

# Geography

## Overview

- 1 The cost of providing state services can vary with the location where the service is delivered. Services are typically more expensive to provide in more remote areas, for example due to freight costs, staffing allowances and the lack of economies of scale. Therefore, the geographic characteristics of a state or territory (state) can influence the expenses needed to service the state's population.
- 2 Most geographic assessments are covered in the relevant category chapter.<sup>1</sup> For example, in the health assessment, differential use and cost of services are estimated for populations disaggregated by age, Indigenous status, socio-economic status and remoteness. In other assessments, there are category-specific geographic measures. Examples include rural road length (roads assessment), definitions of urban centres (transport assessment) and populations in small communities (services to communities assessment).
- 3 The differential use and cost of services across remoteness areas is collectively described as the impact of population dispersion. This chapter outlines 2 cost-specific measures.
  - Regional costs (higher unit costs) — there are additional costs per person of delivering comparable services, for example due to higher maintenance or supply costs in more remote locations.
  - Service delivery scale (fixed costs by locality) — there are additional costs per person of delivering services in more isolated and smaller centres due to fixed costs.
- 4 Regional costs and service delivery scale costs are measured via cost gradients based on the ABS remoteness classifications. The remoteness classifications are:
  - major cities
  - inner regional areas
  - outer regional areas
  - remote areas
  - very remote areas.<sup>2</sup>
- 5 The term 'gradient' refers to the quantification of how much more expensive each remoteness area is to service compared with a major city. These cost differences could reflect use rates, unit cost weights and unit costs driven by small scale. Where

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<sup>1</sup> The geography driver is applied across several expense category assessments.

<sup>2</sup> Australian Bureau of Statistics (ABS), [Remoteness Areas](#), ABS website, 2023, accessed 19 June 2024.

Note: the updated geography chapter of the *Commission's Assessment Methodology* was released in March 2026.

the Commission has constructed a category-specific assessment for regional costs or service delivery scale costs, the method is explained in the relevant chapter.

- 6 Some assessments have data limitations such that a category-specific cost gradient cannot be measured. If there is a conceptual case for regional costs and potentially service delivery scale costs, the Commission applies the general cost gradient as a proxy.
- 7 Three general cost gradients are developed: one for regional costs only, one for service delivery scale costs only and one for both regional and service delivery scale costs. These gradients take data from a range of state services with specific measures of cost gradients to calculate a weighted average.

## Structure of assessment

- 8 Table 1 outlines the use of regional costs and service delivery scale costs as drivers of need in expense assessments. It outlines for each category component whether regional costs and service delivery scale costs are assessed and how they are measured. Further details regarding the application of regional costs and service delivery scale costs within these assessments are in the relevant category chapters.

**Table 1 Structure of the regional costs and service delivery scale costs assessments**

Category	Component	Driver	Type of assessment
Schools	State funding of government schools	RC & SDS	Component-specific and used in the calculation of the general cost gradient
	State funding of non-government schools	RC & SDS	Component-specific
	Commonwealth funding of government schools	RC & SDS	Embedded in the Schooling Resource Standard
Post-secondary education	Post-secondary education	RC	Component-specific and used in the calculation of the general cost gradient
Health	Admitted patients	RC & SDS	Component-specific and used in the calculation of the general cost gradient
	Emergency departments	RC & SDS	Component-specific and used in the calculation of the general cost gradient
	Non-admitted patients	RC & SDS	Component-specific and used in the calculation of the general cost gradient
	Ambulatory community mental health	RC	General cost gradient
		SDS	Component-specific
	Balance of community and public health	RC & SDS	Component-specific
	Non-hospital patient transport	RC	Component-specific
COVID-19 spending	n/a	n/a	
Housing	Social housing expenses	RC	General cost gradient and Rawlinsons construction cost gradient
	Social housing revenue	n/a	n/a
	First home owner expenses	n/a	n/a

Category	Component	Driver	Type of assessment
Welfare	Child protection and family services	RC & SDS	General cost gradient
	National Disability Insurance Scheme	n/a	n/a
	Concessions	n/a	n/a
	Homelessness services	RC	General cost gradient
	Other welfare	RC	General cost gradient
Services to communities	Water subsidies	RC	Component-specific
	Electricity subsidies	RC	Component-specific
	First Nations community development	RC	General cost gradient
	Other community development and amenities	RC	General cost gradient
	Environmental protection	RC	General cost gradient (a)
Justice	Police	RC & SDS	Component-specific (b)
	Criminal courts	n/a	n/a (c)
	Other legal services	n/a	n/a (c)
	Prisons	SDS	General cost gradient (c)
Roads	Rural roads	RC	Rawlinsons construction cost gradient (d)
	Urban roads	n/a	n/a
	Bridges and tunnels	RC	Rawlinsons construction cost gradient (d)
Transport	Non-urban transport	RC	General cost gradient
	Urban transport	n/a	n/a
Services to industry	Agriculture regulation	RC	General cost gradient
	Mining regulation	RC	General cost gradient
	Other industries regulation	RC	General cost gradient
	Business development	n/a	n/a
	COVID-19 Business support	n/a	n/a
Other expenses	Service expenses	RC	General cost gradient (e)
	Natural disaster relief	n/a	n/a
	Administrative scale	n/a	n/a
	Native Title and land rights	n/a	n/a
Investment	All	RC	Rawlinsons construction cost gradient and used in the calculation of the general cost gradient

Note: RC refers to regional costs, SDS refers to service delivery scale costs.

- (a) In the environmental protection component, regional costs are only applied to the protection of biodiversity and landscape sub-component.
- (b) In the police component, regional costs and service delivery scale costs are measured together as a single cost gradient along with the differential use of police resources in different remoteness areas. Where assessed, differential use of services is considered separately from regional costs in all other categories.
- (c) The justice components captured both regional costs and service delivery scale costs in the 2025 Review. These changes are the result of the justice method changes that occurred as part of the 2026 Update.
- (d) In the roads assessment, Rawlinsons construction cost gradient applies to road length.
- (e) In the service expenses component, regional costs are only applied to a proportion of the expenses in the component.

## Data

- 9 Data used in the calculation of geographic measures within category assessments are outlined in the relevant assessment chapters of the *Commission's Assessment Methodology*. The general cost gradient uses data on regional and service delivery scale costs from the following categories:
- schools (state funding of government schools)
  - post-secondary education
  - health (admitted patients, non-admitted patients and emergency departments)
  - investment (Rawlinsons).

## Assessment method

- 10 The general regional cost gradient, general service delivery scale gradient and the general regional and service delivery scale cost gradient are calculated using a weighted average of cost gradients from assessments where costs can be measured.
- 11 Following changes made to the justice assessment method as part of the 2026 Update, the justice assessment no longer contributes to the general cost gradients.

## Calculating specific cost gradients

### Schools

- 12 The Commission's schools assessment uses a regression of state funding of government schools to assess expenses per student in each government school. The coefficients for outer regional and combined remote (remote and very remote) areas reflect the additional costs of educating comparable students in these areas compared to major cities. The cost per student in each non-metropolitan area as a proportion of the base cost per student defines the regional cost gradient in schools.
- 13 The regression also estimates the fixed costs of running a school. The service delivery scale cost gradient is calculated by applying these fixed costs to the average school size in each remoteness classification.
- 14 Further details are in the schools chapter of the *Commission's Assessment Methodology*.

### Post-secondary education

- 15 The regional cost gradient in the post-secondary education assessment is calculated using state data on loadings for training providers in regional and remote areas. A national average loading, weighted by enrolled contact hours, is calculated for each remoteness classification.

- 16 Further details are in the post-secondary education chapter of the *Commission's Assessment Methodology*.

## Health

- 17 The Independent Health and Aged Care Pricing Authority publishes remoteness adjustments for patient treatment locations. The regional cost gradients for admitted patients, non-admitted patients and emergency departments come directly from the published adjustments of prices due to treatment location in remote and very remote areas.
- 18 The service delivery scale cost gradients for admitted patients, non-admitted patients and emergency departments are calculated by comparing the estimated cost of block funded hospitals using activity-based funding arrangements and the efficient cost of the same hospitals based on block funding arrangements, for each remoteness classification.
- 19 Further details are in the health chapter of the *Commission's Assessment Methodology*.

## Investment

- 20 The investment assessment uses the Rawlinsons cost indices, which contain state-specific cost gradients. The general cost gradient aims to assess differential costs in comparable remoteness areas on a national level. Therefore, the average of Rawlinsons state-specific gradients are used in the general cost gradient calculation.
- 21 Further details are in the investment chapter of the *Commission's Assessment Methodology*.

## Calculating the general cost gradients

- 22 Each of the assessment components outlined above calculates the additional costs of providing services in more remote locations. The additional costs can be described using a cost gradient with major cities representing the base cost and being set equal to 1. The remaining remoteness areas then receive a value which describes how much more expensive the area is to service in comparison to the base cost.
- 23 The weighted average of these gradients is used to derive the general cost gradients. The weight for each component is based on its share of national spending. Table 2 outlines which components contribute to each gradient and the weight the components received in the calculation of the general cost gradients in 2022–23.<sup>3</sup>

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<sup>3</sup> Tables in this chapter, unless otherwise stated, use 2022–23 data.

**Table 2 Components that contribute to the general cost gradients, 2022–23**

Component	Contribution to regional cost gradient (%)	Contribution to service delivery scale cost gradient (%)	Contribution to regional and service delivery scale cost gradient (%)
Schools	22.4	31.8	31.8
Post-secondary education	3.7	0.0	0.0
Admitted patients	38.8	55.0	55.0
Emergency departments	3.9	5.6	5.6
Non-admitted patients	5.3	7.6	7.6
Investment (Rawlinsons)	25.9	0.0	0.0

Note: Weights are based on the share of national spending of the relevant components.

24 A discount of 25% is applied to the general cost gradients. The discount reflects the uncertainty associated with the proxy status of the data used.

25 The discounted general cost gradients for 2022–23 are outlined in Table 3.

**Table 3 General cost gradients (discounted), 2022–23**

	General regional cost gradient	General service delivery scale cost gradient	General regional and service delivery scale cost gradient
Major cities	1.00	1.00	1.00
Inner regional	1.01	1.03	1.03
Outer regional	1.03	1.07	1.07
Remote	1.16	1.09	1.20
Very remote	1.31	1.23	1.56

## Applying the general cost gradients

26 The discounted general regional cost gradient is applied to components, as shown in Table 1.

27 The discounted general service delivery scale cost gradient is applied to the prisons component of the justice assessment following changes to the justice assessment in the 2026 Update.

28 The discounted general regional and service delivery scale cost gradient is applied to the child protection and family services component of the welfare assessment.

## GST distribution in the 2026 Update

29 Table 4 shows the GST impact of population dispersion in all expense categories. This includes the effect of applying regional costs and service delivery scale costs, either as part of the application of the general cost gradient, or as category and component specific measures, as shown in Table 1. It also includes the effect of remoteness as part of socio-demographic composition, across a range of categories.

30 People in different remoteness areas have different rates of use of state services. The cost of delivering services is higher in more remote areas due to higher unit

costs and higher fixed costs. Each of these factors is included in the impacts in Table 4.

**Table 4 GST impact of population dispersion, 2026–27**

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total effect
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
Schools	-244	-202	212	68	13	66	-26	113	472
Post-secondary education	-42	-38	25	15	7	15	-6	25	86
Health	-1,265	-972	783	124	19	644	-235	901	2,471
Housing	-148	-67	9	81	5	-7	-6	133	229
Welfare	-59	-46	19	7	-3	16	-6	71	113
Services to communities	-222	-238	69	169	36	26	-23	182	482
Justice	-364	-319	171	132	29	113	-50	289	733
Roads	-30	-27	17	21	-1	-3	-1	24	62
Transport	-3	-3	1	2	0	1	0	2	6
Services to industry	-6	-6	2	3	0	2	0	6	13
Other Expenses	-22	-22	10	13	3	5	-3	16	47
<b>Total (\$m)</b>	<b>-2,405</b>	<b>-1,939</b>	<b>1,318</b>	<b>635</b>	<b>107</b>	<b>876</b>	<b>-356</b>	<b>1,764</b>	<b>4,700</b>
<b>Total (\$pc)</b>	<b>-275</b>	<b>-268</b>	<b>228</b>	<b>203</b>	<b>56</b>	<b>1,516</b>	<b>-720</b>	<b>6,558</b>	<b>167</b>

Note: Magnitude and direction of GST impact can change from year to year.