

5. Table 1 shows the gross standard expenses for the six years ended 2001-02. In 2001-02, this category represented 4.40 per cent of total gross standard expenses.

**Table 1** POLICE — GROSS STANDARD EXPENSES AND USER CHARGES, 1996-97 TO 2001-02

	1996-97	1997-98	1998-99	1999-2000	2000-01	2001-02
Gross standard expenses (\$pc)	160.43	168.57	179.44	191.56	206.26	220.32
% of total gross standard expenses	4.36	4.37	3.94	4.13	4.25	4.40
Gross standard user charges (\$pc)	2.39	3.74	3.36	3.35	3.44	3.60
% of total gross standard expenses	1.5	2.2	1.9	1.7	1.7	1.6

6. Compared with an equal per capita assessment, the 2003 Update Police assessment redistributed about \$124.2 million away from New South Wales, Victoria, Queensland and South Australia to the other States (Table 2).

**Table 2** EFFECT OF ASSESSMENT ON GRANT DISTRIBUTION — POLICE

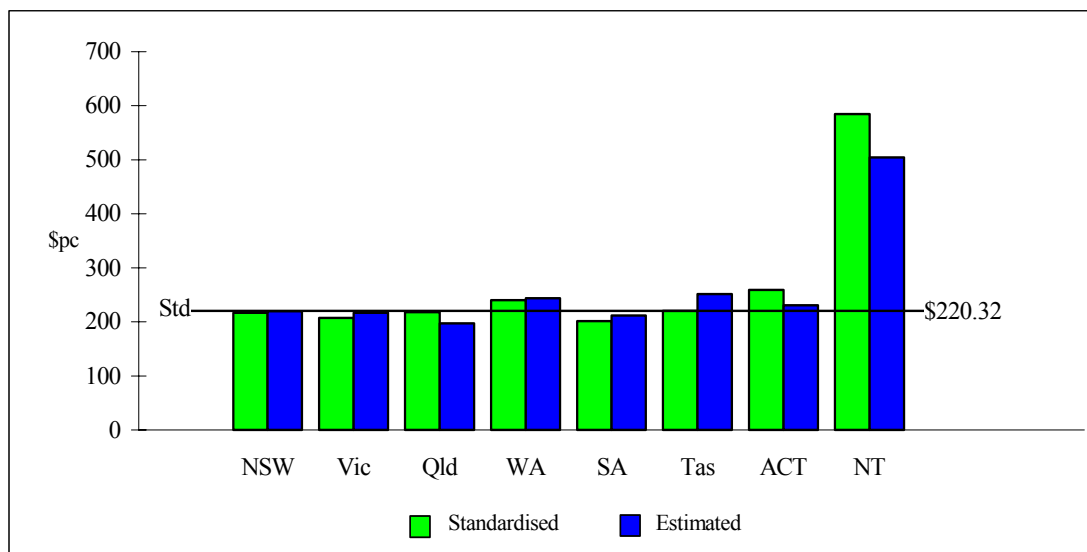
	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total <sup>(a)</sup>
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
<b>Contribution to 2003 Update relativities<sup>(b)</sup></b>	-25.5	-65.1	-6.2	39.7	-27.4	0.6	12.0	72.0	124.2

(a) Total redistribution.

(b) Assuming same pool and a constant population.

7. Figure 1 shows, for 2001-02, the standardised, estimated and standard expenses per capita from the 2003 Update.

**Figure 1** POLICE — GROSS EXPENSES PER CAPITA — STANDARDISED, ESTIMATED AND STANDARD, 2003 UPDATE, 2001-02



### **1999 Review assessment method**

8. **Structure of the expenses assessment.** In the 1999 Review, the Police category had three components — police services, scale-affected expenses and isolation.

9. The proportions of expenses related to the isolation and scale-affected expense components were estimated using the general assessment approaches to those components. The remaining expenses were assigned to the police services component.

10. The 1999 Review assessment structure is shown in Table 3.

**Table 3** ASSESSMENT STRUCTURE, 1999 REVIEW

Expenses component	Component weight	Factors	Basis of calculation
	%		
Scale-affected expenses	2.83	Input costs	General method with weights of 80 % for wages, 2 % for accommodation and 1 % for electricity.
		Administrative scale	General method.
Police services	96.88	Dispersion	General method.
		Input costs	General method with weights of 80 % for wages, 2 % for accommodation and 1 % for electricity.
		Service delivery scale	Assessed using catchment districts and data from CDATE 1996.
		Socio-demographic composition	Weight of 3.5 applied to Indigenous people, 2.5 to male youth and 1.1 to residents of Sydney and Melbourne. 1.0 applied to all other people.
		Cross-border	Assessed with a 50 per cent weight applied to group 1 Local Government Areas and a 20 per cent weight applied to group 2 LGAs.
Isolation	0.29	Isolation	General method.

11. ***User charges assessment.*** User charges were assessed by the equal per capita method. The user charges include revenue from the Confiscated Assets Trust Fund.

### PROPOSED CATEGORY DEFINITION AND STRUCTURE — 2004 REVIEW

#### ***Scope of the category***

12. No change of category scope is proposed for the 2004 Review. There are no specific purpose payments included in the Police category.

### ***Structure of the assessment***

13. The main change proposed to the Police assessment for the 2004 Review is a change to the expenses assessment structure to better reflect what States do. There are few other changes. There is no new socio-demographic composition modelling.

14. ***State views.*** New South Wales and Victoria presented evidence during workplace discussions and in rejoinder submissions to suggest that the present assessment was inadequate because it focussed on only one police responsibility — dealing with crime. Those States argued that they faced different disabilities in relation to other police functions, such as traffic control and preventive policing, including counter-terrorism measures. They were concerned that the existing assessment did not recognise these and their impact on State expenses, particularly in large urban areas.

15. Victoria and South Australia argued that an equal per capita assessment for Police would be better than the existing judgement-based assessment. Queensland and the Northern Territory contended that an equal per capita approach was inappropriate because needs were present.

16. ***Analysis.*** In the 1999 Review, the main component (comprising almost 97 per cent of total category expenses) of the assessment structure was the police services component. For the calculation of the socio-demographic composition factor within this component, it was assumed that the disabilities which related to crime applied to all police services. This assumption has been challenged in this review.

17. The Productivity Commission's *Report on Government Services* has classified police outputs/programs and expenses into four main service delivery areas (SDAs), plus a fifth minor area for unique functions not covered by the other areas. These SDAs have been endorsed by the Police Working Group, a national committee comprising representatives from each State police service and the Australian Federal Police. The definitions of the SDAs and the proportions of total police expenditure nationally that each SDA comprised for 2001-02 are shown in Table 4.

**Table 4** POLICE SERVICE DELIVERY AREAS AND EXPENDITURE, AUSTRALIA, 2001-02

Service delivery area	Proportion of expenditure	Definition
	%	
Crime investigation	22.9	Gathering intelligence on suspects and locations to assist with investigations; collecting and securing evidence in relation to both the offence and the suspect.
Services to the judicial process	13.5	Preparing briefs; presenting evidence at court; conducting court and prisoner security.
Road safety and traffic management	9.6	Monitoring road user behaviour, including speed and alcohol-related traffic operations; undertaking general traffic management functions; attending and investigating road traffic accidents and incidents; improving public education and awareness of traffic and road safety issues.
Community safety and support	53.6	Responding to calls for assistance; responding to, managing and coordinating major incidents and emergencies; undertaking crime prevention activities and community support programs.
Other services	0.3	Regulatory, information and licensing services; ministerial support services; services to other agencies.

Source: Productivity Commission, *Report on Government Services 2003*, Table 5A.14 and Chapter 5.

18. **Commission decision.** The Commission has decided to unpack the existing police services component into smaller components — based on the SDA classification — to enable differentiation between the different aspects of police work, associated expenses and disabilities affecting them. The Commission considered that this will improve the accuracy and validity of the assessment.

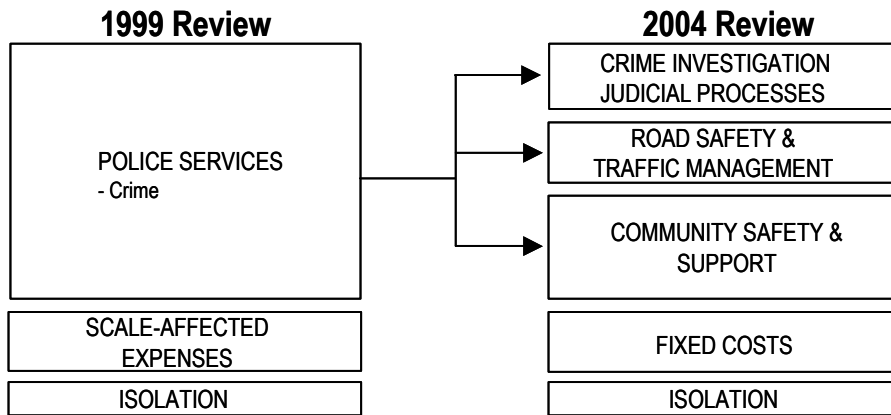
19. Components were selected on the basis of an examination of the data environment to determine which of the SDAs had sufficiently robust data to enable analysis of any State differences (for example, data development — including national standard datasets, standard definitions, frameworks, performance measures — is good for the crime SDA but less developed for the remaining SDAs). Component weights were based on the SDA proportions of total national expenditure.

20. The Commission has decided that the structure of the assessment should be changed from three to five components — crime investigation and judicial processes, road safety and traffic management, community safety and support, fixed costs, and isolation.

21. An overview of the proposed change in category structure from the 1999 Review to the 2004 Review is in Figure 2.

22. The Commission decisions relating to the definition of the category, assessment structure and component weights are summarised in Table 5. The remainder of this paper presents the rationale for the proposed assessment.

**Figure 2** 1999 REVIEW ASSESSMENT STRUCTURE AND PROPOSED 2004 REVIEW ASSESSMENT STRUCTURE



**Table 5** COMMISSION DECISIONS — EXPENSES CATEGORY DEFINITION, ASSESSMENT STRUCTURE AND COMPONENT WEIGHTS

Decision	Reason
<p><b>Definition.</b> Unchanged from 1999 Review</p> <p><b>Treatment of SPPs.</b> There are no SPPs in this category.</p> <p><b>Assessment structure and component weights:</b> <sup>(a)</sup></p> <ul style="list-style-type: none"> <li>Fixed costs: 1.37%</li> <li>Crime investigation and judicial processes: 35.85%</li> <li>Road safety and traffic management: 9.46%</li> <li>Community safety and support: 53.18%</li> <li>Isolation: 0.14%</li> </ul>	<p>Remains an important State function. No State comments were made on the definition of the category.</p> <p>This component weight has decreased because the assessment is based on fixed costs only (in the 1999 Review the fixed costs element accounted for half of the scale-affected expenses component).</p> <p>Component weights were based on the Productivity Commission’s Report on Government Services ‘Service Delivery Areas’ for Police, applied to the balance of the category expenses after the fixed costs and isolation components had been determined.</p> <p>See above.</p> <p>See above.</p> <p>Based on allocation of total isolation-related expenses among the categories affected by isolation costs.</p>

(a) These are component weights for 2001-02.

## FIXED COSTS COMPONENT

### *Administrative scale — fixed costs component*

23. **1999 Review.** The administrative scale factor was assessed to account for differences in per capita costs of providing central office functions and whole of State services. Scale-affected expenses for this category were assessed as \$10 million, of which \$5 million was considered as fixed cost and \$5 million as variable cost. The scale-affected expenses component represented 2.83 per cent of expenses in this category.

24. **2004 Review.** *Draft Assessment Paper CGC 2003/60 Administrative Scale* discusses the issues raised by the States regarding the assessment of this factor. The paper sets out the Commission's decisions on the general method of assessment adopted for the 2004 Review and on the size of the fixed costs component in each category. The States did not raise issues specific to this category.

25. The Commission has decided that administrative scale will be assessed for this category to recognise the unavoidable costs each State would incur to have the policy and administrative infrastructure necessary to provide the service regardless of the size of the task.

26. The administrative scale factors for this category, shown in Table 6, have been calculated using the 2004 Review general method. Fixed costs for this category have been estimated to be \$7 million per State. Total fixed costs for the category are \$56 million which represents 1.37 per cent of the category standard in 2001-02.

**Table 6** ADMINISTRATIVE SCALE FACTORS — FIXED COSTS COMPONENT

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
1997-98	0.36858	0.50382	0.68027	1.28668	1.56812	4.92560	7.52310	12.32319
1998-99	0.36853	0.50445	0.67767	1.28097	1.57795	4.99478	7.55742	12.25346
1999-2000	0.36854	0.50478	0.67478	1.27836	1.58830	5.05782	7.57230	12.19839
2000-01	0.36846	0.50489	0.67161	1.27768	1.60144	5.12202	7.57722	12.18130
2001-02	0.36891	0.50461	0.66745	1.27717	1.61320	5.17750	7.59249	12.25311

27. The factor, which is based on estimated resident populations, and the component weight will be updated annually.

### *Input costs — fixed costs component*

28. **1999 Review.** The input costs factor was assessed to recognise differences between States in per capita costs of labour, office accommodation and electricity.

A separate factor was calculated for each of those inputs. For the scale-affected costs component, those factors were applied to the following proportions of standard expenses:

- wages and salaries                      80 per cent;
- accommodation                            2 per cent; and
- electricity                                    1 per cent.

29. **2004 Review.** *Discussion Paper CGC 2003/04 Input Costs* sets out the issues raised by the States regarding the assessment of wages and salaries costs. The paper sets out the Commission’s proposals for the general method of assessment to be adopted for the 2004 Review. *Draft Assessment Paper CGC 2003/79 Input Costs — Electricity and Accommodation* sets out the issues raised by the States regarding the assessment of input costs relating to accommodation and electricity. The paper sets out the Commission’s decisions on the general method of assessment to be adopted for the 2004 Review and on the size of the standard expense proportions in each category for accommodation costs and electricity costs. The States did not raise issues specific to this category.

30. The Commission considered that the prices of labour, accommodation and electricity used in providing head office type services differ across States for reasons beyond the control of individual States. It has therefore decided that input costs will be assessed for this component.

31. The input costs factors for the fixed cost component of this category, shown in Table 7, have been calculated according to the 2004 Review general methods. The standard expense proportions applied were 80 per cent for wages and salaries, 2 per cent for accommodation and 1 per cent for electricity.

**Table 7** INPUT COSTS FACTORS — FIXED COSTS COMPONENT

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
1997-98	1.03086	0.98776	0.98243	0.98229	0.97405	0.93225	1.00817	1.11439
1998-99	1.03267	0.98876	0.98050	0.97883	0.97213	0.92981	1.01243	1.10979
1999-2000	1.03546	0.98791	0.97763	0.98082	0.96857	0.92317	1.01680	1.10513
2000-01	1.03603	0.98930	0.97573	0.98076	0.96738	0.92031	1.01603	1.10244
2001-02	1.03498	0.99044	0.97446	0.98186	0.97135	0.92001	1.01306	1.09897

32. The factors will be updated annually. The proportions represented by wages and salaries, accommodation and electricity will not be re-examined until the next Review.

33. The input cost disabilities shown in Table 7 were also applied in the crime investigation and judicial processes, road safety and traffic management, and community safety and support components of this category.

## CRIME INVESTIGATION AND JUDICIAL PROCESSES COMPONENT

### *The component*

34. As discussed in the proposed category definition and structure section of this paper, not all police expenses are crime-related. A new component — crime investigation and judicial processes — will represent the portion of police expenses that pertains to crime.

35. This new crime-related component is conceptually the same as the police services component from the 1999 Review. Therefore, it is reasonable to assess the same disabilities. The disabilities assessed are input costs, dispersion, service delivery scale, cross-border and socio-demographic composition (comprising assessments of young males, Indigeneity and urban complexity).

36. The weight for the new component is reduced from 97 per cent to about 36 per cent.

37. The establishment of the new component is supported empirically by data from the Productivity Commission. The component is an amalgamation of two SDAs that form part of a general performance framework for the police services sector and for which data are published annually by the Productivity Commission.

38. The crime investigation SDA has the highest level of data development. Recorded crime data and crime victim data are reported on a regular basis by the Australian Bureau of Statistics (ABS). The ABS continues to develop its National Criminal Justice Statistical Framework and is currently consulting with stakeholders on a National Information Development Plan based on the framework. Crime data are also reported by various State bodies (police services, courts, research centres) and the Australian Institute of Criminology (AIC).

39. However, the 2004 Review assessment will not include a factor specifically reflecting differences between States in reported crime rates, due to the following data deficiencies:

- (i) The ABS recorded crime data captures people and property offences that are common across States, and publishes these data annually. However, for various reasons the data are not always fully comparable across States.
- (ii) The AIC has estimated that the ABS recorded crime statistics represent about 60 per cent of total reported offences. This figure should increase as the ABS seeks to improve the scope of the collection.
- (iii) It is not valid to aggregate person and property crime statistics because they are different things. Rather, crime expenditure should be disaggregated into expenditure on person crime and expenditure on property crime. States do not currently report data in this manner.

40. **Commission decision.** The Commission considers there is a conceptual case to establish a new component for crime investigation and judicial processes to better capture the portion of police expenses that relates to crime.

41. The conceptual case is supported by Productivity Commission data to derive a component weight. However, there are insufficient data on which to calculate a factor specifically reflecting differences between States in reported crime rates.

42. Given that police services (including those in the crime investigation and judicial services component) are provided throughout each state and that they are labour intensive, there are sound conceptual cases for assessing input costs and dispersion disabilities. The location at which police services are provided has other effects on relative costs, especially at the extremes of highly urbanised areas and sparsely settled areas. This creates a case for assessing allowances for urban influences and service delivery scale.

43. In terms of the demand for police services, previous analysis indicates that some groups in the population create more need for services than others. It is also the case that the absolute size of the population affects the level of services. These matters indicate sound cases for assessing socio-demographic composition and cross-border factors. The issues associated with these assessments are discussed in more detail in the following sections.

#### ***Input costs — crime investigation and judicial processes component***

44. **1999 Review.** In the 1999 Review, the input costs factors assessed for the police services component were the same as those for the scale-affected expenses component.

45. **2004 Review.** The Commission considers that approach remains appropriate for the 2004 Review because the proportion of standard expenses affected by the input costs factors in the fixed costs and crime investigation and judicial services components remain similar. The input costs factors shown in Table 7 have also been applied in the crime investigation and judicial services component.

#### ***Dispersion — crime investigation and judicial processes component***

46. **1999 Review.** The dispersion factor was assessed to account for differences in per capita costs of providing services arising from differences between States in the spread of their population. The factor reflected the effects of population dispersion on State expenses associated with telecommunication, freight, travel and staffing on-costs.

47. There were seven indexes within the dispersion factor, each reflecting the effect of interstate differences in population dispersion on a separate type of dispersion-affected cost. Each index was weighted by the proportions of standard expenses affected by that type of dispersion-affected cost. The seven indexes were combined to form the overall dispersion factor. The proportions of standard expenses estimated for this component are shown in Table 8.

**Table 8** DISPERSION COST WEIGHTS, POLICE SERVICES COMPONENT, 1999 REVIEW

Telephone	Freight	Air Travel	Road Travel		Remote Removals	Locality Allowances
			Inter Regional	Local		
0.02003	0.00235	0.00521	0.01805	0.0476	0.00354	0.0159

Source: 2003 Update Working Papers.

48. **2004 Review.** *Draft Assessment Paper CGC 2003/63 Dispersion* discusses the issues raised by the States regarding the assessment of the dispersion factor. The paper sets out the Commission's decisions on the general method of assessment adopted for the 2004 Review and on the size of the standard expense proportions estimated for each of the nine elements of dispersion-affected expenses. Specific to this category, Victoria argued that *Information and Communication Technology (ICT)* has resulted in a significant reduction in the per unit cost of service delivery.

49. The Commission noted that the expenses incurred in providing crime investigation and judicial processes include costs that are affected by population dispersal. It has therefore decided that a dispersion disability will be assessed. Victoria's argument on technology-related issues was considered in *Discussion Paper CGC 2003/8 Impact of Technology on Assessments*. Adjustments have been made to the dispersion factors as a result. It is also the case that the growing use of technology is part of the reason for the changes in the proportion of police services standard costs used in the 1999 Review (Table 8) and those proposed for the 2004 Review (Table 9).

50. The dispersion factors for crime investigation and judicial processes have been calculated according to the 2004 Review general method. There were nine indexes within the dispersion factor for the 2004 Review. Table 9 shows the proportions of standard expenses estimated for each of the nine elements of dispersion affected expenses for this component.

**Table 9** DISPERSION COST WEIGHTS, CRIME INVESTIGATION AND JUDICIAL PROCESSES COMPONENT, 2004 REVIEW

Telecommunication		Freight, General	Air Travel	Road Travel		Repairs and Maintenance	Remote Staff Turnover	Locality Allowances
Voice	Non-voice			Inter Regional	Local			
0.0113	0.0013	0.0042	0.0040	0.0237	0.0422	0.0059	0.0000	0.0106

51. Table 10 shows the dispersion factors assessed for the crime investigation and judicial processes component for the 2004 Review.

**Table 10** DISPERSION FACTORS, CRIME INVESTIGATION AND JUDICIAL PROCESSES COMPONENT, 2004 REVIEW

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
1997-98	0.98337	0.97001	1.02156	1.06770	0.99048	0.98434	0.92140	1.49323
1998-99	0.98328	0.96992	1.02146	1.06759	0.99038	0.98424	0.92131	1.49308
1999-2000	0.98321	0.96985	1.02138	1.06752	0.99031	0.98417	0.92124	1.49298
2000-01	0.98317	0.96981	1.02134	1.06748	0.99027	0.98413	0.92120	1.49292
2001-02	0.98316	0.96980	1.02133	1.06746	0.99026	0.98412	0.92119	1.49290

52. Neither the factor nor the dispersion costs weights will be updated before the next review.

53. The dispersion disabilities shown in Table 10 were also applied in the road safety and traffic management, and community safety and support components.

***Service delivery scale — crime investigation and judicial processes component***

54. ***1999 Review method.*** Service delivery scale disabilities for the police services component in the 1999 Review mainly reflected:

- (i) the higher costs per unit of service in small outlets compared with larger ones, principally arising from higher staff to client ratios; and
- (ii) the effects of differences in States' patterns of settlement on the number of such small service outlets.

55. ***Staff proposals.*** Staff proposed that service delivery scale disabilities would continue to be assessed for this component (formerly the police services component).

56. ***Further State views.*** No States commented.

57. ***Analysis.*** In both this and the 1999 Review, States provided good evidence that there are additional costs of providing crime investigation and judicial processes in small population centres. These additional costs are due to the delivery of services from small police stations in such population centres. Evidence was provided in submissions and workplace discussions. In addition, the analysis of data from the 1999 Review police special data collection justified the inclusion of a service delivery scale factor.

58. ***Commission decision.*** The Commission accepts that a conceptual basis exists for assessing service delivery scale in this component. Differences between States in settlement patterns continue to result in unavoidable differences in per capita costs. Some States incur above average per capita costs because they have a relatively large number of staff in small police stations in small population centres.

59. The conceptual case is supported by data, which the Commission is satisfied are comparable, representative and provide an adequate basis for measuring differences between States.

60. These data indicate that service delivery scale has an impact on State budgets which the Commission considers to be material. The Commission therefore proposes to assess a service delivery scale factor for this component, based on the existing assessment method.

61. The Commission's decision is summarised in Table 11.

**Table 11** COMMISSION DECISION — SERVICE DELIVERY SCALE, CRIME INVESTIGATION AND JUDICIAL PROCESSES COMPONENT

Decision	Reason
A service delivery scale factor will be assessed for the crime investigation and judicial processes component in the 2004 Review, based on the existing assessment method.	Gives States the capacity to provide the average level of services by assessing the additional costs that States face due to costs incurred because they have a relatively large number of staff in small police stations in small population centres.

62. *Method and results.* The Commission has decided to continue to assess service delivery scale disabilities by the 1999 Review method. Under that method, stations that served UCLs of less than 500 people and which were more than one hour's drive from the centre of an urban centre of 500 or more people were identified. Those stations were considered as suffering from diseconomies of small scale. The time of one hour was based on judgment, being the maximum time the Commission considered appropriate for a police response. The distance corresponding with a one hour period varied by State, to take into account sinuosity of roads and speed limits. The distances are shown in Table 12.

**Table 12** CATCHMENT DISTANCE AROUND AN URBAN CENTRAL LOCATION OF 500 OR MORE PEOPLE

State	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
	km	km	km	km	km	km	km	km
Distance	80	80	76	84	80	73	94	80

63. A catchment population was derived for these stations as the sum of the populations in all Collection Districts where any part of the Collection Districts was within one hour's drive of the station.

64. The populations of catchment areas around urban centres of less than 500 people which did not have a police station were also treated as being subject to service delivery scale disabilities. That is, the Commission considered that providing a police station in these locations would be consistent with Australian average policy.

65. In undertaking the draft assessments for the 2004 Review, the populations of all scale-affected centres were updated using 2001 Census data. Police to population ratios were not updated because numbers of police were not collected in the special data collection for police. The Commission did not expect these ratios to vary much between the 1999 Review and the 2004 Review. Calculation of the factors is shown in Table 13.

**Table 13** SERVICE DELIVERY SCALE FACTORS — CRIME INVESTIGATION AND JUDICIAL PROCESSES COMPONENT

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust
<b>Calculation of total weighted population</b>									
Weighted population < 629 (weight = 2.72)	4115	1392	23937	7663	8186	2067	0	9943	57303
Weighted population 629 – 908 (weight = 1.80)	1972	803	7387	1914	1533	0	0	2350	15960
Weighted population 908 – 1381 (weight = 1.51)	1631	0	5352	3840	1696	0	0	4061	16579
Weighted population > 1381 (weight = 1.12)	0	0	1757	6523	4299	0	0	8927	21507
Non service delivery scale-affected population	6367644	4643771	3635078	1838824	1458020	455777	311946	194750	18905810
Total weighted population	6375362	4645967	3673512	1858763	1473734	457844	311946	220031	19017159
<b>Total unweighted population</b>									
	6371747	4644947	3655134	1851255	1467264	456650	311946	210661	18969604
<b>Ratio of total weighted population to total unweighted population</b>									
	1.00057	1.00022	1.00503	1.00406	1.00441	1.00262	1.00000	1.04448	1.00251
Factor	0.99807	0.99772	1.00251	1.00155	1.00190	1.00011	0.99750	1.04187	1.00000

66. **Reality check.** The factors are in the expected direction. Those States with more police stations in areas of small populations receive a larger factor.

67. **Updateability.** As they are based on 2001 Census data, the service delivery scale factors will not be updated between Reviews.

***Socio-demographic composition — crime investigation and judicial processes component***

68. **1999 Review method.** For the police services component in the 1999 Review, the socio-demographic composition factor took into account the different demand for, and unit cost of delivering police services associated with different population and demographic characteristics.

69. The socio-demographic composition factor was determined after considering the results of a regression model<sup>1</sup> which linked police expenses to socio-demographic composition indicators. The Commission also took account of other information it received in submissions and during workplace discussions.

70. The socio-demographic influences on policing expenses included in the assessment were Indigeneity, males aged 17-25, and population concentration in large cities (Sydney and Melbourne). The Sydney and Melbourne populations were estimated using 1996 Census urban centre location data. The weights based on the regression model results and judgement are shown in Table 14. Those weights represented the combined use and unit cost effect for each population group.

**Table 14** WEIGHTS FOR THE SOCIO-DEMOGRAPHIC COMPOSITION FACTOR —1999 REVIEW

Variable	Final weight
Indigenous people	3.5
Males aged 17-25	2.5
Sydney/Melbourne	1.1

71. *Preliminary State views. Urban complexity.* New South Wales and Victoria submitted that investigation of crime in urban areas was more resource intensive. They argued for an increase in the urban complexity weight.

72. *Indigeneity.* New South Wales argued that the combined demand and cost weight due to Indigeneity should be no more than 2, compared with the current weight of 3.5. Victoria argued for a more explicit justification of the application of Aboriginality weights in all categories. In addition it argued that the weighting of remote Indigenous populations should be justified with empirical data. The Northern Territory said that the current Indigeneity weight used in the socio-demographic composition factor was appropriate and argued strongly against any reduction in the weight applied.

73. *Cultural and linguistic diversity.* New South Wales proposed that the higher demand for services associated with culturally and linguistically diverse communities be considered in areas where particular cultural groups congregated, because resources were allocated in addition to those based on crime rates. Victoria argued that a ‘low English fluency’ weight of 1.5 per capita and a cultural diversity weight of at least 1.1 be assessed, to reflect use and unit costs associated with communication and cultural differences of people from such groups.

74. *Young males.* The ACT argued that the cost weight assigned to young males should be increased from 2.5 to 5 because, while males aged between 17 and 25 account for

<sup>1</sup> A three-stage least squares regression model which used a reciprocal relationship between crime and police expenditure. It was derived with help from the Australian Institute of Criminology (AIC).

approximately 8 per cent of the ACT population, they represent 36 to 40 per cent of all offenders.

75. *Unemployment and low income.* South Australia argued that economic variables such as unemployment or low-income should be reflected in the modelling for police resources. In workplace discussions, Tasmania argued that linkages between socio-economic disadvantage and policing demands were reflected in greater policing resources per capita being directed to areas of lower socio-economic status relative to other areas.

76. *Commonwealth Detention Centres.* South Australia also submitted that the cost impact of Commonwealth Detention Centres on State Police services be assessed. It contended that South Australia Police is liable for expenses incurred while exercising duty of care arrangements with persons in immigration detention.

77. *Staff proposals. Urban complexity.* Staff asked for further evidence from New South Wales and Victoria to support a change to the urban complexity weight.

78. *Indigeneity.* Staff asked for additional evidence from New South Wales to justify a change to the weight.

79. *Cultural and linguistic diversity.* Staff proposed that an additional weight be assessed if States provided further evidence to demonstrate that population groups from culturally and linguistically diverse backgrounds caused States to incur extra delivery costs, above those assessed for young males and urban complexity.

80. *Young males.* Staff proposed that this issue would be investigated further only if there were evidence of a prima-facie large change, at the national level, in the propensity of younger males to commit crime.

81. *Unemployment and low income.* These influences were studied within the 1999 Review model specification and estimation process and it was concluded that their impacts were captured in other influences. Moreover, theoretical and empirical literature did not conclusively support the existence of links between crime rates and unemployment and low income<sup>2</sup>. On balance, staff did not propose to pursue this argument further.

82. *Commonwealth Detention Centres.* Staff thought that this appeared not to be a 'standard' service, and anticipated that more information on this issue would emerge in the 2003 Update. It was generally considered this was a matter for negotiation between the State and the Australian Government, rather than a matter for equalisation.

83. *Further State views.* States' views on the variables comprising the socio-demographic composition factor and the efficacy of the factor's statistical model tended to be polarised.

84. Queensland, Tasmania and the Northern Territory supported the staff view that there was little to be gained by respecifying or re-estimating the model but argued that

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<sup>2</sup> 'Economics of Criminal Behaviour: Survey and Bibliography' by E. Erling, 1995: '*Illegal activity will decrease with increasing unemployment under the standard assumptions of decreasing absolute risk aversion*'.

the results from it could be amended by a pragmatic assessment of the drivers of cost in the Police category. Tasmania said that the existing specification was not adequate but accepted that further modelling was unlikely to produce a ‘better’ result in the absence of disaggregated quality police resourcing data. The Northern Territory argued that the existing variables were well supported in the literature and at workplace discussions.

85. The ACT said that redesigning the model was not warranted but that it would like the parameters to be re-estimated. Western Australia argued that the model should be reworked because it was not capturing the drivers of demand. Western Australia noted that it was assessed as having a socio-demographic factor of less than one but it experienced above average rates for crime for almost all types of criminal activity.

86. New South Wales, Victoria and South Australia made no comment on the model.

87. *Indigeneity.* Queensland and the Northern Territory argued for the retention of the existing Indigeneity weight because of the strong evidence of increased complexity and costs in policing this population. Western Australia argued for an increase in the weight because it thought that the impact of Indigeneity had been understated in the existing assessment. In contrast, New South Wales argued for a reduction in the weight and Victoria argued for better empirical justification for its inclusion.

88. *Young males.* The ACT argued for an increase in the weight for young males aged 17-25 on the basis that they were significantly over-represented in the crime statistics. Queensland said that the age range should be expanded to 14 to 25 years to better reflect current young offender crime patterns. No other States commented.

89. *Urban complexity.* New South Wales and Victoria argued for an increase in the urban complexity weight because:

- (i) crime investigation in urban areas was more resource-intensive and therefore more costly;
- (ii) major ports of entry increased drug availability, with a consequential increase in drug-related crime;
- (iii) major cities with prominent architectural/cultural icons required counter-terrorism measures; and
- (iv) special police squads were needed to control gang-related crime.

90. In contrast, other States argued that the urban complexity weight should be removed:

- (i) Western Australia said there was no evidence that urban complexity led to higher crime rates;
- (ii) South Australia said crime is more a function of the socio-economic characteristics of the population; and

- (iii) Queensland said its crime rates were on par with those States currently assessed for urban complexity.

91. *Other socio-economic variables.* States offered the following views on the merit of other socio-economic variables:

- (i) New South Wales and Victoria argued that some people from culturally and linguistically diverse backgrounds and some people with low English fluency had higher demand for police services, were more costly to service, and therefore should be included in the assessment. In contrast, Western Australia, South Australia, Tasmania and the Northern Territory argued that groups from such backgrounds were not over-represented, and that there was insufficient and mixed evidence to justify their inclusion in the assessment.
- (ii) Western Australia, South Australia, Tasmania said low socio-economic status (or socio-economic disadvantage), unemployment and low income were drivers of crime and should be included in the assessment.

92. *Summary.* There were conflicting views among States about how the assessment should be undertaken. There were also conflicting views on the variables that should have been included in the 1999 Review socio-demographic model and the effect on police costs. This made it difficult to identify a clear way forward for this part of the assessment. There was some support among the States for the view that the socio-demographic model should not be respecified or re-estimated and that any changes to it should be minimal.

93. *Analysis.* The econometric modelling<sup>3</sup> undertaken in the 1999 Review showed a statistically significant relationship between police expenditure and socio-demographic composition influences of Indigeneity, males aged 17 to 25, and population concentration in Sydney and Melbourne. Those results were consistent with the material presented to the Commission in submissions and workplace discussions. The model did not show a relationship between police expenditure and low-English fluency or socio-economic status.

94. Because no new or more comparable data on police services were available, there is a pragmatic case for retaining the existing model. It is unlikely that better results could be obtained if an attempt were made to update the existing model with new data or to re-specify and re-estimate a new model.

95. *Commission decision.* The Commission accepts that a conceptual basis exists for assessing socio-demographic composition in this component, because unavoidable differences between States in per capita delivery costs continue to exist because some groups in the population have a greater impact on the level of police services and there are differences between the States in the relative importance of those groups in their population.

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<sup>3</sup> Available data and their quality do not justify the re-estimation of the model at this time.

96. The conceptual case is supported by data from the 1999 Review socio—demographic model which indicates that the additional impacts are substantial.

97. After considering State comments and the divergence of opinion expressed about how new variables should be introduced and what the weights should be, the Commission has decided to retain the structure of the existing regression model and its results. In particular:

- (i) for Indigeneity, the Commission has decided to retain the existing weight of 3.5. State views were divergent and no quantitative evidence to justify a change in the weight was presented.
- (ii) for young males, unless States other than Queensland and the ACT can provide evidence in support of a reduction in the weight, we will retain the weight of 2.5 and not expand the young male age range; and
- (iii) for residents of Sydney and Melbourne, we have decided to retain the existing weight of 1.1. Again, State views were divergent regarding the validity of an urban complexity effect and the effects of other socio-economic variables such as cultural and linguistic diversity. The Commission considers that the existing weight captures adequately the influences of big-city effects such as the higher prevalence of crime related to drugs and the concentration of some population groups from culturally and linguistically diverse backgrounds. However, for presentational purposes, the effect of this weight will be classified as being due to urban influences rather than socio—demographic composition.

98. While maintaining the weights used in the 1999 Review, the Commission has decided to disentangle the influences assessed in the socio-demographic composition factor. In particular, we have decided that the urban complexity influences assessed for the populations of Sydney and Melbourne would be better assessed as an explicit factor. The remaining influences — young males and Indigeneity — have continued to be assessed within the socio-demographic composition factor.

99. The model did not establish an impact on police expenses of persons with low fluency in English, persons with low socio-economic status or who were unemployed. State views on the likely impact were conflicting and criminological literature is not conclusive on such impacts at this time. No weights will be assigned to such people.

100. Because the model has not been respecified, we have not tested specifically for relationships with other cultural diversity variables or low population density in outer metropolitan and regional areas.

101. The Commission’s decision is summarised in Table 15.

**Table 15** COMMISSION DECISION — SOCIO-DEMOGRAPHIC COMPOSITION, CRIME INVESTIGATION AND JUDICIAL PROCESSES COMPONENT

Decision	Reason
A socio-demographic composition factor will be assessed for the crime investigation and judicial processes component in the 2004 Review, based on the regression model results from the 1999 Review and judgement. The influences of young males and Indigeneity on service delivery costs has been assessed.	Gives States the capacity to provide the average level of service by assessing the additional costs that States face due to the socio-demographic composition of their populations.

102. **Method and results.** The factors were calculated by applying the weights for young males and Indigeneity (derived from the 1999 Review regression model and rounded by judgement) to an appropriate 2001 Census cross-tabulation of population, for each State. The derivation of the socio-demographic composition factors is shown in Table 16.

**Table 16** SOCIO-DEMOGRAPHIC COMPOSITION FACTORS — CRIME INVESTIGATION AND JUDICIAL PROCESSES COMPONENT

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust
<b>2001 Census population cross-tabulation</b>									
Indigenous (3.5) males aged 17-25 (2.5), weight = 5.0	9269	1956	8603	4600	1857	1249	308	4812	32654
Indigenous (3.5) not 'males aged 17-25' (1.0), weight = 3.5	116548	24179	108337	56218	22258	15190	3365	49363	395458
Non-Indigenous (1.0) males aged 17-25 (2.5), weight = 2.5	372381	285054	211174	112793	84947	24759	22746	9276	1123130
Non-Indigenous (1.0) not 'males aged 17-25' (1.0), weight = 1.0	5828381	4349802	3193930	1654683	1360995	419474	283579	124624	17215468
Total unweighted population	6326579	4660991	3522044	1828294	1470057	460672	309998	188075	18766710
<b>Total weighted population</b>	7213596	5156842	4144059	2156429	1660552	540782	353761	344645	21570666
<b>Ratio of total weighted population to total unweighted population</b>	1.14020	1.10638	1.17661	1.17948	1.12958	1.17390	1.14117	1.83249	1.14941
Factor	0.99199	0.96257	1.02366	1.02616	0.98275	1.02130	0.99283	1.59428	1.00000

103. **Reality check.** Those States with higher proportions of Indigenous people and young males have higher factors.

104. **Updateability.** Because they are based on a 2001 Census cross-classification of data and the weights will not change, the socio-demographic composition factors will not be updated between Reviews.

**Urban complexity — crime investigation and judicial processes component**

105. **1999 Review method.** Urban complexity was assessed within the socio-demographic composition factor in the 1999 Review, as discussed in the previous section.

106. **Commission decision.** As noted in the previous section, the Commission accepts that a conceptual basis exists for assessing urban complexity influences in this component. New South Wales and Victoria have presented a convincing conceptual case that the complexity of Sydney and Melbourne is such that additional police resources are required. Congestion, anonymity, alienation, and concentrations of populations from culturally and linguistically diverse backgrounds interact to cause particular problems relating to crime.

107. The conceptual case is supported by data from the 1999 Review regression model. The Commission’s decision is summarised in Table 17. However, sufficient information has not been provided to warrant a change in the weight.

**Table 17** COMMISSION DECISION — URBAN COMPLEXITY, CRIME INVESTIGATION AND JUDICIAL PROCESSES COMPONENT

Decision	Reason
An urban complexity factor will be assessed for the crime investigation and judicial processes component in the 2004 Review, based on the regression model results from the 1999 Review and judgement.	Gives States the capacity to provide the average level of service by assessing the additional costs that States face due to the influence of urban complexity on service delivery costs.

108. **Method and results.** The Commission has decided that the urban complexity effects should be presented as a separate factor. The weight of 1.1 applied to the populations of Sydney and Melbourne in the 1999 Review method will be retained. The derivation of the factor is shown in Table 18.

**Table 18** URBAN COMPLEXITY FACTORS, CRIME INVESTIGATION AND JUDICIAL PROCESSES COMPONENT

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Weighted population	6672148	4975973	3522044	1828294	1470057	460672	309998	188075
Unweighted population	6326579	4660991	3522044	1828294	1470057	460672	309998	188075
Ratio	1.05462	1.06758	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000
Factor	1.01876	1.03128	0.96600	0.96600	0.96600	0.96600	0.96600	0.96600

109. **Updateability.** Because they are based on a 2001 Census cross-classification of data and the weights will not change, the urban complexity factor will not be updated.

### ***Cross-border — crime investigation and judicial processes component***

110. ***1999 Review method.*** The cross-border phenomenon occurs because Canberra acts as a major regional centre for south-eastern New South Wales. As a result, some residents of New South Wales use ACT police services. Conversely, some ACT residents use police services in New South Wales. If the incoming and outgoing populations were exactly the same size, the net effect would be zero and both States would incur no additional service delivery costs. However, the use of ACT police services by residents of New South Wales exceeds the flow in the other direction and the ACT incurs additional service delivery costs. In undertaking cross-border assessments, it is this net cross-border flow that is relevant.

111. A cross-border factor was assessed for the police services component in the 1999 Review to compensate the ACT for the costs incurred in providing police services to New South Wales residents. The cross-border factor was based on a net incoming population per annum of 50 per cent of the total population in Queanbeyan, Yass, Yarrowlunla and Gunning Local Government Areas (LGAs); and 20 per cent of the total population in the Bega Valley, Bombala, Boorowa, Cooma-Monaro, Crookwell, Eurobodalla, Goulburn, Harden, Mulwaree, Snowy River, Tallaganda and Young LGAs.

112. ***Preliminary State views.*** The ACT said that its assessed cross-border disability should be increased from 16 per cent to 18 per cent. It supported its argument with data on cross-border offenders, by State.

113. ***Staff proposals.*** Staff considered that the data provided by the ACT were potentially policy contaminated and the impact of suggested changes was small. Subject to a review of the general method used to assess cross-border factors, staff proposed that the general method be retained in the 2004 Review.

114. ***Further State views.*** The ACT supported the continued assessment of cross-border influences for this category. It urged the Commission to adopt its *modified* general method to undertake the assessment.

115. ***Analysis.*** Given the ACT's regional presence, it is reasonable that people from the surrounding areas of New South Wales travel into the ACT to use its services. Additional costs are incurred by the ACT in providing police services to New South Wales residents.

116. While there is conceptual evidence that cross-border population movements of New South Wales residents into the ACT cause the Territory to incur additional service delivery costs, actual robust data supporting the conceptual case are not available.

117. ***Commission decision.*** The Commission accepts that a conceptual basis exists for assessing cross-border influences for this category.

118. While the Commission acknowledges the conceptual case, there are insufficient comprehensive data to measure the cross-border net impact of residents of New South Wales on the costs of ACT police services. The Commission has decided to assess cross-border influences using the general method. The general method assumes a net cross-

border population to calculate the factor, which recognises that a portion of the ACT population also has an impact on New South Wales police services. The method assumes a net cross-border population of 50 per cent of the closest four LGAs and 20 per cent of the 12 LGAs further distant, which is similar to the approach used in the 1999 Review.

119. The Commission’s decision is summarised in Table 19.

**Table 19** COMMISSION DECISION — CRIME INVESTIGATION COMPONENT AND JUDICIAL PROCESSES: CROSS-BORDER FACTORS

Decision	Reason
A cross-border factor will be assessed for the crime investigation and judicial processes component using the general method.	Gives ACT and New South Wales the capacity to provide the average level of services by assessing the additional costs incurred by the ACT in providing services to New South Wales residents.

120. **Method and results.** The cross-border adjusted population for the ACT was calculated by increasing the ACT’s population by an assumed amount and decreasing the New South Wales population by the same absolute amount. The assumed increase in the ACT population was based on 50 per cent of the total population of the four closest LGAs (listed above) and 20 per cent of the total population of the other LGAs listed above.

121. Table 20 shows the cross-border factors applied to this component, and compares them with the 2003 Update factors.

**Table 20** CROSS-BORDER FACTORS — CRIME INVESTIGATION AND JUDICIAL PROCESSES COMPONENT, 2001-02

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
2003 Update	0.99588	1.00000	1.00000	1.00000	1.00000	1.00000	1.08271	1.00000
2004 Review draft assessment	0.99119	1.00000	1.00000	1.00000	1.00000	1.00000	1.18086	1.00000

122. **Reality check.** The ACT factors have increased because the regional population has increased.

123. **Updateability.** Factors based on cross-border regional populations will be updated annually.

## ROAD SAFETY AND TRAFFIC MANAGEMENT COMPONENT

### *The component*

124. **Analysis.** As discussed in the proposed category definition and structure section of this paper, not all police expenses are crime-related. A new component — road safety and traffic management — will be assessed to represent the portion of police expenses that pertains to that function.

125. The establishment of the new component is supported empirically by data from the Productivity Commission. The component is a Service Delivery Area (SDA) that forms part of a general performance framework for the police services sector and for which data are published annually by the Productivity Commission.

126. **Commission decision.** The Commission accepts that a conceptual basis exists for the establishment of a new component — road safety and traffic management — to better capture the portion of police expenses that relates to that function.

127. The conceptual case is supported by Productivity Commission data to derive a component weight. However, there are insufficient data on which to calculate a new factor specifically reflecting differences between States in road accident rates.

128. The Commission considers that there is a conceptual case for recognising that many of the influences assessed in the 1999 Review police services component would apply to this component. Specifically, it has decided to assess input costs, dispersion, socio-demographic composition, urban complexity and cross-border factors for this component in the 2004 Review.

### *Input costs — road safety and traffic management component*

129. **1999 Review.** In the 1999 Review, the input costs factors assessed for the police services component were the same as those for the scale-affected expenses component.

130. **2004 Review.** The Commission considered that approach remains appropriate for the 2004 Review. The proportion of standard expenses affected by input cost factors in the fixed costs and road safety and traffic management components could reasonably be expected to be similar, especially given the labour intensive nature of police services. The input costs factors shown in Table 7 have also been applied in the road safety and traffic management component.

### *Dispersion — road safety and traffic management component*

131. **1999 Review.** In the 1999 Review, dispersion was assessed for the police services component.

132. **2004 Review.** For the 2004 Review, the former police services component has been subdivided into three components. The Commission considers the dispersion assessment approach adopted for the crime investigation and judicial processes component is appropriate for the road safety and traffic management component, because road safety and traffic management services are provided throughout each State. The proportion of dispersion-affected costs in crime investigation and judicial processes and road safety and traffic management components is likely to be similar. The dispersion factors shown in Table 10 have also been applied in the road safety and traffic management component.

***Socio-demographic composition — road safety and traffic management component***

133. **1999 Review.** In the 1999 Review, socio-demographic composition was assessed for the police services component which included road safety and traffic management expenses.

134. **2004 Review.** The Commission accepts that a conceptual basis exists for assessing socio-demographic composition in this component. This is because unavoidable differences between States in per capita service delivery costs exist because young males are over-represented in traffic infringements and accident data. There are also differences between states in the proportion of young males in their population. At this stage, evidence does not support the inclusion of an Indigenous weight for this component.

135. The conceptual case is supported by data from the 1999 Review socio-demographic composition model. Without evidence to the contrary, the Commission has decided to continue to apply a weight of 2.5 to males aged 17-25 in all States based on the 1999 Review regression model. As previously mentioned, the Commission will retain the weight of 2.5 and not expand the young male age range, unless States other than Queensland and the ACT can provide evidence in support of a reduction in the weight assessed in the 1999 Review.

136. The Commission’s decision is summarised in Table 21.

**Table 21** COMMISSION DECISION — SOCIO-DEMOGRAPHIC COMPOSITION, ROAD SAFETY AND TRAFFIC MANAGEMENT COMPONENT

Decision	Reason
A socio-demographic composition factor will be assessed for the road safety and traffic management component in the 2004 Review, based on the regression model results from the 1999 Review and judgement. The influences of young males on service delivery costs will be assessed.	Gives States the capacity to provide the average level of service by assessing the additional costs that States face due to the socio-demographic composition of their populations.

137. **Method and results.** The factors were calculated by applying the weight for young males (used in the 1999 Review) to a tabulation of population, for each State. The derivation of the socio-demographic composition factors is shown in Table 22.

**Table 22** SOCIO-DEMOGRAPHIC COMPOSITION FACTORS — ROAD SAFETY AND TRAFFIC MANAGEMENT COMPONENT

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust
<b>2001 Census cross-tabulation of population</b>									
Males aged 17-25 (2.5), weight = 2.5	381650	287010	219777	117393	86804	26008	23054	14088	1155784
Not 'males aged 17-25' (1.0), weight = 1.0	5944929	4373981	3302267	1710901	1383253	434664	286944	173987	17610926
Total unweighted population	6326579	4660991	3522044	1828294	1470057	460672	309998	188075	18766710
<b>Total weighted population</b>	6899054	5091506	3851710	2004384	1600263	499684	344579	209207	20500386
<b>Ratio of total weighted population to unweighted population</b>	1.09049	1.09237	1.09360	1.09631	1.08857	1.08468	1.11155	1.11236	1.09238
Factor	0.99827	0.99999	1.00112	1.00360	0.99651	0.99296	1.01755	1.01829	1.00000

138. **Updateability.** Because they are based on a 2001 Census cross-classification of data and the weights will not change, the socio-demographic composition factors will not be updated between Reviews.

***Urban complexity — road safety and traffic management component***

139. **1999 Review.** Urban complexity was assessed within the socio-demographic composition factor as a Sydney-Melbourne affect.

140. **2004 Review.** The Commission considers the urban complexity assessment approach adopted for the crime investigation and judicial processes component is appropriate for the road safety and traffic management component. This is because there is a strong conceptual case that road safety and traffic management costs are higher in large complex cities. The complexity and the congestion of the road networks and the extra time taken to manage them represent a convincing conceptual case in the absence of any information of a more appropriate weight. The urban complexity factors for crime investigation and judicial processes component shown in Table 18 have also been applied in the road safety and traffic management component.

***Cross-border — road safety and traffic management component***

141. **1999 Review.** In the 1999 Review, a cross-border factor was assessed for the police services component.

142. **2004 Review.** The Commission considers the cross-border assessment approach adopted for the crime investigation and judicial processes component is appropriate for the road safety and traffic management component. This is because the net cross-border population movements of New South Wales residents to the ACT cause the

ACT to incur additional road safety and traffic management costs. The cross-border factors used in the crime investigation and judicial processes component shown in Table 20 have also been applied in the road safety and traffic management component.

## COMMUNITY SAFETY AND SUPPORT COMPONENT

### *The component*

143. **Analysis.** As discussed in the proposed category definition and structure section of this paper, not all police expenses are crime-related. A new component — community safety and support — will represent the portion of police expenses that pertains to functions that remain after removing the crime investigation and judicial processes component and the road safety and traffic management component.

144. The establishment of the new component is supported empirically by data from the Productivity Commission. The component is an amalgamation of two SDAs that form part of a general performance framework for the police services sector and for which data are published annually by the Productivity Commission.

145. This component represents the largest share of total police expenditure (about one half) and comprises the SDAs:

- (i) Community safety and support; and
- (ii) Other.

146. **Commission decision.** The Commission accepts that a conceptual basis exists for the establishment of a new component — community safety and support — to better capture the portion of police service delivery expenses that remains after accounting for expenses related to the crime investigation and judicial processes, and road safety and traffic management components.

147. The Commission proposes not to assess factors which recognise differential influences on demand for this component — in particular, socio-demographic composition. The expenses incurred on most of the activities in this component (crime prevention activities, community support programs, and information services) are considered to be community—wide programs. That is, policy decisions on relative priorities are considered to be the main drivers of the quantity of these services provided.

148. However, the Commission acknowledges that all States undertake these activities and that there will be differences in unit costs of providing these services across States. The Commission therefore proposes to assess input costs, dispersion, service delivery scale, urban complexity and cross-border factors for this component. They will be the same as those assessed for the other service delivery components in this category.

***Input costs — community safety and support component***

149. **1999 Review.** In the 1999 Review, the input costs factors assessed for the police services component were the same as those for the scale-affected expenses component.

150. **2004 Review.** The Commission considered that approach remains appropriate for the 2004 Review because the labour intensive nature of police services suggests the proportion of standard expenses affected by input cost factors in the fixed costs and community safety and support components are highly likely to be similar. The input costs factors shown in Table 7 have also been applied in the community safety and support component.

***Dispersion — community safety and support component***

151. **1999 Review.** In the 1999 Review, dispersion was assessed for the police services component.

152. **2004 Review.** For the 2004 Review, the former police services component was subdivided into three components. The Commission considers the dispersion assessment approach adopted for the crime investigation and judicial processes component is appropriate for the community safety and support component, because the two types of services are provided throughout each State. The proportion of dispersion-affected costs in crime investigation and judicial processes and community safety and support components is likely to be similar. The dispersion factors shown in Table 10 have also been applied in the community safety and support component.

***Service delivery scale — community safety and support component***

153. **1999 Review.** In the 1999 Review, service delivery scale was assessed for the police services component.

154. **2004 Review.** The Commission considers that the service delivery scale approach adopted for the crime investigation and judicial processes component is appropriate for the community safety and support component, because both the crime investigation and judicial processes and community safety and support functions are subject to similar service delivery scale disabilities. The service delivery scale factors shown in Table 13 have also been applied in the community safety and support component.

***Urban complexity — community safety and support component***

155. **1999 Review.** Urban complexity was assessed within the socio-demographic composition factor. Refer Socio-demographic composition — crime investigation and judicial processes component.

156. **2004 Review.** The Commission considers the urban complexity assessment adopted for the crime investigation and judicial processes component is appropriate for the

community safety and support component. This is because New South Wales and Victoria have made a strong conceptual case that the cost of preparing to combat terrorism, co-ordinating major incidents and responding to emergencies is likely to be higher in complex urban environments, where congestion and other metropolitan characteristics make such functions more difficult. In the absence of a convincing case for alternative weights, the urban complexity factors used in the crime investigation and judicial processes component shown in Table 18 have also been applied in the community safety and support component.

#### ***Cross-border — community safety and support component***

157. **1999 Review.** In the 1999 Review, a cross-border factor was assessed for the police services component.

158. **2004 Review.** The Commission considers the cross-border assessment approach adopted for the crime investigation and judicial processes component is appropriate for the community safety and support component. This is because the net cross-border population movements of New South Wales residents to the ACT cause the ACT to incur additional community safety and support costs. The cross-border factors used in the crime investigation and judicial processes component shown in Table 20 have also been applied in the community safety and support component.

## **ISOLATION COMPONENT**

#### ***Isolation — isolation component***

159. **1999 Review.** The isolation factor was assessed in the 1999 Review to account for differences in per capita costs of service provision for some States because of their economic, geographical and professional isolation from the main interstate sources of supply in South Eastern Australia. It reflected the combined effect of isolation on labour-related costs, interstate freight costs, professional infrastructure costs, commercial goods costs, airfares, travel allowances and other travel-related subsidies. The isolation-affected expenses component represented 0.29 per cent of expenses in this category.

160. **Commission decision.** The Commission accepts the conceptual case for assessing isolation influences on State costs of providing Police services. Data are available from the States and other sources to make the assessment. The Commission's decision is summarised in Table 23.

**Table 23** COMMISSION DECISION — ISOLATION-AFFECTED EXPENSES COMPONENT

Decision	Reason
An isolation factor will be assessed for the isolation-affected expenses component using the 2004 Review method.	Gives States the capacity to provide the average level of services by assessing the additional costs that some States face because of their economic and geographical isolation from the main interstate sources of supply in South Eastern Australia.

161. **Method and results.** The isolation factors for this category, shown in Table 24, have been calculated according to the general method outlined in *Draft Assessment Paper CGC 2003/65 Isolation*. Isolation-affected expenses for this category have been estimated to be 0.14 per cent of the category standard.

**Table 24** ISOLATION FACTORS — ISOLATION-AFFECTED EXPENSES COMPONENT

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
All years	0.05107	0.10737	0.17783	0.74776	0.56469	3.49490	1.51842	68.27218

162. **Updateability.** Cost data are available from the States and other sources to update the factors each year.

## SUMMARY OF RESULTS

163. Table 25 summarises the assessment structure for the 2004 Review.

**Table 25** POLICE ASSESSMENT STRUCTURE, 2004 REVIEW, 2001-02

Component	Component Weight	Factors	Basis of calculation
Fixed costs	1.37	Input costs	General method, with weights of 80% for wages, 2% for accommodation and 1% for electricity.
		Administrative scale	General method.
Crime investigation and judicial processes	35.85	Input costs	General method, with weights of 80% for wages, 2% for accommodation and 1% for electricity.
		Dispersion	General method.
		Service delivery scale	Assessed using catchment districts and data from CDATE 2001.
		Socio-demographic composition	Weight of 3.5 applied to Indigenous people and 2.5 to males aged 17-25.
		Urban complexity	Weight of 1.1 applied to residents of Sydney and Melbourne.
		Cross-border	Assessed with a 50 per cent weight applied to Group 1 Local Government Areas and a 20 per cent weight applied to Group 2 Local Government Areas.
Road safety and traffic management	9.46	Input costs	General method, with weights of 80% for wages, 2% for accommodation and 1% for electricity.
		Dispersion	General method.
		Socio-demographic composition	Weight of 2.5 to males aged 17-25
		Urban complexity	Weight of 1.1 applied to residents of Sydney and Melbourne.
		Cross-border	Assessed with a 50 per cent weight applied to Group 1 Local Government Areas and a 20 per cent weight applied to Group 2 Local Government Areas.
Community safety and support	53.18	Input costs	General method, with weights of 80% for wages, 2% for accommodation and 1% for electricity.
		Dispersion	General method.
		Service delivery scale	Assessed using catchment districts and data from CDATE 2001.
		Urban complexity	Weight of 1.1 applied to residents of Sydney and Melbourne.
		Cross-border	Assessed with a 50 per cent weight applied to Group 1 Local Government Areas and a 20 per cent weight applied to Group 2 Local Government Areas.
Isolation	0.14	Isolation	General method.

### *Derivation of category factor*

164. Table 26 summarises the components, component weights and disability factors assessed for this category for 2001-02. It shows the calculation of the category factor.

**Table 26** POLICE — DERIVATION OF CATEGORY FACTOR, 2004 REVIEW, 2001-02

Factors	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
<b>Fixed costs (FC) (component weight = 1.37%)</b>								
Administrative scale (s)	0.36891	0.50461	0.66745	1.27717	1.61320	5.17750	7.59249	12.25311
Input costs (ic_fc)	1.03498	0.99044	0.97446	0.98186	0.97135	0.92001	1.01306	1.09897
Component factor	0.38252	0.50072	0.65162	1.25634	1.56990	4.77221	7.70596	13.49087
Cont. to category factor	0.00524	0.00686	0.00893	0.01721	0.02151	0.06538	0.10557	0.18482
<b>Crime investigation and judicial processes (CI) (component weight = 35.85%)</b>								
Dispersion	0.98316	0.96980	1.02133	1.06746	0.99026	0.98412	0.92119	1.49290
Input costs (ic_OTH)	1.03498	0.99044	0.97446	0.98186	0.97135	0.92001	1.01306	1.09897
Socio-demographic composition	0.99199	0.96257	1.02366	1.02616	0.98275	1.02130	0.99283	1.59428
Service delivery scale	0.99807	0.99772	1.00251	1.00155	1.00190	1.00011	0.99750	1.04187
Cross-border	0.99119	1.00000	1.00000	1.00000	1.00000	1.00000	1.18086	1.00000
Urban complexity	1.01876	1.03128	0.96600	0.96600	0.96600	0.96600	0.96600	0.96600
Component factor	1.01469	0.94803	0.98405	1.03848	0.91173	0.88927	1.05209	2.54619
Cont. to category factor	0.36377	0.33987	0.35279	0.37230	0.32686	0.31881	0.37718	0.91282
<b>Road safety and traffic management (RS) (component weight = 9.46%)</b>								
Dispersion	0.98316	0.96980	1.02133	1.06746	0.99026	0.98412	0.92119	1.49290
Input costs (ic_OTH)	1.03498	0.99044	0.97446	0.98186	0.97135	0.92001	1.01306	1.09897
Socio-demographic composition	0.99827	0.99999	1.00112	1.00360	0.99651	0.99296	1.01755	1.01829
Cross-border	0.99119	1.00000	1.00000	1.00000	1.00000	1.00000	1.18086	1.00000
Urban complexity	1.01876	1.03128	0.96600	0.96600	0.96600	0.96600	0.96600	0.96600
Component factor	1.02687	0.99079	0.96352	1.01783	0.92616	0.86769	1.08499	1.56670
Cont. to category factor	0.09709	0.09368	0.09110	0.09624	0.08757	0.08204	0.10259	0.14813
<b>Community safety and support (CSS) (component weight = 53.18%)</b>								
Dispersion	0.98316	0.96980	1.02133	1.06746	0.99026	0.98412	0.92119	1.49290
Input costs (ic_OTH)	1.03498	0.99044	0.97446	0.98186	0.97135	0.92001	1.01306	1.09897
Service delivery scale	0.99807	0.99772	1.00251	1.00155	1.00190	1.00011	0.99750	1.04187
Cross-border	0.99119	1.00000	1.00000	1.00000	1.00000	1.00000	1.18086	1.00000
Urban complexity	1.01876	1.03128	0.96600	0.96600	0.96600	0.96600	0.96600	0.96600
Component factor	1.02668	0.98856	0.96489	1.01577	0.93119	0.87396	1.06363	1.60301
Cont. to category factor	0.54604	0.52576	0.51317	0.54023	0.49525	0.46481	0.56569	0.85256
<b>Isolation (ISO) (component weight = 0.14%)</b>								
Isolation	0.05107	0.10737	0.17783	0.74776	0.56469	3.49490	1.51842	68.27218
Component factor	0.05107	0.10737	0.17783	0.74776	0.56469	3.49490	1.51842	68.27218
Cont. to category factor	0.00007	0.00015	0.00025	0.00105	0.00079	0.00489	0.00213	0.09558
<b>CATEGORY FACTOR</b>	<b>1.01221</b>	<b>0.96632</b>	<b>0.96623</b>	<b>1.02703</b>	<b>0.93198</b>	<b>0.93593</b>	<b>1.15315</b>	<b>2.19391</b>

**Calculation formula**

165. The following formulas were used to calculate the contribution of each expenses component to the overall category factor. In each case, the contributions are calculated as the expenses component weight multiplied by the component factor (the bracketed terms in the formulas). Each contribution to category factor was rescaled to ensure that the sum of standardised equals the sum of actual expenses.

$$\begin{aligned}
 \text{FC} &= 0.0137 (s * ic\_fc) \\
 \text{CI} &= 0.3585 (sdc\_CI * x * sd * u * (ic\_oth+d-1)) \\
 \text{RS} &= 0.0946 (sdc\_RS * x * u * (ic\_oth+d-1)) \\
 \text{CSS} &= 0.5318 (x * sd * u * (ic\_oth+d-1)) \\
 \text{ISO} &= 0.0014 (iso) \\
 \text{Category Factor} &= \text{FC} + \text{CI} + \text{RS} + \text{CSS} + \text{ISO}
 \end{aligned}$$

**Standardised expenses**

166. Table 27 compares the category factors for the 2004 Review draft assessment with those for the 2003 Update.

**Table 27** POLICE CATEGORY FACTORS

Category factor	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
<b>2004 Review draft assessment</b>	<b>1.01221</b>	<b>0.96632</b>	<b>0.96623</b>	<b>1.02703</b>	<b>0.93198</b>	<b>0.93593</b>	<b>1.15315</b>	<b>2.19391</b>
2003 Update	0.98503	0.94123	0.98811	1.09108	0.91219	0.99895	1.17654	2.65303

167. Table 28 shows the standardised expenses assessed for this category for 2001-02 in the draft assessment compared with that assessed in the 2003 Update.

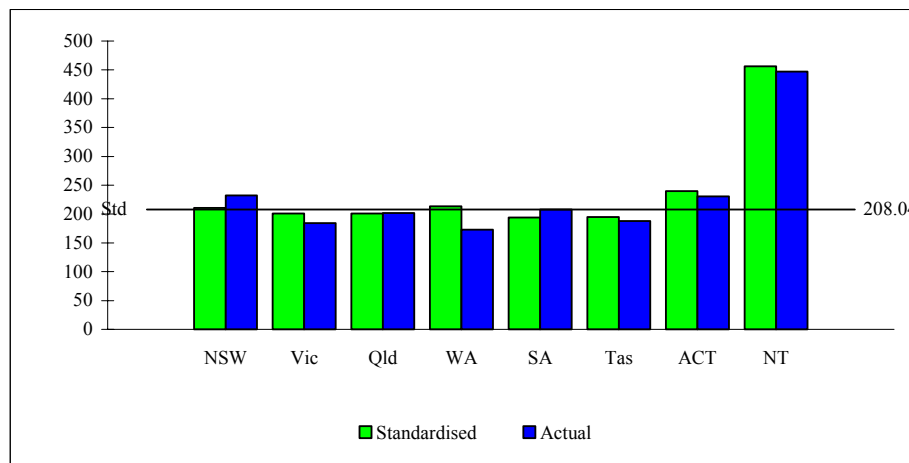
**Table 28** ACTUAL, STANDARD AND STANDARDISED EXPENSES, 2001-02

	Standard	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
<b>Actual Expenses<sup>(a)</sup></b>									
\$ per capita	208.04	232.01	184.49	201.73	173.15	207.90	187.83	230.70	447.10
<b>2003 Update - Standardised Expenses</b>									
\$'000		1441203	1006773	799050	461103	305202	104139	83640	116865
\$ per capita	220.32	217.02	207.37	217.70	240.38	200.97	220.08	259.21	584.50
<b>2004 Review Draft Assessment - Standardised Expenses</b>									
\$'000		1398466	976035	737834	409855	294452	92135	77411	91258
\$ per capita	208.04	210.58	201.04	201.02	213.67	193.89	194.71	239.91	456.43

(a) Based on equalisation budget prepared for 2004 Review draft assessments. This budget may differ from that used in the 2003 Review.

168. Figure 3 shows, for 2001-02, the standardised, estimated and standard expenses per capita in the 2004 Review draft assessment.

**Figure 3** POLICE — GROSS EXPENSES PER CAPITA — STANDARDISED, ESTIMATED AND STANDARD, 2004 REVIEW DRAFT, 2001-02



## ANALYSIS

169. Table 29 shows the redistribution of grants resulting from the assessment in the 2003 Update and the Draft Assessment. It also shows the sources of change.

170. Compared with an equal per capita assessment, the Draft Assessment redistributed \$90.5 million away from Victoria, Queensland, South Australia, and Tasmania, \$38.4 million less than in the 2003 Update.

171. The main reasons for the change in grants were changes to assessment methods and data, including:

- (i) reducing the impact of the assessment of Indigeneity on service costs by assessing such an influence only in the crime investigation and judicial processes component (about 36 per cent of the category), compared to it being assessed in about 97 per cent of the category in the 1999 Review; and
- (ii) reducing the impact of the assessment of the young male influence on costs by assessing such an influence in the crime investigation and judicial processes component and the road safety and traffic management component (a total of about 45 per cent of the category), compared to it being assessed in about 97 per cent of the category in the 1999 Review.

Both of these assessment changes contributed to a reduction in grants for States with higher proportions of Indigenous people and young males — notably the Northern Territory, Queensland and Western Australia.

172. Reducing the impact of the administrative scale assessment (by reducing the size of the component to which it applies) also had some impact on the assessment. The changes in the input costs factors also had substantial effects and led to increases in the redistribution towards New South Wales and mitigated the reduction for the Northern Territory. Changes to the standards had minor redistributive effects.

**Table 29** EFFECT OF ASSESSMENT ON GRANT DISTRIBUTION — POLICE

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total <sup>(a)</sup>
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
<b>Contribution to 2003 Update relativities<sup>(b)</sup></b>	-26.4	-67.6	-6.5	41.2	-28.5	0.6	12.5	74.7	128.9
<b>Composition effects</b>	0.6	1.7	0.2	-1.0	0.7	0.0	-0.3	-1.9	3.3
<b>Assessment effects</b>	41.5	28.3	-18.9	-29.6	5.7	-6.2	-0.8	-20.1	75.6
<b>Interactions</b>	-1.1	-0.7	0.5	0.7	-0.1	0.2	0.0	0.5	2.0
<b>Contribution to 2004 Review draft assessment relativities<sup>(b)</sup></b>	14.6	-38.3	-24.6	11.2	-22.1	-5.4	11.4	53.3	90.5
<b>Total Change</b>	41.0	29.3	-18.2	-29.9	6.3	-6.0	-1.1	-21.5	76.7

(a) Total redistribution.

(b) Assuming same pool and a constant population.

## **USER CHARGES**

173. The quantum of user charges for this category is small and remains policy influenced. No States made any comment on the user charges assessment for this category.

174. The Commission has decided that user charges for this category should continue to be assessed by the equal per capita method.