

Geography

Review outcomes

- The following change was made to the assessment.
 - The general cost gradient will be based on a wider range of component-specific cost gradients. It will be the weighted average of the cost gradients for schools, admitted patients, emergency departments, non-admitted patients, prisons, criminal courts, post-secondary education, and investment (Rawlinsons). The weights will be based on shares of national spending.
- The Commission considered but did not change the following.
 - Regional and service delivery scale costs will continue to be estimated using the general cost gradient where a service-specific cost gradient cannot be reliably measured. The general cost gradient will only apply where there is a strong conceptual case that there are higher costs in servicing more remote areas. The 25% discount on the general cost gradient will be retained.
 - Regional cost and service delivery scale cost adjustments will apply to the same assessments as in the 2020 Review.
 - An interstate non-wage costs assessment will not be introduced due to a lack of evidence supporting the conceptual case for an assessment.
 - The ABS classification of remoteness will be retained.
 - Remoteness gradients will continue to be based on where services are delivered and applied to where people live.
 - Aware of the potential for double counting of First Nations and regional costs, the Commission will continue to take measures to avoid double counting.

Introduction

- 1 On 6 July 2024, the Commission published the [Draft Report](#) for the 2025 Methodology Review.
- 2 The Draft Report included a detailed analysis and response to issues raised by states and territories (states) in their [submissions](#) on the Commission's [consultation paper](#).
- 3 State submissions on the Draft Report can be viewed [here](#).
- 4 This chapter includes:
 - an overview of the issues considered throughout the review
 - the Commission's response and decision on each issue
 - GST impacts of method change.

- 5 A description of the assessment method, incorporating changes made in the 2025 Review, can be found in the geography chapter of the *Commission's Assessment Methodology*.

Issues considered

Where the general cost gradient is applied

- 6 There is a conceptual case for a regional costs adjustment where there is a higher cost in maintaining or supplying a service in more remote areas. In addition, there is a conceptual case for a service delivery scale costs adjustment if fewer people will be serviced per staff member in smaller centres. This can occur because:
- the indivisibility of labour means a small user-population requires a high staff to client ratio
 - there can be high travel times between visiting clients in sparsely populated areas.
- 7 For expense components where a conceptual case for regional costs or service delivery scale exists, but costs cannot be directly measured, the general cost gradient is applied.

State views

- 8 New South Wales expressed concern about applying remoteness costs from one assessment to another. It accepted using the general cost gradient when specific cost data cannot be identified.
- 9 Victoria considered the general cost gradient was no longer appropriate in its current form because the data that supported its application were based on categories that now have specific cost gradients. Victoria said there was a lack of robust evidence supporting the application of the general cost gradient where service-specific cost data are unavailable.
- 10 Victoria said where data that can measure the relationship between costs and remoteness are available from some states, but not enough to form the basis of a specific cost gradient, the available data should be used to determine whether there is a relationship between costs and remoteness.
- 11 Queensland suggested using the general regional cost gradient in the urban transport assessment.

Commission response

- 12 Across a range of services, the Commission has found substantial evidence that the cost of delivering services is higher in more remote locations and has developed several assessments using service-specific data on remoteness costs. The consistently positive gradient (although with varying slopes) supports the conceptual

case that costs can reasonably be expected to be higher in more remote locations for other services.

- 13 The Commission investigated a component-specific regional cost gradient in the social housing assessment. A robust calculation of a cost gradient was not possible because only 2 states could provide data. These data showed a positive relationship between remoteness and costs, supporting the conceptual case for remoteness being a driver of state spending in social housing. Further analysis of these data is discussed in the housing chapter of *Review Outcomes*.
- 14 The Commission considered the suggestion to include a regional costs adjustment in the urban transport assessment. The general regional cost gradient is calculated based on the costs of delivering services across the full range of locations within each remoteness area. Urban transport is only provided in significant urban areas. A regional cost gradient that incorporates the higher costs in small towns and rural areas of outer regional or remote Australia is unlikely to be a reasonable proxy for the higher costs in cities in those areas. The Commission also notes that increased congestion and night maintenance in less remote areas could also influence costs. As such, the Commission has not applied the regional cost gradient to the urban transport assessment. Other prospective approaches to considering the effect of remoteness on urban transport are considered in the transport chapter of *Review Outcomes*.

Commission decision

- 15 The Commission will continue to estimate regional and service delivery scale costs by using a general cost gradient where there is a strong conceptual case that there are higher costs in servicing more remote areas, but a service-specific gradient cannot be reliably measured.
- 16 The services to which the general cost gradient will be applied are shown in the geography chapter of the *Commission's Assessment Methodology*.

Data used in the calculation of the general cost gradient

- 17 In the 2020 Review, the general cost gradient that was applied to a range of services was based only on schools and admitted patients costs data. In response to state comments, the Commission considered whether additional service-specific cost data could improve the representativeness of the general cost gradient.

State views

- 18 Most states supported the inclusion of more service-specific cost gradients into the general cost gradient calculation, noting this approach allows the general cost gradient to be more representative of a broader range of state services. Most states supported weighting these cost gradients according to their share of total national spending on the relevant services.

- 19 States considered that component-specific cost gradients should reflect the likely remoteness costs of the state services to which it is applied and should not be included in the general cost gradient if:
- the service is more centralised or more decentralised than typical state services
 - the service is not similar to other state services
 - they reflect capital (for example, construction) rather than recurrent costs
 - they produce an outlier result
 - they are based on limited or poor-quality data.
- 20 Western Australia proposed the Rawlinsons cost gradient for measuring regional costs in some assessments. It said there was no need to use the Rawlinsons averaged state gradients because policy influence was not an issue. This was based on the view that Rawlinsons data primarily came from the private sector and therefore, acts as a proxy for the public sector in the same way as the Commission's wage costs factors.

Commission response

- 21 States provide services in a range of different ways. Some services, such as welfare, housing and policing, involve state officers travelling to a client's address. Other services are delivered from a centralised location. The extent of centralisation varies, with primary schools being relatively decentralised, whilst hospitals and prisons are much more centralised. This, along with other differences between service delivery models is likely to affect remoteness costs. However, the Commission has no information on the appropriate proxy for the average of all services to which the general cost gradient is applied.
- 22 The Commission agrees with Western Australia that the Rawlinsons cost gradient could be used to capture some remoteness costs. While Rawlinsons measures construction costs, state services involve repairs and maintenance of infrastructure, especially in housing. Since construction-related costs are likely to be relevant to several areas of service delivery, it is appropriate to include the Rawlinsons cost gradient in the general cost gradient calculation.
- 23 The Rawlinsons cost gradient includes differences in wage costs in the construction industry in different areas. The Commission's wage costs assessment includes differences in wages paid in different parts of the state. Using a state-specific Rawlinsons measure could potentially double count some interstate wage effects. Therefore, the Commission uses the national average Rawlinsons cost gradient.
- 24 The Commission agrees with states that the general cost gradient should reflect likely remoteness costs of the state services to which it is applied. Remoteness gradients for water and electricity subsidies capture 2 concepts:
- it is more expensive to provide subsidies in more remote areas (remoteness costs)

- people are more likely to receive subsidies in more remote areas (use rate).
- 25 The general cost gradient aims to capture the first of these (the added costs of delivering a service in a remote location) only. Higher use rates associated with remoteness are not intended to be captured by the general cost gradient. Therefore, the Commission agrees with New South Wales and Victoria that it would be inappropriate to include water and electricity subsidies in the general cost gradient as these cost data are not representative of other state services.

Commission decision

- 26 The Commission will improve the representation of the general cost gradient by expanding the number of specific cost gradients in the general cost gradient calculation. The weighted average of the cost gradients for the following assessments, based on their share of national spending, will be used to calculate the general cost gradient:
- schools
 - admitted patients
 - emergency departments
 - non-admitted patients
 - prisons
 - criminal courts
 - post-secondary education
 - investment (Rawlinsons).
- 27 Data used in the general cost gradient will be updated annually where possible.
- 28 The cost gradient for the justice assessment method will be finalised in consultation with states and applied in the 2026 Update. If regional costs or service delivery scale costs are removed from the prisons or courts assessments, they will be removed from the calculation of the general cost gradient.

Discounting the general cost gradient

- 29 In the 2020 Review, the general cost gradient was discounted by 25% to reflect uncertainty around the reliability of the gradient. In response to state comments, the Commission considered whether the discount remained appropriate.

State views

- 30 New South Wales and Victoria recommended a larger discount to the general cost gradient be applied if service-specific gradients were not available. New South Wales said a larger discount could be applied broadly or to specific components.
- 31 Queensland and Western Australia suggested less (or no) discounting of the general cost gradient. They noted that discounting could be removed from all components or from specific components.

32 The Northern Territory said discounts to cost gradients should only be applied with supporting evidence.

Commission response

33 The general cost gradient is discounted to reflect uncertainty around the strength of the gradient when it is applied to areas where a specific cost gradient cannot be measured. The Commission has no reliable basis to determine whether the general cost gradient is more appropriate for some services than others. As such, it has no basis to apply different levels of discount to the general cost gradient when applied to different services as proposed by New South Wales and Queensland.

34 The additional cost data included in the calculation of the general cost gradient makes the general cost gradient more representative of the range of state services. However, the Commission does not consider that the level of uncertainty associated with the application of the general cost gradient has changed sufficiently to warrant a reduction in the level of discount.

Commission decision

35 The Commission will retain the 25% discount on the general cost gradient.

Category-specific measures of regional costs and service delivery scale costs

36 For assessments that have a conceptual case for including regional cost and service delivery scale cost adjustments, a component-specific or category-specific cost gradient which uses data relevant to the specific service is preferred to the general cost gradient. In response to state comments, the Commission considered whether more category-specific measures of regional costs and service delivery scale costs could be developed. Where category-specific measures are potentially available, they have been considered in the relevant chapters of *Review Outcomes*.¹

State views

37 Queensland said regional costs and service delivery scale costs should be applied more broadly. Queensland recommended applying service delivery scale to all components where regional costs are measured. It said the Commission should prioritise applying service delivery scale to:

- Indigenous community development
- other community development and amenities
- biodiversity and landscape protection
- agriculture regulation
- mining regulation

¹ See the schools, post-secondary education, health, services to communities, housing and justice chapters of *Review Outcomes*.

- other business regulation
- post-secondary education
- homelessness services
- other welfare
- social housing
- service expenses.

Commission response

- 38 There is a conceptual case for a regional costs adjustment where there is a higher cost in maintaining or supplying a service in a more remote area.
- 39 There is a conceptual case for a service delivery scale costs adjustment if fewer people will be serviced per staff member in smaller centres.
- 40 These 2 concepts of regional costs and service delivery scale costs are separate, and their conceptual cases should be considered individually within each component. Consequently, service delivery scale should not be applied to all components where regional costs are measured. The Commission considered it remained appropriate to apply regional and service delivery scale costs to components as it did in the 2020 Review.

Commission decision

- 41 The Commission will apply regional costs and service delivery scale costs to the same assessments as in the 2020 Review.

Cost differences between major cities

- 42 The Commission captures some cost differences between major cities. For example, wage pressures are recognised through the wage costs assessment and differences in construction costs are recognised in the investment assessment. Higher costs in Hobart and Darwin are reflected in their classification as inner regional and outer regional cities respectively.
- 43 There is a conceptual case that differences in freight costs and travel costs could lead to more isolated major cities, especially Perth, having materially higher costs than other major cities. However, the Commission has not been able to identify reliable evidence supporting this conceptual case.

State views

- 44 Most states said they were unaware of changes in the conceptual case or new data that would allow for a reliable assessment of non-wage costs. New South Wales and Victoria raised concerns over a judgement-based approach.
- 45 Western Australia and the ACT proposed reintroducing the 2015 Review's isolation adjustment. Western Australia said the additional costs associated with the isolation

of Perth are not currently captured. It said that Perth had fewer Tier 1 builders than other major cities because shorter travel distances to other major cities allows for more choice in where builders take projects. Western Australia said its isolation has led to a thin market, increasing prices.

Commission response

- 46 Perth is more geographically isolated than other major cities. However, the Commission is not aware of evidence that indicates this consistently and materially increases overall costs. For example, data suggest that petrol in Perth costs less than in other major cities. Many of the inputs states use to provide services are available in major cities through national supply chains with nationally consistent pricing policies.
- 47 The 2020 Review found interstate travel was likely the largest driver of differences in major city non-wage costs, although it was unlikely to be material. As technology reduces the need for in-person meetings, these costs are likely to become less significant.
- 48 Canberra can have higher costs for some inputs, such as fuel. However, there is not evidence that the ACT consistently faces increased costs for delivering services compared to other major cities.
- 49 The Rawlinsons index provides an estimate of the relative cost of construction across all projects. In 2022-23, Perth was 3% cheaper than Sydney. It also provides the relative costs of specific projects. For large construction projects, Perth is also generally slightly cheaper than Sydney. For a general hospital, it is about 8% cheaper, an indoor arena around 1% cheaper, and a partly suspended, single tier grandstand, around 6% cheaper. Perth does not appear to have higher costs than are measured by the Commission's existing assessments.

Commission decision

- 50 The Commission will not introduce an interstate non-wage cost assessment.

Remoteness classification

Definitions of remoteness

- 51 The Commission uses the ABS' 5 remoteness areas to group populations by remoteness. The ABS remoteness areas are based on the Accessibility/Remoteness Index of Australia Plus (ARIA+). This measure aims to group locations which face similar circumstances in accessing services. In response to state comments, the Commission considered the appropriateness of the ABS classifications for the Commission's purposes and whether another classification would be suitable.

State views

- 52 Victoria supported retaining the ABS remoteness classification. It noted using standard definitions of remoteness allowed for costs to be measured across a large range of categories and allow for comparability with other datasets.
- 53 Some states said that the ABS ARIA+ remoteness definitions do not allow for differences in service delivery costs to be accurately captured.
- 54 Queensland said the ARIA+ model does not fully recognise differences in service delivery, particularly for dispersed regions, and recommended the Commission review its remoteness classification in advance of the next review.
- 55 Western Australia raised concerns that towns with different accessibility profiles can be classified in the same remoteness classification. It raised 3 concerns with the ABS' approach.
- The ABS allows for a centre in another state to be taken into account in the assessment of a location's remoteness.
 - The ABS assumes that distance from differently sized service centres are equally important (each receiving a 20% weight in the calculation of ARIA+ scores).
 - The ABS assumes that costs increase linearly to a point, before plateauing.
- 56 Western Australia raised concerns that the Commission assesses a higher cost for providing services due to remoteness for Tasmania than for Western Australia. This seems counterintuitive given that Western Australia covers a land area 36 times larger than Tasmania, with over 5 times the population.
- 57 Western Australia noted costs are higher in locations further from major cities and said averaging of expenses across remoteness areas was inappropriate unless the classifications can be made more comparable. Western Australia noted that the ABS' remoteness classifications, which cap the relative distances to service centres at 3 times the national average, limit the ability to capture costs in highly isolated areas. It said that petrol prices and time costs for travelling continue after travelling further than 3 times the average distance.
- 58 Western Australia recommended the Commission consider a range of possible alternative measures of remoteness (see [Draft Report](#) for details).
- 59 The Northern Territory said that road quality and seasonal impassability meant that not all road distances were equivalent. It said remoteness is dramatically underestimated for much of the Northern Territory. It suggested the Commission consider accessibility and road conditions when classifying remoteness areas.

Commission response

- 60 The aim of remoteness classifications is to group areas that share broadly comparable circumstances in access to services. Not all towns within a classification have identical characteristics or face identical costs of service provision. However, to

measure remoteness impacts in assessments, towns need to be grouped in some way.

- 61 The Commission noted that using the ABS classifications allows for remoteness impacts to be measured across many assessments and ensures classifications are consistent with other datasets.
- For locations near interstate service centres, such as Tweed Heads in northern New South Wales, some services (such as state services provided from head office) would be provided from Sydney. Other services provided privately may be sourced from Brisbane. Expenses to attract and retain staff in remote areas is a major driver of remoteness costs. The difficulty in attracting and retaining staff in the area would reflect its proximity to Brisbane, not Sydney.
 - There is a lack of evidence to determine whether distance from a larger centre is significantly more important than distance to smaller centres when measuring costs. The Commission considered that the ABS assumption of a 20% weight for each service centre size remained appropriate in the absence of evidence for change.
 - While travel costs continue after travelling more than 3 times the national average distance, the cost per distance is likely to diminish as distance increases. For example, the added cost of travelling 110km rather than 10km may be substantial. However, the added cost of travelling 1300km rather than 1200km may not be as high. Assuming the diminishing cost of distance is more reasonable than assuming no diminution of costs with distance.
- 62 The Commission assesses Tasmania as having higher costs in providing services due to remoteness than Western Australia. Western Australia does have 11 times the remote population of Tasmania, and 26 times the very remote population. However, the cost effect of this remote population is offset by the large proportion of Western Australians living in Perth. The proportion of Western Australians living in a major city is 79%, the second highest of any state, after the ACT.
- 63 The ABS remoteness areas classification is a simplification of the effect that distance has on state budgets. To develop a superior classification that grouped areas with similar cost profiles across the country would require states to provide nationally comparable data on the cost of service delivery at a granular level, so that different aggregations of areas could be tested. Aggregations could include areas that are seasonally inaccessible, areas close to regional centres but distant from major cities, or areas distant from a sealed road. States have not been able to provide such data in the past.
- 64 Much of the Northern Territory, northern Western Australia and Queensland experience seasonal impassability. Most of these areas are already classified as very remote so adjusting for seasonal impassability would not change their classification. Noting the Commission's preference for nationally consistent classifications, the Commission will continue to use the ABS remoteness classifications.

Commission decision

- 65 The Commission will retain the ABS standard classification of remoteness.

Classification of Hobart

- 66 Under the ABS' remoteness classifications, Hobart is defined as an inner regional area. In response to state comments, the Commission considered whether Hobart's population was approaching that of a major city, and the potential consequences.

State views

- 67 Tasmania raised concerns that Hobart's population may reach 250,000. While this would not significantly change the actual cost profile of services in Tasmania, it would significantly change the Commission's assessed cost profile.
- 68 Western Australia said that Hobart's significant urban area has a population approaching 250,000, and therefore, its cost profile is approaching that of a major city.
- 69 Western Australia said that there needs to be evidence to show that Hobart is quantitatively different to other major cities. It said that there was quantitative evidence that Western Australia faces different costs due to remoteness.

Commission response

- 70 The Commission concluded that Hobart is unlikely to be reclassified as a major city following the 2026 Census. It considered that it is appropriate to group cities and towns of similar sizes. ARIA+ allows grouping of such towns and therefore, the Commission considered that Hobart should be grouped with other cities of about the same size using the ARIA+ model.
- 71 The Commission uses the ABS remoteness area classification and assumes that areas within each remoteness area are broadly comparable.

Commission decision

- 72 The Commission will retain the ABS remoteness classifications.

Where people receive services

- 73 Remoteness gradients are calculated based on where services are delivered and applied based on where people live. In response to state comments, the Commission considered whether this remained appropriate.

State views

- 74 Victoria expressed concerns that remoteness loadings are based on where people live rather than where services are delivered.

Commission response

- 75 Where services are delivered is the attribute that drives the cost of delivering services. Where people live is the demographic attribute that is measurable and differs between states. Therefore, remoteness gradients are measured based on

where a service is delivered and applied to where people live, taking account that people do travel for services.

- 76 This principle can be seen in the 2025 Review health assessment. In the admitted patients component, the additional costs of remote hospitals are calculated. These additional costs are then applied to the extent to which people who live in remote areas use remote hospitals. This is equivalent to measuring the national spend on a service delivered remotely, and allocating it in proportion to each state's remote population.

Commission decision

- 77 The Commission will retain measuring remoteness gradients based on where services are delivered and applying remoteness gradients to where people live.

Potential misallocation of regional cost effects

- 78 First Nations people live disproportionately in more remote areas. It is therefore possible that costs attributed to First Nations populations could be attributed to remoteness. In response to state comments, the Commission considered if misallocations of regional cost effects could be present in its assessments, and whether there is any potential double counting of influences.

State views

- 79 Victoria raised concerns about double counting, noting multiple drivers are heavily influenced by geography. It said compounding effects could be present if drivers are measuring the same underlying cost. It said this could lead to issues in accurately identifying the discrete impact of one driver from the others. Victoria highlighted the importance of identifying the unique impact of each driver in isolation from others. Victoria raised particular concerns in the social housing assessment.

Commission response

- 80 The Commission generally measures disaggregated effects to avoid double counting. For example, total spending on remote First Nations populations will be allocated to states based on their proportion of First Nations people in remote locations. For analytical purposes the Commission allocates this spending between the remoteness driver and the First Nations driver. This analysis helps to explain the drivers of GST but does not affect the GST distribution.
- 81 Concerns surrounding the social housing assessment are addressed in the housing chapter of *Review Outcomes*.

Commission decision

- 82 The Commission will continue to apply its methods to avoid double counting in assessments.

GST impacts of method changes

- 83 The Commission included more component-specific cost gradients in its general cost gradient calculations. This resulted in minor changes to the slopes (slightly steeper for regional costs and slightly flatter for service delivery scale costs). Overall, this increased the assessed GST needs of New South Wales, Victoria and Tasmania and decreased the assessed GST needs of Queensland, Western Australia, South Australia, the ACT and the Northern Territory.
- 84 The GST impacts of these changes are reflected in the relevant category chapters of *Review Outcomes*. Where possible, they have been separately identified from other changes.