



Queensland Treasury Response to
Commonwealth Grants Commission
2015 Methodology Review

Response to:

Staff Discussion Paper CGC 2014-02S
A Capital Cost Index

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Queensland's position

- Queensland supports assessing capital construction costs using the interstate and regional cost disabilities used in the current assessments. In addition, an assessment of physical environment influences can be developed using the findings of the Commission's consultant.
- Queensland does not support the use of the Rawlinsons or Riders Digest indices to assess capital costs, as:
 - It is not desirable to reintroduce an approach that was discarded in a past review. Even when Rawlinsons was used in past methodologies, it was discounted by 50% due to concerns about the appropriateness of the index for equalisation purposes. The impact of policy on the Rawlinsons index is not likely to have decreased, nor is its appropriateness for use in equalisation likely to have improved since the assessment was discontinued.
 - The overall capital city index is not fit for purpose as it does not capture the influences on assets that are built by states, and would not measure the correct influences. The index is also policy influenced, as states' building codes and their policies relating to oversight of local government regulation impact on construction costs.
 - The asset-specific cost comparisons may be more fit for purpose if applied to specific types of stock, but they do not cover the majority of state assets and would still be highly policy influenced.
 - The discrepancies between Rawlinsons and Riders Digest relative costs cannot be explained so it is difficult to see how the Commission could reasonably choose one over the other.

Overview of proposal

In the 2010 Review methodology, states' relative costs of construction are measured using the interstate wage and regional cost disabilities used in the recurrent expenditure assessments. The Discussion Paper on Proposed Assessments (2013-07S) raised the possibility of developing a capital specific cost index based on the indices produced by Rawlinsons.

Staff Discussion Paper 2014-02S proposes that the capital cost index be based on the Rawlinsons capital city indices, combined with Rawlinsons regional indices, and discusses concerns raised by states in their responses to the Discussion Paper on Proposed Assessments regarding policy neutrality and the suitability of the index for assessment purposes.

Issues

Previous use of Rawlinsons index

In the 1999 Review methodology, the Commission assessed a construction cost disability in the depreciation assessment based on Rawlinsons. This used a combination of Rawlinsons state capital indices and regional indices to measure differences in building costs. The assessment was discounted by 50 per cent due to concerns about the appropriateness of the index for equalisation purposes, including the potential for policy contamination in the Rawlinsons index.

During the 2004 Review, the appropriateness of the Rawlinsons index was reconsidered. Discussion papers and working papers from the 2004 Review (for example, 2002-25) indicate that:

“This assessment is controversial for several reasons, particularly the possibility of double-counting with other disabilities and policy contamination in the Rawlinsons Index. Working Party discussions indicated a broad agreement among the States that the current measure of construction cost differences is flawed.¹”

States were also concerned that the index produced an undesirable degree of volatility in the assessment, and that timing differences in the building cycle may impact on the index values.

The Commission decided to discontinue using the Rawlinsons index in the 2004 Review because of these concerns. Instead, a method similar to the 2010 Review approach was applied, which measured capital costs based on wages input costs and dispersion. The 2010 Review, which thoroughly examined and redeveloped the capital assessments, did not consider reintroducing the Rawlinsons index to measure capital costs.

Queensland is concerned that the Commission is considering re-adopting an approach which has been discarded in a past review and was heavily discounted where it was used in previous methodologies. It is unclear why the Rawlinsons index would now be considered suitable for equalisation purposes, as problems such as policy contamination and volatility do not appear to have been solved. Reinstating the Rawlinsons index as a measure of capital costs would reverse a methodological improvement from the 2004 Review that was supported by states. Queensland does not believe this is desirable or justified.

Fitness for purpose of Rawlinsons indices

In the Discussion Paper, it is noted that Rawlinsons has provided advice that the capital city indices provide a reliable guide to underlying construction cost differentials. This does not necessarily mean that the indices are suitable for the Commission’s purposes. For equalisation purposes, the indices need to measure the underlying influences affecting the costs of building state assets in a policy neutral way. Despite it being an independent and commonly used index, Rawlinsons is not designed for the purpose of equalisation and does not appear to measure the influences the Commission is attempting to capture in a way that is policy neutral.

Queensland’s response to the Proposed Assessments paper expressed concerns over the suitability of the Rawlinsons capital city index that do not appear to have been resolved in the recent Discussion Paper.

The capital city index does not focus on the kinds of infrastructure that are constructed by state governments. Rawlinsons compiles data on the relative construction costs for a range of different buildings, including state government-type assets, but also including banks, hotels, industrial, residential and retail buildings. In the Rawlinsons indices, relative costs vary significantly for different types of asset – not only between state-type assets and the overall index, but between different types of asset that are not generally built by state governments. There are a number of sources of difference between the overall capital city costs index and specific cost indices for types of building:

¹ Discussion Paper CGC 2002/25 Depreciation, July 2002

- Differences in the required inputs and their costs – for example, building materials, labour costs and labour costs as a proportion of the overall cost;
- Interstate differences in building codes may affect different types of assets to different extents; and
- Differences in state policy that may affect (for example) the specifications of buildings and procurement procedures so that costs vary from the overall index.

For the overall index to be fit for purpose, it would need to measure the non-policy influences affecting the construction of state-type assets. The Commission would need to be confident that disparities between the overall and asset type indices were not caused by non-policy factors such as differences in the costs of inputs. Otherwise, the index will not measure the relative costs incurred by states.

Effectively, use of the overall capital city index would assume that all differences between the overall index and the indices for state-type assets are due to state policies for the construction of their assets. This is unlikely to be a reasonable assumption, given the other potential sources of difference, and there does not appear to be evidence to support this assumption. If the assumption is not valid, the error in the capital cost index could be significant given the variation in cost indices, and in some cases (for example, primary and secondary schools in Perth), could be adjusting capital costs in the wrong direction. Table 1 shows the variation in relative costs for a range of different kinds of state type assets as measured by Rawlinsons.

Table 1 – Rawlinsons costs of construction per square metre relative to Sydney – state type assets

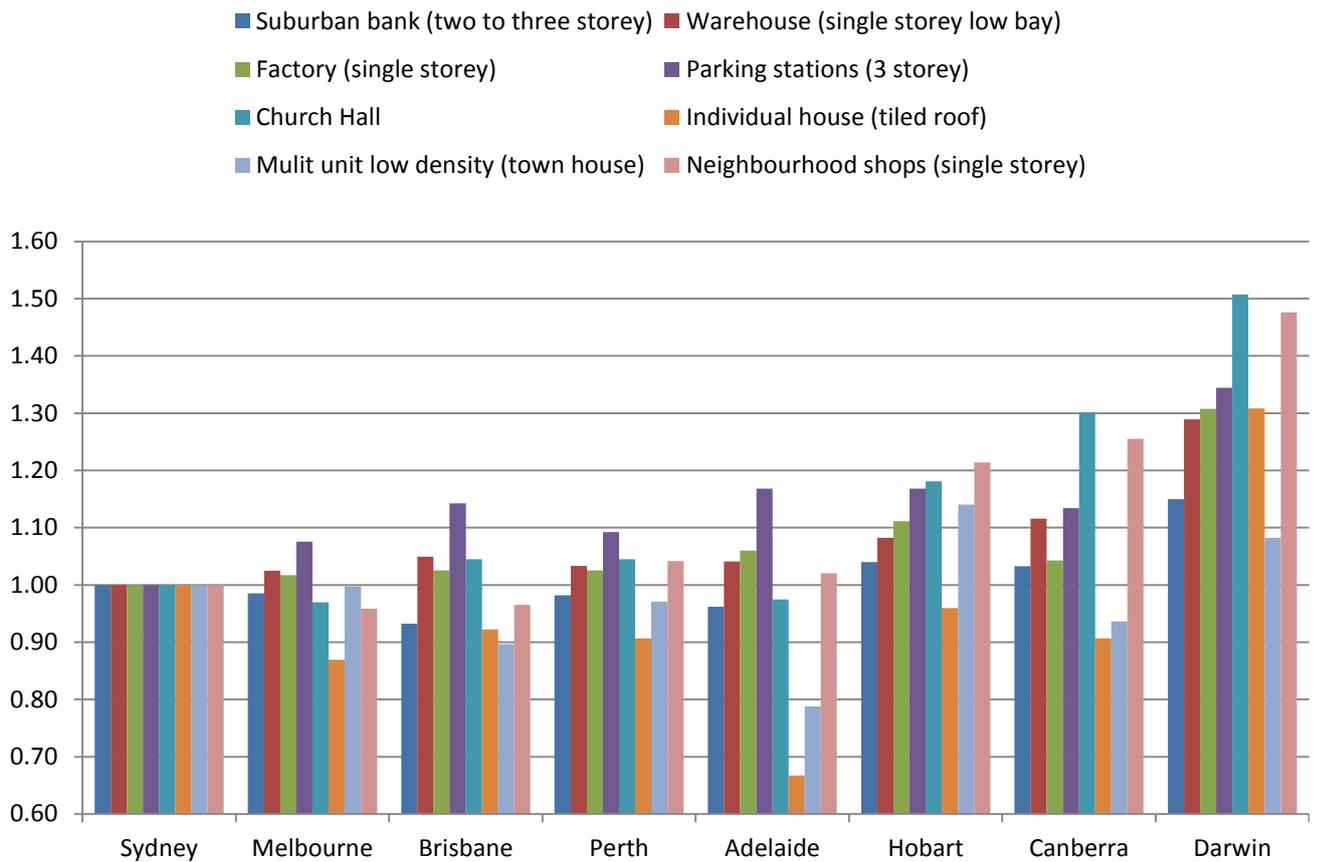
	Sydney	Melbourne	Brisbane	Perth	Adelaide	Hobart	Canberra	Darwin
Administration office (2-3 storey)	1.00	0.98	0.96	1.04	0.98	1.03	1.05	1.13
Primary School	1.00	1.01	0.95	0.93	1.07	1.11	1.38	1.37
Secondary School	1.00	0.98	0.89	0.87	0.99	1.08	1.09	1.24
District Hospital	1.00	0.93	0.93	0.99	0.96	0.96	0.99	1.15
Private Hospital	1.00	0.96	0.94	0.99	0.96	0.96	0.98	1.23
Aged person single storey home	1.00	0.87	0.94	1.02	0.84	1.13	0.99	1.19
Law courts, capital city	1.00	0.79	0.75	0.96	0.83	na	na	na
Overall capital city index	1.00	0.97	0.94	1.04	0.99	1.01	1.03	1.22

Source: Rawlinsons Australian Construction Handbook 2014

1. Figures highlighted in orange vary from the overall capital city index by 0.05 or more. Figures highlighted in red vary from the overall capital city index by 0.1 or more.

However, the variations in cost indices between different kinds of assets that are not generally built by states, and therefore not affected by state policies (other than general building codes, which will affect all assets) are evidence that differences in non-policy factors have a significant effect on the cost indices for different assets. For example, the differences in relative costs between the construction of an individual house and the construction of a parking station in Adelaide cannot be attributed to state policies, so it would not be reasonable to assume that all differences in the relative costs of schools and hospitals are attributable to state policies (Chart 1).

Chart 1 – Rawlinsons costs of construction per square metre relative to Sydney– non-state type assets



Source: Rawlinsons Australian Construction Handbook 2014

The reasons for differences between the indices for different assets and the capital city indices do not appear to be understood, and there are a range of potential policy and non-policy influences that may drive these differences (as identified above). Even though Commission staff have sought advice from Rawlinsons as to the reasons for these variations, the Discussion Paper notes that Rawlinsons cannot provide an explanation. More generally, it is not clear from the Discussion Paper that the methodology for producing the Rawlinsons indices is sufficiently understood for these kinds of issues to be resolved. Under these circumstances, it would not be reasonable for the Commission to incorporate Rawlinsons data into its methodology.

There are also state-type assets that are not included in the Rawlinsons construction handbooks. Of greatest concern here are roads assets, which (based on state accounts data) make up over 50 per cent of states’ produced assets. The costs of roads construction is not expected to be well related to the relative costs of construction for other assets due to differences in construction materials, labour costs and physical environment influences. If the Commission decides to use the Rawlinsons index for capital costs for other assets, it should not be applied to roads, as it is unlikely to reflect the relative costs of roads construction.

Policy neutrality

There are a number of ways that state policies influence the Rawlinsons indices, for example:

- Policy differences specific to state-type assets; and
- State policies influencing the general costs of construction.

While policy differences are only one of a range of factors influencing the indices for specific state-type assets (as discussed above), the potential for policy contamination is too great for their use as a measure of capital costs.

The Discussion Paper indicates that costs such as taxes, levies, fees and charges influenced by states are only around 5 per cent of costs, but state policies affect construction costs in a range of other ways.

There is significant scope for states' policy differences to affect the general costs of construction through differences in building standards. The broad framework for building codes and standards is as follows:

- The Australian Building Codes Board is responsible for the National Construction Code (NCC), which comprises the Building Code of Australia (BCA) and the Plumbing Code of Australia;
- States are responsible for their own state-based building codes; in Queensland this is the Queensland Development Code (QDC); and
- Local Governments are responsible for local planning instruments, which are overseen by state governments.

While the BCA provides a nationally consistent set of provisions for the design and construction of buildings, its provisions are the minimum necessary standards. States' building codes are applied in addition to the BCA. In Queensland, the state development code overrides the BCA if the two are in conflict.

The Discussion Paper suggests that differences in states' building codes are likely driven by technical considerations, and states' comments are sought on the reasonableness of assuming that building codes are predominantly driven by technical considerations and the requirements applying in areas with similar conditions are broadly consistent across States.

The QDC covers a range of aspects of construction that have the potential to significantly impact costs, such as design and siting standards, fire safety, building sustainability (such as energy and water efficiency and buildings in transport noise corridors), general health and safety and maintenance standards. While some of these may be driven by technical considerations (for example, mandatory part 3.5 of the QDC relates to construction of buildings in flood hazard areas), it is not clear that this is the case for most parts of the code. Parts such as those relating to design standards, fire safety and sustainability, will be driven by policy. For example, requirements to construct new buildings so that they conform to a particular energy efficiency standard would be driven by government policy, not by technical considerations. Similarly, difference in fire safety standards can arise from events occurring in each state and subsequent coronial inquests.

Since the Commission decided to remove the Rawlinsons indices from its assessments (in the 2004 Review), states have developed policies in response to issues such as climate change and natural disasters, including floods, drought, bushfires and cyclones. The degree and manner in which governments responded to these issues have varied widely, and will have driven significant differences in building standards and costs. Even if these may be affected in part by technical considerations, states respond to technical considerations in different ways, and this is still a policy choice. It is likely that differences in states policies have increased due to these issues since the Rawlinsons indices were last considered.

Another source of policy differences for building codes and standards is the extent to which states allow local government to implement regulations that diverge from state and national codes. In 2012, the Productivity Commission reported that, of a sample of 16 building types, local government standards above requirements specified in the BCA increased construction costs by up to 14 per cent². States where local government divergence from state and national codes is more strictly limited could be expected to have reduced construction costs, and this will affect the relative construction costs as measured by the Rawlinsons index.

In Queensland, a high degree of control is exerted over the ability of local governments to diverge from state and national development codes. Under the *Sustainable Planning Act (s 78A)*, local planning schemes are generally not permitted to impose additional requirements to the extent that matters are regulated in building assessment provisions (including the state Building Act, the BCA and the QDC). If similar restrictions are not imposed by other states, there may be a greater degree of divergence in local government regulations. The COAG report *Housing Supply and Affordability Reform* investigated the impact of inconsistencies in building regulations. The report recognised that some states (including Queensland and Tasmania) imposed restrictions on local governments and that where local councils are permitted to apply higher standards than required by the BCA, this increases the cost of construction³.

Riders Digest

The Riders Digest capital city index has been compared to the Rawlinsons index in the Discussion Paper, and it is noted that the index produces similar results for Sydney and Melbourne, but very different relative costs for other capitals where the index is produced. The Discussion Paper notes that further investigation is required to explain these differences, and following the telepresence of 3 April, states were asked whether they were aware of reasons for the difference between the two indices.

It is unclear to Queensland why the two indices produce such different results for relative capital city costs, and (as discussed above) if these kinds of results cannot be understood and explained, the Commission should not consider using Rawlinsons or Riders Digest indices in its methodology.

² *Performance Benchmarking of Australian Business Regulation: The Role of Local Government as Regulator*, Productivity Commission, July 2012.

³ *Housing Supply and Affordability Reform Final Report*, Council of Australian Governments, August 2012 (page 16)

Like the Rawlinsons indices, the Riders Digest results suggest that the relative costs of producing different types of asset are widely variable and inconsistent with the overall tender price index (Table 2).

Table 2 – Relative costs of producing private hospitals and aged care facilities compared to the overall tender price index, Riders Digest

	Sydney	Melbourne	Brisbane	Perth	Adelaide	Canberra	Darwin
Private Hospital							
45-60m2 GFA/Bed							
Cost per square metre (high)	3,000	3,050	4,405	3,425	5,500	3,290	4,200
Cost relative to Sydney	1.00	1.02	1.47	1.14	1.83	1.10	1.40
55-80m2 with major operating theatre							
Cost per square metre (high)	3,900	3,500	5,380	4,220	5,800	4,460	4,950
Cost relative to Sydney	1.00	0.90	1.38	1.08	1.49	1.14	1.27
Aged Care Facility							
Cost per square metre (high)	2,800	2,375	2,650	2,625	2,650	2,460	3,300
Cost relative to Sydney	1.00	0.85	0.95	0.94	0.95	0.88	1.18
Tender price index (relative to Sydney)							
	1.00	0.97	0.82	1.00	0.95	0.98	1.04

Source: Riders Digest 2014

This lends further support to the suggestion that an overall capital city construction cost index is not fit for purpose, as it will not measure the kinds of expenses incurred by states.

It should be particularly noted that the Riders Digest measure of the relative cost of construction for a private hospital (which would be less affected by differences in state policy than public hospitals, but would also be reasonably similar to the assets constructed by states) produces a result that is entirely different from either the Rawlinsons or Riders Digest overall capital city indices. It is also entirely different from the Rawlinsons index for the same type of asset (private hospitals in table 1).

Using hospitals in Queensland as an example, Rawlinsons and Riders Digest produce such a wide range of possibly indices that it is difficult to see how the Commission could reasonably choose one for use in the assessment. Alternatives range from 0.82 (the Riders Digest tender price index), to 0.93 (Rawlinsons district hospital), to 1.47 (Riders Digest private hospital). Again, it is particularly concerning that the causes of these differences do not appear to be well understood, and (as noted in the Discussion Paper) Rawlinsons have not been able to provide reasons for such variations.

The Riders Digest index would have similar policy neutrality and fitness for purpose issues as the Rawlinsons index, and as such would be unsuitable for use in the assessment.

Coverage

If the Commission decides to use the Rawlinsons capital city index as a measure of relative capital construction costs, it will be necessary to use the regional indices from the same publication, to ensure regional indices are consistent with the relative capital city measure.

However, as noted in the Discussion Paper, Rawlinsons does not cover all regional areas. The Discussion Paper suggests that this could be overcome by applying the index of the closest region with a similar degree of remoteness. Queensland is not opposed to this approach in principle, but there may be practical difficulties that could make the result unreliable:

- For some regions, there may not be a close region of similar remoteness for which an index is available. If the closest available regions are dissimilar or have substantially different index values, it will be difficult to derive an appropriate index;
- If (for example) one index in a remote area is extrapolated to a range of other remote areas, the result may not be reliable. Given that the original index would be based on construction in a small remote area, it is likely to be based on the costs of a small sample of projects, which would then effectively be extrapolated to a larger number of smaller centres and a larger proportion of the population.

Summary and preferred approach

As discussed above, Queensland does not consider that Rawlinsons should be used as the capital cost index in the 2015 Review as:

- It is not desirable to reintroduce an approach that was discarded in a past review due to policy neutrality concerns, and was only applied with a 50 per cent discount.
- The overall capital city index is not fit for purpose as it does not capture the influences on assets that are built by states. If this is used the assessment will not be measuring the correct influences. It is also policy influenced, as states' building codes and their policies relating to oversight of local government regulation impact on construction costs.
- The asset-specific cost comparisons may be more fit for purpose, but they only cover a subset of state assets and would be highly policy influenced.

It is particularly concerning that the Rawlinsons methodology for producing state comparisons does not appear to be clearly understood, and the causes of discrepancies between different Rawlinsons indices and the Riders Digest indices cannot be explained. At this stage, there also does not appear to have been an examination of the Rawlinsons data collection and checking processes, so there is no assurance of the quality of the data on which the assessment would be based.

While Queensland does not object in principle to the development of a capital specific cost disability, standard indices of construction costs such as Rawlinsons and Riders Digest are likely to have similar problems and would not be suitable for the Commission's purposes.

As outlined in Queensland's response to the Proposed Assessments paper, Queensland's preference is to continue to recognise interstate and regional location influences using the recurrent location factors, and to recognise the impact of the physical environment using the findings of the Commission's consultant. The Discussion Paper on Proposed Assessments discussed the suitability of applying the consultant's findings, and it was not apparent that Commission staff had concerns over the use of the consultant's report. If the Commission has concerns about the use of the consultant's recommendations, or has reason to believe that Rawlinsons provides a better indicator of physical environment influences, these issues should be addressed in the draft report.

While Queensland would prefer physical environment influences to be recognised in some form, this does not appear to justify a move to the use of a general construction cost index, given the problems outlined above. If physical environment is to be recognised, Queensland supports the Commission continuing to develop an approach based on the consultant's report that can be combined with the recurrent location factors.