

# **Assessment consultation papers – Tranche 1 – 2025 Methodology Review**

## **Queensland submission**

13 October 2023



**Queensland**  
Government

**Contact officer:**

Matthew Nalder

Principal Treasury Analyst

Economic Strategy

Queensland Treasury

(07) 3035 1818

[Matthew.Nalder@Treasury.qld.gov.au](mailto:Matthew.Nalder@Treasury.qld.gov.au)

# Contents

<b>Preface</b>	<b>1</b>
<b>Summary</b>	<b>2</b>
<b>Priority assessments</b>	<b>7</b>
1. Mining	7
2. Health	13
3. Justice	24
4. Transport	31
<b>Revenue assessments</b>	<b>80</b>
5. Land tax	80
6. Stamp duty on conveyances	81
7. Insurance tax	82
8. Motor tax	83
<b>Expense assessments</b>	<b>84</b>
9. Schools	84
10. Post-secondary education	86
11. Services to communities	87
12. Native title and land rights	89
<b>Other assessments</b>	<b>91</b>
13. Commonwealth payments	91
14. Socio-economic status	93



## Preface

Queensland Treasury acknowledges the extensive work of the Commonwealth Grants Commission (the Commission) in preparing consultation papers for the 2025 Methodology Review. This response captures Queensland's understanding of the Commission's proposed changes and their impact, Queensland's recommendations for improving the methodologies of several assessments and the State's responses to questions posed by the Commission. We would welcome further discussion to ensure that all our positions are understood.

We are pleased to note the Commission's efforts for improved transparency and engagement across assessments, which we consider to be an improvement on the 2020 review. For example, the availability of Commission staff to directly respond to questions is greatly appreciated, as was the opportunity afforded to states to pose research questions to the consultant engaged to review the wage assessment. While there has been an uplift in transparency and engagement many assessment methodologies are not able to be accessed by states. Further efforts to increase transparency and engagement with states would be welcome.

Queensland is highly supportive of a number of the Commission's proposed changes, in particular the proposed equal per capita treatment of onshore oil and gas revenue. The mining assessment was excluded from change during the 2020 review and the change proposed is an overdue correction that reflects a fairer, policy neutral, assessment outcome.

In addition to our responses to the questions raised, Queensland has also provided cases for change across a number of assessments including: mining revenue; health; justice; transport; and land tax.

Queensland's view is that these changes, which are supported by evidence, will deliver a horizontal fiscal equalisation outcome that is better aligned to principles than the current arrangements and we welcome the Commission's consideration of these changes.

While we appreciate the Commission's approach to being concise in this review, we would stress the importance of ensuring that any proposed changes are based on a clear rationale and supported by strong evidence. It should be highlighted that the method changes made in the 2025 review will be long standing, with the potential to remain in place out to 2030 and impact every state's GST share. For these reasons it is essential that assessment methods meet a high standard and are an accurate reflection of need. Queensland welcomes the opportunity to ensure that this is achieved.

## Summary

A summary of Queensland's positions is provided in the following table with further detail in the submission below.

### SUMMARY OF QUEENSLAND POSITIONS

Assessment	Commission question	Queensland response
Mining	Do states agree the Commission should continue to assess mining revenue capacity using a mineral by mineral approach?	<b>Do not support</b>
	Do states support the dominant state for a mineral being identified having regard to a state's share of the revenue base, its population share, and the extent to which its GST distribution would be impacted by a change in the royalty rate for that mineral?	
	Do states agree that where a dominant state changes its relevant royalty rate, assessing 50% of that state's revenue arising from the royalty rate change equal per capita would represent an appropriate balance between assessing relative state fiscal capacities and policy neutrality concerns?	<b>Do not support</b>
	Do states agree that uranium and coal seam gas royalty revenue should be assessed equal per capita?	<b>Support</b>
Health	Do states agree that in a post-pandemic environment, the hospital and patient transport assessments remain fit for purpose?	<b>Support</b> , subject to changes
	Do states agree that the proposed changes to the community and public health assessment in this paper will contribute to making the assessment more responsive to developments affecting this part of the health system?	<b>Support</b>
	Do states consider the experiences with the COVID-19 pandemic have implications for the health assessment?	<b>Support</b>
	Do states agree to use the Australian Institute of Health and Welfare data on community mental health activity, adjusted to compensate for lack of cost weights, to determine per capita use rates for mental health services?	<b>Do not support</b>

Assessment	Commission question	Queensland response
Justice	Do states agree to expand the current proxy to include non-admitted patient services, applied to the balance of the component?	<b>Support</b>
	Do states agree to continue to apply a discount of 12.5% to the community health sociodemographic assessment?	<b>Support</b>
	Do states support the use of Australian Institute of Health and Welfare data to update the non-state services substitutability level for the emergency departments component, while retaining the 2020 Review method for other components?	<b>Support</b>
	Do states agree that COVID-19 resulted in a temporary departure from long term patterns of justice service provision, use and costs such that the 2020 Review Justice model remains appropriate if used with fit for purpose data?	<b>Support</b> , subject to changes
	Do states agree that data from 2019–20, 2020–21 and 2021–22 include the effects of COVID-19 related public health orders and do not reflect typical justice services and costs?	<b>Support</b>
	If data from 2019–20 to 2021–22 are not fit for purpose, do states support using data from 2022–23 to update the justice assessment? If so, can states provide an indication of when 2022–23 data could be provided to the Commission?	<b>Support</b>
	If data from 2022–23 are considered fit for purpose but are not available in time for inclusion in the 2025 Review, do states support updating the assessment in an update following the 2025 Review?	<b>Support</b>
	Do states agree that the Commission apply a cost weight for juvenile detainees in the prisons assessment if material?	<b>Support</b>
	Do states agree that the Commission not make any changes to the juvenile detainees age groups in the prisons assessment?	<b>Support</b>
	Do states agree that the 2020 Review model for assessing urban transport needs remains appropriate?	<b>Do not support</b>
Transport	Do states consider the urban transport net expense data from 2019–20 to 2021–22 are likely to be overstated?	<b>Support</b>
	If 2019–20 to 2021–22 data are not fit for purpose, do states support updating the regression with data from 2022–23? Can states provide an indication of	<b>Do not support</b>

Assessment	Commission question	Queensland response
	when this data could be provided to the Commission?	
	If 2022–23 data are considered fit for purpose but are not available for inclusion in the 2025 Review, do states support updating the assessment in an update following the 2025 Review?	<b>Do not support</b>
	Do states support retaining the 2020 Review proxy variable data in the regression model until fit for purpose net expense data are available?	<b>Do not support</b>
	Do states agree that the 2021 Census journey to work data were distorted by the COVID-19 lockdowns and are not a fit for purpose measure of current passenger numbers?	<b>Support</b>
	If the 2021 Census journey to work data are not fit for purpose, do states support the continued use of 2016 Census journey to work data in the model?	<b>Do not support</b>
	Do states agree that 2021 Census distance travelled to work data were not significantly distorted by COVID-19 lockdowns and are a reliable measure of network complexity?	<b>Do not support</b>
	Do states agree that, if material, 2016 Census journey to work data should be adjusted using the Bureau of Infrastructure and Transport Research Economics measure of passenger kilometres travelled until the 2026 Census data are available?	<b>Do not support</b>
	Do states agree that if net expense data are available before the 2026 Census passenger numbers it is appropriate to use Bureau of Infrastructure and Transport Research Economics data to index actual passenger numbers?	<b>Do not support</b>
	Do states support retaining the 2020 Review blending ratio for the urban transport assessment?	<b>Do not support</b>
	Do states support replacing the ferry dummy variable in the urban transport model with the proportion of total commuters using ferry services?	<b>Do not support</b>
	Do states agree that using a regression model to recognise the growth in passenger numbers in urban areas is a more suitable method for modelling passenger numbers?	<b>Do not support</b>
	Do states support assessing non-urban rail passenger expenses based on shares of non-urban train commuters?	<b>Do not support</b>



Assessment	Commission question	Queensland response
	Do states support assessing all remaining non-urban rail passenger expenses based on shares of non-urban populations?	<b>Do not support</b>
<b>Land tax</b>	Do states support the continuation of the land tax assessment in its current form?	<b>Support</b>
<b>Stamp duty on conveyances</b>	Do states agree that the overall approach to assessing revenue from stamp duty on conveyances remains appropriate?	<b>Support</b> , subject to continuation of EPC treatment of non-land asset transactions.
	Do states agree that revenue from the New South Wales property tax be assessed with land tax for as long as it exists?	<b>Support</b>
	Do states support the Commission not adjusting states' value of property transferred for the elasticity effects of recent reforms on materiality grounds?	<b>Support</b>
<b>Insurance tax</b>	Do states support the continuation of the insurance tax assessment in its current form?	<b>Support</b>
<b>Motor tax</b>	If an assessment of revenue from electric vehicle charges becomes material in future updates, do states support the revenues being assessed as a separate component of the motor taxes category?	<b>Support</b>
	Do states agree that the number of registered light vehicles remains an appropriate measure of revenue capacity for revenue raised from emissions-based registration fees?	<b>Support</b>
<b>Schools</b>	Do states support a differential assessment of primary and secondary school students and if so, support including in the regression model variables to account for differences in the fixed cost of secondary schools and the additional costs of secondary school students?	<b>Support</b>
	Do states agree that, if relevant school level data are available and determined fit for purpose, an assessment of needs for educating students with a disability should be included in the schools assessment?	<b>Support</b> , subject to delayed implementation
	Do states agree that the average state funding of schools is not sufficiently based on the Schooling Resource Standard funding to be adopted in place of the Commission's funding model?	<b>Support</b>
<b>Post-secondary education</b>	Do states agree that a course mix driver should not be introduced?	<b>Support</b>

Assessment	Commission question	Queensland response
Services to community	Do states agree that the variables used in the socio-demographic assessment of needs be retained?	<b>Support</b>
	Do states agree that the existing assessment methods for spending on disaster mitigation remain appropriate?	<b>Support</b>
	Do the definitions used in the National Partnership on Disaster Risk Reduction provide an appropriate basis for describing the type of spending that could be classified as natural disaster mitigation?	<b>Support</b> , noting the limitations with using national partnership data
	Where is this spending currently classified in the Government Finance Statistics framework?	<b>Social protection: natural disaster relief</b>
	Is spending on mitigation measures expected to increase significantly over the next five years?	<b>Support</b> the view that spending will increase significantly
Land rights and native title	Do states agree that the APC assessment of Native Title expenditure remains appropriate?	<b>Support</b>
	Do states anticipate that treaty processes will affect how they negotiate Native Title and land rights claims?	<b>Support</b> the view that this will impact, but the implications at this stage are unclear
Commonwealth payments	Do states agree the guideline for deciding the treatment of Commonwealth payments remains appropriate?	<b>Support</b>
	Do states agree to a default treatment of 'impact' in cases where there is substantial uncertainty about the payment's purpose or whether relative state expenditure needs are assessed? It remains open to states to provide evidence in support of no impact	<b>Support</b> , subject to recommendations
	Do states agree to discontinue the assessment of Commonwealth own-purpose expense payments?	<b>Support</b>
	Do states agree that the guideline for determining the GST treatment of Commonwealth payments should be applied in cases where payments include elements aimed at addressing pre-existing structural disadvantage?	<b>Support</b>
Socio-economic status	Do states agree that an annual MADIP-based measure of socio-economic status for non-Indigenous people has the potential for a more contemporaneous assessment?	<b>Do not support</b> the use of MADIP, but support efforts to improve contemporaneity

# Priority assessments

## 1. Mining

### Proposed changes

Based on information provided in the consultation report, the proposed questions are:

- *Do states agree the Commission should continue to assess mining revenue capacity using a mineral by mineral approach?*
- *Do states support the dominant state for a mineral being identified having regard to a state's share of the revenue base, its population share, and the extent to which its GST distribution would be impacted by a change in the royalty rate for that mineral?*
- *Do states agree that where a dominant state changes its relevant royalty rate, assessing 50% of that state's revenue arising from the royalty rate change equal per capita would represent an appropriate balance between assessing relative state fiscal capacities and policy neutrality concerns?*
- *Do states agree that uranium and coal seam gas royalty revenue should be assessed equal per capita?*

### Queensland position

***Do states agree the Commission should continue to assess mining revenue capacity using a mineral by mineral approach?***

Queensland does not support a mineral by mineral approach and continues to maintain that aggregation of minerals in the mining assessment provides a superior HFE outcome and strikes a better balance between 'what states do' and policy neutrality. A mineral by mineral approach means that some states can have significant influence on average policy as the Commission acknowledges in its consultation paper.

***Do states support the dominant state for a mineral being identified having regard to a state's share of the revenue base, its population share, and the extent to which its GST distribution would be impacted by a change in the royalty rate for that mineral?***

***Do states agree that where a dominant state changes its relevant royalty rate, assessing 50% of that state's revenue arising from the royalty rate change equal per capita would represent an appropriate balance between assessing relative state fiscal capacities and policy neutrality concerns?***

Queensland does not support the Commission's proposal to assess 50% of a royalty rate change on an equal per capita basis for dominant states. This is a blunt approach to attempt to address policy neutrality concerns which has the potential to lead to distorted HFE outcomes.

***Do states agree that uranium and coal seam gas royalty revenue should be assessed equal per capita?***

Queensland supports the treatment of uranium and coal seam gas on an equal per capita basis.

A detailed case for change supporting an EPC treatment is laid out below.

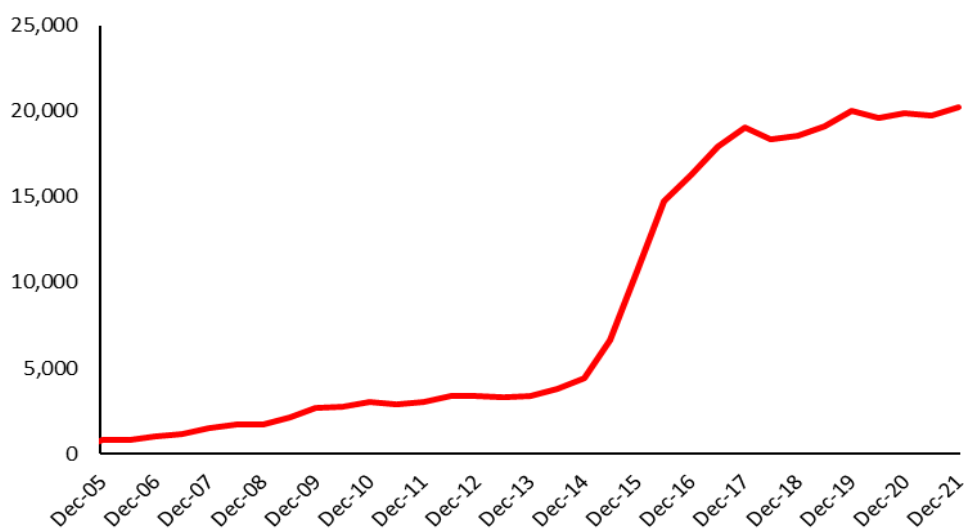
**Case for change – EPC treatment of coal seam gas**

**Context**

The Commonwealth Grants Commission (CGC) mining revenue assessment is a significant driver of the GST distribution among states and territories ('states') with external factors contributing to high volatility in assessment results from year to year. Since 2003, Australia has experienced a series of mining booms that have contributed to a significant expansion in mining production. In designing a method for assessing mining revenue, the CGC is confronted with the challenge of measuring state mining revenue capacity in a policy neutral way. The CGC consider two significant issues which impact upon the policy neutrality of the mining assessment: the dominant state issue and the banned mineral problem. The dominant state issue occurs where a mineral base is concentrated within one or two states, leading to those states being able to determine average policy. The banned mineral problem occurs where the distribution of the mineral base is unclear due to policy choices which exclude/discourage mineral extraction.

The banned mineral problem is particularly relevant for the 2025 methodology review given the rapid development of the Queensland gas industry over recent years, in stark contrast to a lack of development by other states due to policy decisions. From June 2015 (the period closest to when the mining assessment was last reviewed) and December 2021, gas production in Queensland increased three-fold, mainly because of coal seam gas (CSG) production. Figure 1.1 below illustrates Queensland production.

**Figure 1.1: Queensland CSG gas production, June 2005 - December 2021**  
**(Million cubic metres)**



Source: Queensland Department of Resources

## Key issues

### Issue 1 – Restrictions on the extraction of gas resources

The CGC states that:

*“The current approach of assessing major minerals individually means that a state’s ability to raise revenue from a particular mineral is in proportion to its share of production. Thus, states that have no production of a particular mineral are assessed to have no ability to raise revenue from it.”<sup>1</sup>*

This applies in circumstances where a state has banned or heavily restricted extraction of a resource. Extraction activity can be influenced, to varying degrees, by a wide range of policies relating to geological surveying, exploration licensing, approval processes, environmental regulation, and the provision of economic and social infrastructure.

This treatment distorts state incentives to develop their onshore gas resources, because policy decisions to restrict extraction are not treated the same as policy decisions which facilitate extraction. New South Wales, for example, which restricts gas exploration, benefits from the equalisation of Queensland gas royalties because where a state has restricted resource extraction it is assessed as having no capacity to raise royalty revenue. This was noted in a Productivity Commission (PC) review<sup>2</sup> into horizontal fiscal equalisation, which stated that:

*“Distortions arising from the treatment of resource restrictions...could ultimately have large financial implications for some States, especially over the long term. These incentives are also likely to distort policy decisions at the margin.”*

These impacts are also seen to have greater significance in the mining industry with the Productivity Commission noting that:

*“State Government’s generally have a greater influence on their mining revenue base than on the size of other tax bases.”*

Across Australia a range of gas mining restrictions are in effect. New South Wales is currently subject to some of the strongest restrictions. According to the NSW Government’s, *Future of Gas Statement*<sup>3</sup>, the numbers of areas for existing gas exploration has been significantly scaled back resulting in a 77 per cent reduction in areas covered by petroleum exploration licenses. No new areas will be released for gas exploration and gas production will be restricted to the Narrabri Gas Project.

Other states have implemented bans on specific gas mining practices. Between 2015 and 2017 most states applied moratoriums on gas extracted via hydraulic fracturing (‘fracking’), pending scientific inquiries. Although several of these have since been lifted, others remain in place or have been extended. For example:

- In Victoria, an administrative moratorium was placed on all onshore gas exploration and development in 2012. Although this was lifted in June 2020, legislation remains in place to permanently ban fracking and coal seam gas extraction.<sup>4</sup>

---

<sup>1</sup> Commonwealth Grants Commission 2021. *Research Paper 1, Fiscal equalisation and mining booms*. Australian Government: Canberra.

<sup>2</sup> Productivity Commission 2018. *Inquiry Report – Horizontal Fiscal Equalisation*. Australian Government: Canberra

<sup>3</sup> NSW Government . *Future of Gas Statement*. Accessed 10 May 2023.

<sup>4</sup> Victoria State Government, Earth Resources. *Restart of onshore conventional gas industry in Victoria* . Accessed 10 May 2023.

- In Western Australia, fracking practices are not permitted in over 98 per cent of the State, are prohibited within two kilometres of public drinking sources, and traditional owners and farmers have rights to say no to production using these methods.<sup>5</sup>
- In South Australia, there is a 10-year moratorium on fracture stimulation in the Limestone Coast region, in place since 2018. Fracture stimulation is permitted in other regions of the State subject to requisite approval processes.<sup>6</sup>
- In Tasmania, a moratorium introduced in February 2015 was extended out to March 2025.<sup>7</sup>
- In Northern Territory, a moratorium ban was lifted in 2018, however fracking is still banned in specific no-go zones (conservation parks, Indigenous protected areas, and areas of high cultural, tourism or environmental value).<sup>8</sup>

The lifting of bans in some states, should not provide justification for leaving this assessment unchanged. The timeframes necessary for an industry to scale and mature are considerable. Advice from the Queensland Department of Resources has indicated that the timeframes to develop Queensland's gas reserves has taken between five and seven years. This accounts for sourcing required equipment, undertaking exploratory drilling, preparing a case for development, and applying for and receiving necessary approvals before any work could proceed. Therefore, it may be some time before these states are assessed to have meaningful production volumes under the current assessment methodology.

Given the long industry development timeframes, states that have lifted bans will continue to benefit under the current arrangements. They will continue to be assessed as having no capacity until such time that their production is included in the assessment, which can take several years. This goes against the principle of HFE which is based on each state making the same effort to raise revenue from its own sources. Furthermore, over this development timeframe states will continue to benefit from historical development policies. This goes against the principle of policy neutrality which establishes that assessments should not provide incentives for states to act in particular ways. It is therefore essential that the assessment change, rather than waiting for the bans that are in place to expire.

## *Issue 2 – Differences in royalty regimes across jurisdictions*

While assessing revenue based on an average tax base is generally a sound approach, using this same approach for gas mining is fraught given the significant differences in royalty regimes across jurisdictions, including the basis for production, royalty rates applied and exclusions and deduction available. These areas of difference are explored in further detail below.

Most states base their royalties on the value of wellhead<sup>9</sup> production, however the definition of this differs between jurisdictions. In New South Wales, value is based on the Minister's determination while in Victoria and South Australia this is established as the value that could be reasonably expected if sold to a genuine purchaser. Some states allow different methods for determining value.

---

<sup>5</sup> Government of Western Australia, Department of Mines, Industry Regulation and Safety. *Hydraulic fracturing remains banned on 98 per cent of WA*. Accessed 10 May 2023.

<sup>6</sup> Government of South Australia. *Energy and Mining Policies*. Accessed 10 May 2023.

<sup>7</sup> Tasmanian Government, Department of State Growth. *Tasmanian Government Policy on Hydraulic Fracturing (Fracking) 2018*. Accessed 10 May 2023.

<sup>8</sup> Northern Territory Government. *Onshore Gas in the Northern Territory: Government Response to Hydraulic Fracking Inquiry*. Accessed 10 May 2023.

<sup>9</sup> Wellhead value is sales value less expenses incurred downstream of the wellhead (extracting, treating, processing, refining, storage, and transport).

In the case of the Northern Territory where actual sales cannot be obtained, comparable sales (in time, quality, quantity, and availability) may instead be used. Where neither of these methods are available, a net-back method applies, based on subtracting reasonable costs from market value at the first point of sale.

In 2020, Queensland implemented a new petroleum royalty structure using a volume-based model, calculated on petroleum released or recovered. The model changes also extended to royalty rates, with Queensland rates now based on petroleum classifications<sup>10</sup> and average sales price<sup>11</sup> rather than the flat rate which had applied previously. These changes were implemented in response to significant changes across Queensland's CSG/LNG industries and are designed to provide certainty and simplicity for all parties, acknowledging some of the difficulties in determining the commercial value of petroleum. This does mean, however, that Queensland's royalty revenues are no longer comparable with other jurisdictions as all other states continue to levy a royalty rate ranging between 10 and 12.5 per cent of production.

Reductions and exemptions which provide greater flexibility as fields decline, or for marginal fields, are a further source of disparity. For example, under Section 86 of the New South Wales *Petroleum (Onshore) Act 1991*, it is stated that a reduction of royalties can apply when:

*"The Minister is satisfied that the rate of recovery of petroleum from a well has become so reduced that, having regard to the rate or rates of royalty applicable under this Act, further recovery of petroleum from that well would be uneconomic".<sup>12</sup>*

Similarly, under Western Australia's *Petroleum and Geothermal Energy Resources Act 1967*, it states that:

*"Where the Minister is satisfied that the rate of recovery of petroleum from a well has become so reduced that...further recovery of petroleum from that well would be uneconomic, the Minister may...determine that the royalty in respect of petroleum recovered from that well shall be at such rate (being a rate lower than that fixed by that section) as the Minister specifies."*

To further complicate matters, legislation provides rebates and refunds in other circumstances as well, such as where contributions have been made for community benefit. According to the NSW *Petroleum (Onshore) Act 1991*:

*"The regulations may prescribe the criteria for eligibility for a refund or rebate, which may include that a contribution has been made for the purpose of funding any programs for the benefit of the community."*

Deductions are available across a range of post wellhead production costs including processing, storage, pipeline tariffs and transportation costs. These are usually negotiated between the

---

<sup>10</sup> For domestic gas – where average sales price <\$3/GJ, a royalty rate of 0.02 cents/GJ for each 1 cent/GJ over \$0/GJ;  
where average price >\$3/GJ and <\$8/GJ, a royalty rate of 6 cents/GJ + 0.08 cents/GJ for each 1 cent/GJ over \$3/GJ;  
where average price >\$8/GJ, a royalty rate of 46 cents/GJ + 0.1 cents/GJ for each 1 cent/GJ over \$8/GJ.  
For supply gas – where average sales price <\$3/GJ, a royalty rate of 0.05 cents/GJ for each 1 cent/GJ over \$0/GJ;  
where average sales price >\$3/GJ and <\$8/GJ, a royalty rate of 15 cents/GJ + 0.1 cents/GJ for each 1 cent/GJ over \$3/GJ;  
where average price >\$8/GJ, a royalty rate of 65 cents/GJ + 0.125 cents/GJ for each 1 cent/GJ over \$8/GJ.  
For project gas – where average sales price <\$9/GJ, a royalty rate of 0.03 cents/GJ for each 1 cent/GJ over \$0/GJ;  
where average sales price >\$9/GJ and <\$14/GJ, a royalty rate of 27 cents/GJ + 0.09 cents/GJ for each 1 cent/GJ over \$9/GJ;  
where average price >\$14/GJ, a royalty rate of 72 cents/GJ + 0.125 cents/GJ for each 1 cent/GJ over \$14/GJ.  
For liquid petroleum - where average sales price <\$50/bbl, a royalty rate of 0.03 cents/bbl for each 1 cent/bbl over \$0/bbl;  
where average sales price >\$50/bbl and <\$100/bbl, a royalty rate of \$1.50/bbl + 0.115 cents/bbl for each 1 cent/bbl over \$50/bbl;  
where average price >\$100/bbl, a royalty rate of \$7.25/bbl + 0.125 cents/bbl for each 1 cent/bbl over \$100/bbl.

<sup>11</sup> Benchmark price for domestic gas is based on end of day Wallumbilla Benchmark Price; supply gas is 0.09 bbl/GJ x daily Europe Brent Spot Price; project gas is 0.135 bbl/GJ x daily Europe Brent Spot Price; liquid petroleum is daily Europe Brent Spot Price.

<sup>12</sup> Parliament of NSW 2022. *Petroleum (Onshore) Act 1991 No 84 - NSW Legislation*.

producer and State, however differences in the scope and discount applied to costs affects the commercial value of petroleum and, in turn, the amount of royalty paid. For example, in Western Australia, deductions are determined on a project-by-project basis and can amount to up to 90 per cent of operating and capital costs.<sup>13</sup> Other states apply their own arrangements, but this illustrates the challenges in drawing comparisons between projects and jurisdictions. In Queensland there are no deductions under the volume model which has applied since 2020.

Differences in the collection and reporting methods may also potentially impact the quality of data received with returns across some states completed on a self-assessed basis. For lease holders with operations across multiple jurisdictions this may be compounded by differences in the basis (by lease, extraction method, mineral) and timing of their returns (on a monthly, quarterly or annual basis).

## **Principles affected**

### *Policy neutrality*

This principle is intended to ensure that a State's own policies or choices do not directly influence its GST share. A second aspect of this principle is that the assessment should not provide an incentive (or disincentive) for states to act in particular ways.

The current gas mining assessment does not meet this principle. States enacting policies preventing the exploration or extraction of gas resources currently result in a GST distribution toward these states. Further, the design of the assessment, which assesses states that do not explore or develop their gas resource as having no revenue raising capacity, acts as a disincentive to future investment.

### *Practicality – reliability*

Under this principle, assessments should use reliable data, including the use of discounting where there are concerns about the degree to which data are fit for purpose.

The current assessment does not meet this principle due to a lack of rigour and transparency in collection methods to accurately determine the gas mining revenue base. This is worsened by the policy choices described above.

### *What states do*

This supporting principle is designed to ensure that the Commission's assessments reflect State revenues. It refers to what states collectively do (rather than what each does individually) because the assessment of fiscal capacity is based on determining what state revenues and expenditures would be under a common (or average) policy.

Given the current assessment is based on proxies for value of production, which is not what Queensland's revenue base is based on, the assessment does not meet this principle. As Queensland is a dominant producer in this industry, it also does not reflect what states collectively do.

---

<sup>13</sup> Government of Western Australia, Department of Mines, Industry Regulation and Safety. *Petroleum Royalties*. Accessed 10 May 2023.



## 2. Health

### Proposed changes

Based on information provided in the consultation report, the proposed questions are:

- *Do states agree that in a post-pandemic environment, the hospital and patient transport assessments remain fit for purpose?*
- *Do states agree that the proposed changes to the community and public health assessment in this paper will contribute to making the assessment more responsive to developments affecting this part of the health system?*
- *Do states consider the experiences with the COVID-19 pandemic have implications for the health assessment?*
- *Do states agree to use the Australian Institute of Health and Welfare data on community mental health activity, adjusted to compensate for lack of cost weights, to determine per capita use rates for mental health services?*
- *Do states agree to expand the current proxy to include non-admitted patient services, applied to the balance of the component?*
- *Do states agree to continue to apply a discount of 12.5% to the community health sociodemographic assessment?*
- *Do states support the use of Australian Institute of Health and Welfare data to update the non-state services substitutability level for the emergency departments component, while retaining the 2020 Review method for other components?*

### Queensland position

***Do states agree that in a post-pandemic environment, the hospital and patient transport assessments remain fit for purpose?***

Queensland supports the overall approach to assessing health, subject to the following changes:

- *Change 1 – Replace the patient component volume driver used to measure non-state service provision.*
- *Change 2 – Apply a discount to the NHRA Commonwealth payment to account for areas of avoidable service demand.*

A detailed submission for a case for change is laid out below.

## **Case for change – Using private patient bed days as the non-state sector admitted patient component volume driver.**

### **Context**

The Commission currently uses private patient separations as the volume indicator for assessing the level of NSS provision in each state. Healthcare services vary significantly with respect to acuity and complexity. The private patient separations indicator used by the Commission is a crude measure which does not capture or reflect these important differences.

### **Key issues**

*Issue 1 – Non-state sector (NSS) admitted patient component volume driver.*

Ideally, a standardised activity measure like the National Weighted Activity Unit (NWAU) would be the most appropriate measure of volume in the NSS. The NWAU provides a way of comparing and valuing each public hospital service, whether they are emergency department presentations, inpatient admissions, or outpatient occasions of service. It is also weighted for clinical complexity.

An 'average' public hospital admitted patient separation is worth 1 NWAU. More intensive and expensive activities are worth more than 1 NWAU, and simpler and less expensive activities are worth less. For example, a typical case of cellulitis (a common bacterial skin infection) might be assigned 0.6850 NWAUs, as this condition requires fewer hospital resources than, for example, a typical knee replacement, which is assigned 3.2960 NWAUs (based on the 2023-24 National Efficient Price). Because of this weighting, the NWAU accounts for differences in the complexity of patients' conditions or procedures, and a selection of individual patient characteristics (such as the patient remoteness area).

Unfortunately, there is currently no NWAU measure for the NSS (i.e., for private hospitals). In the absence of a NSS NWAU, Queensland proposes that private patient bed days be used as the next best alternative measure (see Table 2.1 below). Private patient bed days is a key input into the NWAU calculation formula, as specified by the Independent Health and Aged Care Pricing Authority (IHACPA). It helps hospitals allocate and manage resources and gives an indication of hospital efficiency and patient flow. Higher acuity hospital separations typically have increased lengths of stay (i.e., an increased number of patient bed days) and are more resource intensive. Using this measure is a better approximation of the NSS service provision.

**Table 2.1: Private separations and private patient bed days, public and private hospital, states and territories, 2021-22** <sup>14</sup>

	NSW	VIC	Qld	WA	SA	Tas	ACT	NT	Total
Private separations	1,412,626	1,055,903	1,105,829	446,494	343,235	16,894	5,109	4,475	4,542,101
% of total private separations	31.10%	23.25%	24.35%	9.83%	7.56%	0.37%	0.11%	0.10%	
Private patient bed days	3,601,723	2,607,602	2,566,447	1,033,487	766,863	54,660	26,181	13,750	10,969,191
% of total private patient bed days	32.83%	23.77%	23.40%	9.42%	6.99%	0.50%	0.24%	0.13%	
Difference <sup>15</sup>	1.73%	0.52%	-0.95%	-0.41%	-0.57%	0.13%	0.13%	0.03%	

Source: Australian Institute of Health and Welfare

## Principles affected

### *Practicality – fit for purpose*

The Commission acknowledges through its ‘practical’ supporting principle, that where a more reliable and accurate data source is readily available, it should be adopted. Switching from private patient separations to private patient bed days better reflects what the Commission is attempting to approximate when calculating the NSS adjustment (i.e., measuring the NSS provision) and moves the methodology closer to the objective of ‘Horizontal Fiscal Equalisation’ (HFE). Furthermore, private patient bed days is available at the granularity required through the Australian Institute of Health and Welfare, which is the custodian of the private patient separations data used in the Commission’s current calculation methodology.

## Changes sought

The Commission currently uses private patient separations as the volume indicator for approximating the level of NSS service provision in each state. This measure does not capture acuity, complexity, or hospital efficiency and there are better alternative data available. As a result, Queensland requests the Commission change its input component volume driver from private patient separations to private patient bed days to improve the NSS calculation methodology.

## Case for change – Discounting the NHRA Commonwealth Payment.

### Context

Different levels of government share responsibility for the operation, management, and funding of the health system. The delivery of these services are inextricably linked through the continuum of patient care (i.e., an integrated healthcare system of primary, secondary and tertiary healthcare services). Issues in parts of the continuum of care result in both upstream and downstream impacts.

<sup>14</sup> Private separations and private patient bed days are defined as having a funding source of private health insurance.

<sup>15</sup> Difference is given by the percentage of total bed days minus percentage of total separations.

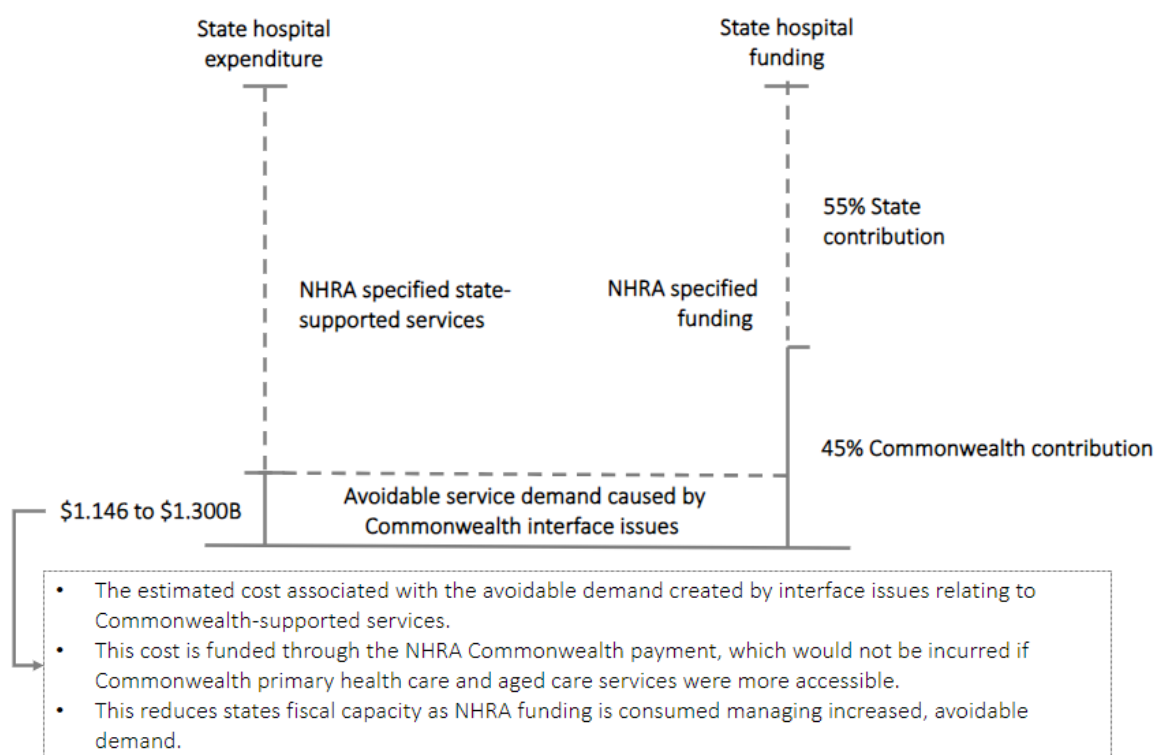
A good example of this is aged care patients waiting placement in an aged care facility (Commonwealth-supported service) and occupying a hospital bed due to delays in placement (state-supported service). These complexities have been defined as interface issues. Because of these complexities, a significant proportion of the National Health Reform Agreement (NHRA) Commonwealth Payment goes towards services that should be provided by the Commonwealth.

## Key issues

### *Issue 2 – National Health Reform Agreement – Commonwealth Payments*

Analysis was undertaken in 2022 by Queensland Treasury Corporation (QTC) to form a fact base on interface issues affecting the health system, using Queensland as a case study. The underpinning analysis of the report highlights that a material portion of the NHRA Commonwealth payment is spent on managing avoidable demand created by interface issues relating to Commonwealth-supported services. This is illustrated in Figure 2.1 below. Based on this finding, Queensland recommends a change to the Commission’s treatment of the NHRA Commonwealth payment, which is currently assessed as 100 per cent impact.

**Figure 2.1: Avoidable demand and NHRA Commonwealth Payment**



Source: Queensland Treasury Corporation

These areas of avoidable service demand reflect the full range of identified interface issues (seen in Table 2.2 below) however these can be summarised into four broad categories: low acuity ED presentations; potentially preventable hospitalisations; long stay patients and state operated aged care facilities.

**Table 2.2: Summary of interfaces, consumer pathways and interface issues**

Interfaces	Consumer Pathways	Interface Issues
<b>Primary Care Interface</b>	(1) Primary Care to Hospital	<p>Access to primary care:</p> <p>(a) Limited / delayed access to GP appointments.</p> <p>(b) Lack of affordability of GP gap payments.</p> <p>(c) Thin markets for GP services in rural, regional, and remote communities.</p> <p>Integrated care:</p> <p>(d) Limited capacity of primary care to triage and manage complexity of healthcare need.</p> <p>(e) Lack of integrated care pathways in the community.</p>
	Limited access to primary care services generates hospital demand.	
	(2) Mental Health to Hospital	<p>Access to care:</p> <p>(a) Inadequate access to and volume of mental health support in the community.</p> <p>(b) Less comprehensive mix of services to respond to mental health needs.</p> <p>Accommodation:</p> <p>(c) Lack of accommodation options for complex mental health care support.</p>
	Limited access to mental health services generates hospital demand.	
	(3) Primary Care to Aged Care	<p>Access to primary care:</p> <p>(a) Limited access to GP services for residents in aged care facilities.</p> <p>(b) Limited access to out-of-hours care in aged care services.</p> <p>Capacity of service:</p> <p>(c) Limited capacity to provide required services in aged care facilities.</p>
	Limited access to primary care services in aged care generates hospital demand.	

<b>Aged Care Interface</b>	<p>(4) Hospital to Aged Care</p> <p>Delays in discharge from hospital to aged care.</p>	<p>Access to aged care:</p> <p>(a) Delays with securing residential aged care bed or support packages.</p> <p>Thin markets:</p> <p>(b) Thin markets for complex aged care support and thin markets in rural and remote Queensland.</p> <p>Accommodation:</p> <p>(c) Lack of accommodation options for complex aged care.</p>
<b>Disability Care Interface</b>	<p>(5) Hospital to Disability Care</p> <p>Delays in discharge from hospital to NDIS services.</p>	<p>Access to NDIS:</p> <p>(a) Delays with securing and implementing adequate NDIS supports.</p> <p>Thin markets:</p> <p>(b) Thin markets for complex disability support.</p> <p>Accommodation:</p> <p>(c) Lack of accommodation options for complex disability support.</p>

### *Issue 2a – Low acuity ED presentations*

Low acuity ED presentations represent demand that would be in scope for care through Commonwealth-supported primary care services (such as GP clinics and nurse walk-in centres). The aim of the Commission's NSS adjustment for ED presentations, is to recognise the strong link and substitutability between state-supported ED services and Commonwealth-supported primary care services. This is acknowledged through a current substitutability rate of 15 per cent within the ED component of the health assessment. However, known interface issues contribute to increased volumes of low acuity ED presentations (e.g., GP-type presentations) and decreased volumes of primary care services which are not accounted for when considering the potential for NSS substitution. If these consumers were to have had access to the appropriate primary care services, they may not have presented at a hospital ED.

In FY2021, there were approximately 705,000 low acuity ED presentations in Queensland identified through the analysis completed, (representing 62 per cent of all lower triage category 4 and 5 ED presentations and 30 per cent of total ED presentations in Queensland). Of these an estimated 60 per cent (423,000 presentations) could have been cared for via urgent care clinics or GP appointments. These presentations (423,000) were found to have an estimated cost of \$310 million annually, which represents 5.64 per cent of Queensland's NHRA Commonwealth payment in FY2022.

### *Issue 2b – Potentially preventable hospitalisations*

Potentially Preventable Hospitalisations (PPH) are hospitalisations that could have been prevented through the provision of appropriate health interventions and early disease management in primary care and community-based care settings (including by GPs, medical specialists, dentists, nurses, and allied health professionals). The AIHW's PPH definition specification was used in the analysis.

An analysis of Queensland Health data identified approximately 104,167 PPHs in FY2021. The costs associated with these PPHs was extracted from the Queensland Health costing system. Costs were allocated to individual presentations and hospital admissions via a costing methodology that identifies activities in a hospital and assigns the cost of each activity with resources of all products and services according to the actual consumption by each presentation (consistent with the National Hospital Cost Data Collection (NHCDC)). The estimated cost allocated to the 104,167 PPHs was \$548.9 million in FY2021, which represents 9.98 per cent of Queensland's NHRA Commonwealth payment in FY2022.

### *Issue 2c – Long stay patients*

Long stay patients have been identified using the Queensland Health definition, being a patient who has been in hospital for more than 35 days and no longer needs active treatment. These patients usually require a level of care that could be appropriately provided in the community but may not be available.

Using long stay patient activity data captured from May 2021 to August 2022, there were on average 552 long stay patients in Queensland hospitals on any particular day. The impact on Queensland's bed capacity of long stay patients is estimated at 201,480 bed days, representing 5 per cent of Queensland Health's FY2021 total patient bed days. This has been calculated by multiplying the average number of long stay patients (552) by 365 days.

The cost associated with long stay patients was estimated as a range, where the upper range is based on the daily cost of an acute hospital bed (\$2,204 per day), and the lower range is based on the daily cost of a sub-acute hospital bed (\$1,440 per day). The estimated cost allocated to long stay patients (excluding those delayed due to other state services) was \$290 million to \$445 million, which represents 5.27 to 8.09 per cent of Queensland's total NHRA Commonwealth payment in FY2022.

## **Principles affected**

### *What states do*

The delivery of healthcare services is a responsibility shared by both state and Commonwealth Governments. NHRA Commonwealth funding is provided with the intended purpose of funding state-supported public hospital services. However, in the health sector, states are often relied on as the provider of last resort. As a result, states currently provide additional public hospital services which could be avoided if Commonwealth primary health care and aged care services were more accessible and better managed. This is an issue impacting all states. Reducing the impact assessment of the NHRA Commonwealth payment moves the Commission's methodology closer to aligning with the 'what states do' supporting principle.

## Changes sought

As the delivery of state and Commonwealth healthcare responsibilities are so inextricably linked through the continuum of patient care, issues in parts of that continuum result in both upstream and downstream impacts. It is evident through the above analysis that a material portion of the NHRA Commonwealth payment is spent on managing the avoidable demand created by these interface issues.

The total estimated per annum cost of these interface issues borne by Queensland is between \$1.1 billion and \$1.3 billion. This cost is funded through the NHRA Commonwealth payment. It is acknowledged that the Commonwealth typically funds 45% of the NHRA Commonwealth payment, with the remainder funded by the states. However, this still reduces Queensland's fiscal capacity, as NHRA funding is consumed by managing increased, avoidable demand which results from weaknesses in Commonwealth service delivery.

To further demonstrate the materiality, Queensland's NHRA Commonwealth payment in FY2022 was \$5.5 billion. The estimated interface cost, represented as a percentage of Queensland's NHRA Commonwealth payment, is 20.8 to 23.6 per cent (i.e., \$1.1 billion to \$1.3 billion).

It is very probable that these issues are impacting other states. **To better align to the principles of HFE, Queensland recommends the Commission discount the assessment of the NHRA Commonwealth payment by a minimum of 12.50 per cent.**

***Do states agree that the proposed changes to the community and public health assessment in this paper will contribute to making the assessment more responsive to developments affecting this part of the health system?***

Queensland supports the Commission's efforts to making the assessment more responsive to developments affecting this part of the health system. The health system is integrated, however parts of the system responded differently to the shocks of the pandemic. Queensland believes the proposed changes better capture the responses of the individual parts in the system. The Commission's overall approach to continue to refine its methodologies and improve its data sources are moving toward a more responsive and resilient health assessment, which Queensland supports.

***Do states consider the experiences with the COVID-19 pandemic have implications for the health assessment?***

Queensland supports that the COVID-19 pandemic has had an impact on the health assessment; however we consider that the impacts are largely temporary in nature. Queensland's view on this is informed by research undertaken by the Independent Health and Aged Care Pricing Authority (IHACPA) which examined the impacts of COVID-19 as part of the development of the National Efficient Price Determination.

IHACPA pricing model sought to 'normalise' hospital activity and distinguish between the long-term rise in average costs due to COVID-19 from short term cost increases due to underutilised capacity.

Its analysis showed that the impacts of COVID-19 were mainly short term in nature with the IHAPCA noting that "*Analysis revealed that, at a national level, activity did return to trend in 2020-21*". The effects also relate to the level of activity more so than costs, through the onset of national lockdowns and moratoriums on elective surgery.



Additional costs from the start of the COVID-19 pandemic were estimated to result in a cumulative excess cost increase of 1.8 per cent in 2020-21. In circumstances where there have been additional costs above the price determination, the IHACPA has determined that other factors, beyond COVID-19, may be included such as local policy decisions, in year increases in costs and increases in the volume of high-cost patients.

While we acknowledge there is an element of uncertainty to IHACPA's modelling, Queensland broadly accepts the findings of this analysis.

***Do states agree to use the AIHW data on community mental health activity, adjusted to compensate for lack of cost weights, to determine per capita use rates for mental health services?***

Queensland does not support the use of AIHW data on community mental health activity.

While the use of actual data over proxy measures is generally preferred, the AIHW dataset has significant limitations. As noted by the Commission, the lack of cost weights means that there is no way to reliably differentiate between the complexity and location of services. While adjustments based on regional cost and services delivery scale bring this measure closer to the current proxy, this still does not fully reflect the true costs particularly in remote and very remote areas.

Furthermore, Queensland generally considers that the AIHW community mental health services data is not fit for purpose. This dataset reflects the service availability of public specialised mental health care rather than actual need for community mental health services. Indeed, based on the National Mental Health Service Planning Framework (NMHSPF) the level of service utilisation of community mental health services is meeting only approximately 30 per cent of total estimated need. Therefore, the AIHW community mental health services data is a reflection of service availability rather than need and is not appropriate for the assessment.

Furthermore, it is expected that the unmet need would be higher in regional, rural and remote areas. This is because there are significant shortages in the allied health workforce in regional and remote Australia.<sup>16</sup> For example, AIHW health workforce data showing that there is less than half the number of FTE registered and employed psychologists and psychiatrists in outer regional, remote, and very remote areas compared to in major cities, and significantly fewer mental health nurses.<sup>17</sup> These figures demonstrate the challenges of states offering the required level of community mental health services in these regions, and therefore there is unmet need not captured in the AIHW community mental health services data. Using this data would be assessing service availability rather than need and disproportionately disadvantage states with larger regional and rural populations. Consequently, this data is not fit for purpose.

ED services data is likely to be more reflective of actual community mental health services need and not a measurement of service availability. Additionally, ED services for mental health care are significantly higher in regional and remote areas compared to major cities, indicating that there is indeed greater mental health need with increasing remoteness. In 2019-20, the rate of mental health emergency department presentations was 2.1 times higher in remote and very remote areas compared to major cities.<sup>18</sup> Given this, Queensland recommends continuing to use proxy data based on ED presentations.

---

<sup>16</sup> National Rural Health Alliance 2019. *Allied health workforce in rural, regional & remote Australia*.

<sup>17</sup> National Rural Health Alliance 2017. *Mental health in rural and remote Australia*.

<sup>18</sup> National Rural Health Alliance 2021. *Mental health in rural and remote Australia*.

***Do states agree to expand the current proxy to include non-admitted patient services, applied to the balance of the component?***

Queensland supports the Commission's proposal to expand the current proxy to include non-admitted patient activity data. However, due to the lack of evidence supporting the change (i.e., data demonstrating the similarities in usage and cost profiles for community and public health services and non-admitted patient services) and to avoid overcorrecting, Queensland requests that emergency department activity data remains the dominant volume driver for the remaining balance of the component assessment (e.g., 75 per cent emergency presentation NWAU, 25 per cent non-admitted patient NWAU).

***Do states agree to continue to apply a discount of 12.50% to the community health socio-demographic assessment?***

Queensland supports retaining a discount of 12.50 per cent for the community health socio-demographic assessment. The Commission has previously used emergency department NWAU for triage categories 4 and 5 as the proxy indicator for CPHS activity.

The Commission is now proposing to use AIHW community mental health data. This change is not supported by Queensland due to significant data limitations (*see response above*). In the absence of reliable and comprehensive national data on community and public health services, a continuation of the current discount is justified.

***Do states support the use of Australian Institute of Health and Welfare data to update the non-state services substitutability level for the emergency departments component, while retaining the 2020 Review method for other components?***

Queensland supports the Commission's decision to use the AIHW data to update the non-state services substitutability level for the emergency departments component, while retaining the 2020 Review method for other components.

Queensland believes the Commission's decision to rely upon the Australian College of Emergency Medicine (ACEM) method for lower urgency presentations is appropriate. However, as there is no data available to review the updated substitutability level output based on the ACEM method, Queensland agrees with the Commission that using the AIHW data as a proxy would be appropriate – and much better than the alternative of relying upon outdated data.

As mentioned in the 2025 Methodology Review – Consultation paper, the consultant's report from the 2015 Review concluded that the AIHW approach significantly overstates the proportion of GP-treatable presentations, and it was not recommended for use. Therefore, the proposed reduction in the substitutability rate from 15 per cent to 13 per cent is considered conservative, as true substitutability is likely lower, but is appropriate when considering the data constraints (ie, ACEM method with updated data may indicate a lower rate than 13 per cent).

In addition, when acknowledging the substitutability between emergency departments and primary care providers, it must be recognised that states are often relied upon as the provider of last resort. As a result, states provide support services outside the remit specified in the NHRA (i.e., managing patients who require Commonwealth-supported services). The nature of this issue means it is likely impacting all states. Reducing the impact assessment of the NHRA Commonwealth payment moves

the Commission's methodology closer to aligning with the 'what states do' supporting principle and to the NSS adjustment methodology.

Queensland also supports the reduction in non-admitted patient component substitutability rate from 30 per cent to 25 per cent. The Commission's approach in the 2020 Review to determine the substitutability rate for non-admitted patients was comprehensive and rigorous. Queensland agrees that this method can be relied upon again and used with updated data for the 2025 Review.

### 3. Justice

#### Proposed changes

Based on information provided in the consultation report, the proposed questions are:

- *Do states agree that COVID-19 resulted in a temporary departure from long term patterns of justice service provision, use and costs such that the 2020 Review Justice model remains appropriate if used with fit for purpose data?*
- *Do states agree that data from 2019–20, 2020–21 and 2021–22 include the effects of COVID-19 related public health orders and do not reflect typical justice services and costs?*
- *If data from 2019–20 to 2021–22 are not fit for purpose, do states support using data from 2022–23 to update the justice assessment? If so, can states provide an indication of when 2022–23 data could be provided to the Commission?*
- *If data from 2022–23 are considered fit for purpose but are not available in time for inclusion in the 2025 Review, do states support updating the assessment in an update following the 2025 Review?*
- *Do states agree that the Commission should apply a cost weight for juvenile detainees in the prisons assessment if material?*
- *Do states agree that the Commission should not make any changes to the juvenile detainees age groups in the prisons assessment?*

#### Queensland position

***Do states agree that COVID-19 resulted in a temporary departure from long term patterns of justice service provision, use and costs such that the 2020 Review Justice model remains appropriate if used with fit for purpose data?***

Queensland supports the overall approach to assessing justice, subject to the following changes:

- *Change 1 – Replace the criminal and community policing category with a single policing category driven by offender numbers.*
- *Change 2 – Include a new cost weighting to account for the higher detention costs of underage persons.*

A detailed submission for a case for change is laid out below.

## **Case for change – Combining the criminal and community policing categories into a single policing expense category.**

### **Context**

The Commission changed the assessed police expense methodology following the 2020 methodology review. Assessed police expenses are broken down into two components covering assessed offender policing expense and population weighted policing expense. Assessed offender policing expense is driven by offence rates within certain socio-demographic subsets of the population (defined by age, indigeneity status, and socioeconomic status). This appears to represent what was termed 'specialised/criminal policing' in the previous methodology and comprises expenses relating to crime detection and investigation (Assessed offender policing expense will be referred to as criminal policing throughout). Population weighted policing is driven by population and a regional cost factor. This appears to represent what was termed 'community policing' in the previous methodology and comprises expenses relating to crime prevention and community programs (Population weighted policing expense will be referred to as community policing throughout).

The methodology results in an approximate 31:69 split between criminal policing and community policing. This split is unnecessarily complex and does not reflect what states do in delivering police services.

### **Key issues**

#### *Issue 1 – Community and criminal policing categories.*

In January 2020, the Queensland Police Service (QPS) commenced a Service Alignment Program (SAP) to reform frontline police service delivery. An analysis of unit costs undertaken to support this transformation showed that 74 per cent of FTE policing time is attributed to crime related activity, with the remaining time dedicated to administrative tasks and corporate functions (see Table 3.1). Additionally, further analysis (see Table 3.2) found 73 per cent of QPS operating expenses could be attributed to crime related activity, with the remaining expenses related to corporate overhead expenses.

**Table 3.1: QPS FTE Summary – Percentage of hours apportioned to crime and non-crime components**

FTE type	FY19 FTE count	Crime proportion of FTE hours	Non-crime proportion of FTE hours
General duties	5,072	66%	34%
Investigations	1,322	100%	0%
State crime command	640	75%	25%
Full briefs (combined resources)	118	100%	0%
Overheads <sup>19</sup>	8,442	74%	26%
<b>Total time</b>	<b>15,594</b>	<b>74%</b>	<b>26%</b>

Source: Queensland Police Service

**Table 3.2: QPS Expense Summary**

Expense category	FY19 Expenses (\$'000')	Per cent of total operating expenses
Non-crime related expenses	\$642,471	27%
Crime related expenses	\$1,751,184	73%
<b>Total expenses from continuing operations</b>	<b>\$2,393,656</b>	<b>100%</b>

Source: Queensland Police Service

These estimates of both cost and time attributed to criminal activity within QPS are significantly greater than the approximately 31 per cent of policing cost attributed to criminal policing under the current methodology. The difference between the estimated QPS policing split and the CGC split are a result of the regression coefficients used as cost weights in the Commission's methodology. Unfortunately, there is no clear conceptual explanation for why this regression approach was adopted and there is a lack of evidence to support this method and results.

The decision to split police expenses between criminal and community policing is fundamentally flawed as the two areas of policing are inherently interlinked. Frontline police spend their time responding to calls for service based on prioritisation of demand, rather than a notional allocation of discrete blocks of time on criminal or community policing. The current methodology suggests population is the key volume factor to drive community police spending, community police spend changes based on the remoteness of the population, and that spend on criminal policing is the same regardless of the remoteness of the offender.

However, spending on community policing, including crime prevention, providing a visible police presence and community safety and support, is driven by crime and crime propensity as opposed to population. Additionally, provision of police services to the general community includes protection from those population groups that are more likely to commit crime.<sup>20</sup> Therefore,

<sup>19</sup> Overhead corporate service FTE time has been allocated proportional to the average of the other FTE types.

<sup>20</sup> Richardson, K. (2018). ["The Effects of Community Policing Practices and Related Social Demogra" by Keighan Richardson \(bryant.edu\)](#), accessed 12 June 2023

offender numbers should be used as the key volume factor to drive all police spend. Additionally, remoteness of an offence drives the police spend to address that offence. Offender numbers as the key volume factor should be weighted by their level of remoteness.

## **Principles affected**

### *What states do*

Implementation of an aggregate policing expense with socio-demographic composition and remoteness drivers applied is consistent with horizontal fiscal equalisation principles. The proposed model aims to represent criminal activity as the cost driver of policing more accurately and better represents the expenses associated with the services provided by states.

### *Practicality – simplicity*

Implementing an aggregate policing expense driven by offence rates, with socio-demographic composition and remoteness drivers serves to simplify the assessment model.

## **Changes sought**

Queensland recommends that the Commission simplify the assessed policing expense methodology by combining the criminal and community policing categories into a single policing expense category. The singular policing expense should be driven by an assessed offender rate per sociodemographic component applied to state populations and then weighted by a regional cost factor.

### ***Do states agree that data from 2019–20, 2020–21 and 2021–22 include the effects of COVID-19 related public health orders and do not reflect typical justice services and costs?***

Queensland supports that 2019-20 to 2021-22 data are impacted by COVID-19 and therefore are unlikely to reflect typical justice services and costs.

### ***If data from 2019–20 to 2021–22 are not fit for purpose, do states support using data from 2022–23 to update the justice assessment? If so, can states provide an indication of when 2022-23 data could be provided to the Commission?***

Queensland supports using 2022-23 data which we expect will meet the 29 March 2024 tranche 1 data return deadline.

### ***If data from 2022–23 are considered fit for purpose but are not available in time for inclusion in the 2025 Review, do states support updating the assessment in an update following the 2025 Review?***

Queensland supports this approach.

***Do states agree that the Commission should apply a cost weight for juvenile detainees in the prisons assessment if material?***

Queensland supports applying a cost weighting for juvenile detainees in the prison assessment.

A detailed case for change supporting the proposed approach for a juvenile detainees cost weight is laid out below.

***Do states agree that the Commission should not make any changes to the juvenile detainees age groups in the prisons assessment?***

Queensland supports no change to the detainee age groups in the prisons assessment.

**Case for change – Applying a cost weighting for juvenile detainees.**

**Context**

Improved data availability has demonstrated that the expense to states is much higher for persons in youth detention as opposed to a prison. As such, introducing a cost weighting for juvenile detainees would be a more accurate representation of what states do.

**Key issues**

*Issue 2 – Cost weighting for underage persons*

Prior to the 2020 methodology review the prison expense methodology excluded the 0-14 age group. This was introduced as an additional age category from 2020 because of greater data availability. The current methodology includes age groups consisting of 0-14, 15-24, 25-44, 45-65, and 65+.

The Commission captures people in youth detention, as opposed to prisons, within the 0-14 and 15-24 age groups. AIHW has found approximately 87 per cent of people in youth detention to be aged 17 or below, and 13 per cent of people in youth detention to be aged 18 or over<sup>21</sup>. The current methodology does not include a separate cost to represent the greater expense to states of placing a person in youth detention, as opposed to a prison. Including youth detention services, but not correctly assigning a separate cost per age cohort will result in underestimating expense need.

The 0-14 age group relates purely to underage people who are detained in youth detention, while approximately 12 per cent of the 15-24 age group are detained in youth detention<sup>22</sup>. The Report on

---

<sup>21</sup> AIHW, 2022, [Youth detention population in Australia 2022, About - Australian Institute of Health and Welfare \(aihw.gov.au\)](https://www.aihw.gov.au/reports/youth-detention/youth-detention-population-in-australia-2022/about), accessed 11 September 2023

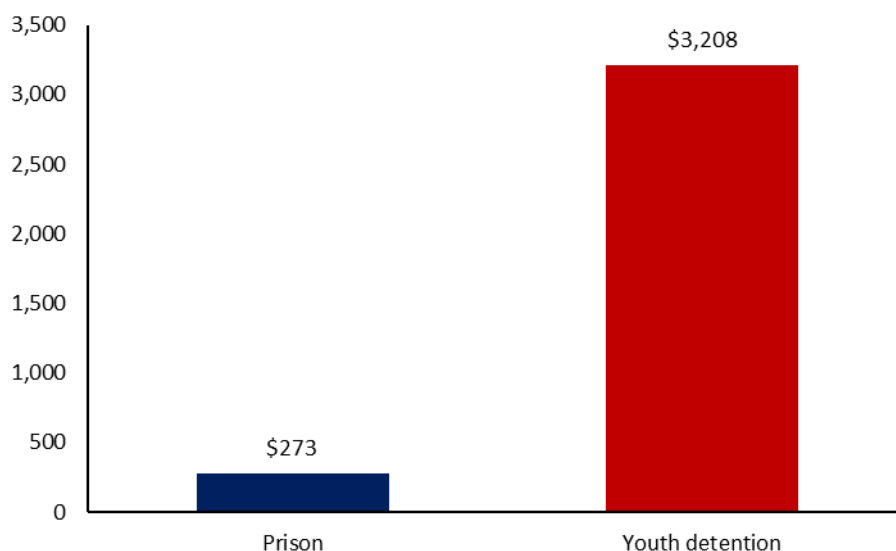
<sup>22</sup> AIHW, Queensland Treasury analysis. Analysis steps below:

1. AIHW provides national total of underage detainees.
2. The number of detainees in the 0–14-year age group in CGC model can be subtracted from the AIHW national total of people in youth detention to find national total of youth detainees within the 15-24 age group.
3. The national youth detainees can be divided by the national total number of detainees in the 15-24 age group to find the percentage of people in youth detention within the 15-24-age group.
4. 12 per cent of people in 15-24 age group are in youth detention as opposed to prison.



Government Services (ROGS) data suggests the cost of youth detention is almost 12 times greater than the cost of prison (see Figure 3.1 below).

**Figure 3.1: Cost of detainment per night for prison and youth detention (\$)**



*Source: Productivity Commission; Queensland Treasury Corporation analysis*

## Principles affected

### *What states do*

The proposed implementation of a differential cost weight for youth detainees will more accurately capture a major cost driver borne by states in the detention of underage persons.

### *Practicality – fit for purpose*

The current assessment model is not fit for purpose and does not represent the true need and cost of detention services. The proposed change will improve the accuracy of the assessment.

## Changes sought

Queensland recommends that the Commission include a cost weight in the current methodology to reflect the higher cost of youth detention in the 0-14 and 15-24-years age groups.

The people in youth detention per state can be multiplied by a cost weighting of 12 to reflect the higher cost.

This can be included in the model by:

- multiplying each assessed detainee in the 0-14 age group by a scalar of 12 (based on the RoGS average cost per day of youth detention), and

- multiplying each assessed detainee in the 15-24 age group by a new scalar of 2.32, which captures the approximately 12 per cent of the 15-24 age category who are in youth detention. This is derived as follows:
  - youth detainees group  $(0.12 \times 12) + \text{prison group } (0.88 \times 1) = 2.32$

## 4. Transport

### Proposed changes

Based on information provided in the consultation report, the proposed questions are:

- *Do states agree that the 2020 Review model for assessing urban transport needs remains appropriate?*
- *Do states consider the urban transport net expense data from 2019–20 to 2021–22 are likely to be overstated?*
- *If 2019–20 to 2021–22 data are not fit for purpose, do states support updating the regression with data from 2022–23? Can states provide an indication of when this data could be provided to the Commission?*
- *If 2022–23 data are considered fit for purpose but are not available for inclusion in the 2025 Review, do states support updating the assessment in an update following the 2025 Review?*
- *Do states support retaining the 2020 Review proxy variable data in the regression model until fit for purpose net expense data are available?*
- *Do states agree that the 2021 Census journey to work data were distorted by the COVID-19 lockdowns and are not a fit for purpose measure of current passenger numbers?*
- *If the 2021 Census journey to work data are not fit for purpose, do states support the continued use of 2016 Census journey to work data in the model?*
- *Do states agree that 2021 Census distance travelled to work data were not significantly distorted by COVID-19 lockdowns and are a reliable measure of network complexity?*
- *Do states agree that, if material, 2016 Census journey to work data should be adjusted using the Bureau of Infrastructure and Transport Research Economics measure of passenger kilometres travelled until the 2026 Census data are available?*
- *Do states agree that if net expense data are available before the 2026 Census passenger numbers it is appropriate to use Bureau of Infrastructure and Transport Research Economics data to index actual passenger numbers?*
- *Do states support retaining the 2020 Review blending ratio for the urban transport assessment?*
- *Do states support replacing the ferry dummy variable in the urban transport model with the proportion of total commuters using ferry services?*
- *Do states agree that using a regression model to recognise the growth in passenger numbers in urban areas is a more suitable method for modelling passenger numbers?*
- *Do states support the following changes to the non-urban transport assessment:*
  - *assessing non-urban rail passenger expenses based on shares of non-urban train commuters?*
  - *assessing all remaining expenses based on shares of non-urban populations?*

## Queensland position

Queensland strongly encourages the Commission to, before finalising its position for the upcoming draft report, carefully consider the critical issues outlined in this transport section of the submission and to consider appropriate methodological changes to the model.

The transport assessment was a key focus of the 2020 review which introduced a new model to estimate states assessed urban transport need. At the same time the Commission elected to assess non-urban transport on an equal per capita method.

When an expense assessment moves significant GST revenue, as transport does, it is appropriate and best practice for the Commission and states to scrutinise the assessment, particularly during a methodology review.

It is fair to say that the process for the 2020 review was rushed, with a lack of tangible data at the time and methods for states to test. Having 4 updates since the last review, allowing the assessment to play out with live data, and having a once in a generational event take place has highlighted the critical weaknesses in the model which the 2025 Methodology Review must address. This is apparent in the scale of the GST distribution from the assessment because of the changes in the 2020 Methodology Review (almost \$400M in 2023 update compared to the previous model). This level shift cannot be explained by fundamental differences between states. It is instead a reflection of the assessment methodology.

This review must also be extended to the non-urban transport proposal as well, the results of which would no longer reflect what states do with estimated assessed results showing the state with the highest regional population, and with the most regional population centres, which in essence is what non-urban transport should be assessing having a significant portion assessed away to the state which spends more than 70 per cent less.

Though the Commission may consider the urban transport assessment to have been settled at the 2020 review, the events of the last 4 updates, the outcomes of the assessment in light of the COVID-19 pandemic and the opportunity to undertake deep analysis as presented in this submission makes a very clear and compelling case for the assessment to be reviewed and a strong and resounding case for a change in the method.

Queensland strongly encourages the Commission to undertake a detailed review of the urban transport expense assessment and undertake further consultation, similar to the work that has been done for the wages assessment, before the draft report is released. Given the weight of issues with the urban transport assessment, Queensland believes that the Commission will find its only course of action will be to change the assessment to one of urban population shares.

## Urban transport expenses

### ***Do states agree that the 2020 Review model for assessing urban transport needs remains appropriate?***

Queensland does not support the use of the current urban transport model and asserts that the model has never been appropriate for assessing urban transport need. Queensland strongly recommends the complete removal of this model, and instead recommends that urban transport need be assessed only on state shares of urban population.

Queensland has identified a series of issues with the urban transport assessment:

- *Issue 1 – The model lacks a conceptual foundation.*
- *Issue 2 – The population weighted density variable (PWD) lacks explanatory validity.*
- *Issue 3 – Population weighted density is not comparable between SUAs.*
- *Issue 4 – The model is no longer contemporaneous.*
- *Issue 5 – The model has design limitations.*

These issues are discussed in detail in a case for change below. Each of these issues individually and interlinked demonstrates how the urban transport model is not fit for purpose and is producing outcomes inconsistent with HFE.

The case for change also briefly discusses how the inherent issues with the urban transport expenses assessment are mirrored and exaggerated in the urban transport investment assessment. The case for change concludes by justifying Queensland's proposal for the urban transport expense and investment assessments to be based on urban population shares.

### **Case for change – Urban transport expenses should be assessed by states' share of urban population.**

#### **Context**

The current urban transport assessment model was developed during the 2020 Methodology Review on the recommendations of the Jacobs's Stage One and Stage Two consultancy reports. The regression model resulted in the urban transport assessment redistributing a substantial amount of GST. Concerningly, there are multiple inconsistencies and shortcomings in this urban transport model.

Overall, the issues identified by Queensland with this model are broad and fundamental. Among the issues identified is the overreliance of the model on the not fit for purpose population weighted density (PWD) variable, the significant lack of policy neutrality within the assessment, and that this assessment consistently measures oversupply and inefficiency in the dominant SUA of Sydney as opposed to need. Other issues identified included the substantial reliance on economically illogical assumptions on the efficiency and effectiveness of urban transport networks, the lack of consistency in the development of the model, and that the model is no longer contemporaneous and no longer reflects urban transport patterns after changes to work habits following COVID-19.

Indeed, a further issue with the urban transport assessment is its characterisation of need for urban transport. In other major assessments the differential determinants of need are generally demographic factors, and nationally consistent agreements establish a policy framework for states. Additionally, in many Commission assessments there is an unmet need even after the provision of government supply. These include health<sup>23</sup>, justice<sup>24</sup>, schools<sup>25</sup>, and housing<sup>26</sup>. As such, the level of service supplied by governments will be the level of services consumed.

Conversely, transport can be oversupplied by government, presenting transport as different to other government provided goods. This suggests that a Commission assessment for these expenses may not be justified under the foundations of HFE, as it can never be determined if there is equalisation to need or to oversupply.

## Summary

A summary of Queensland's issues with the urban transport assessment is provided in the following table with further detail in the submission below.

Issue	Queensland position
<b>Issue 1:</b> <b>The model lacks a conceptual foundation.</b>	<i>Issue 1a – Economies of density and scale.</i> The Commission's urban transport model incorrectly assumes that uncorrectable diseconomies of density are present in Australia, particularly in heavy rail networks. This assumption is unanimously and strongly refuted by significant volumes of international academic literature. Instead, the Commission has incorrectly associated increased inefficiency from policy decisions with increased need. <b>Overall, the urban transport model lacks a conceptual framework, is not policy neutral, and is not fit for purpose.</b>
	<i>Issue 1b – State policy impacting efficiency.</i> Because of the overreliance of the urban transport model on the PWD variable, the model is highly sensitive to the policy decisions impacting Sydney and Melbourne public transport systems. International analysis of Sydney's public transport system has revealed that it is operating at a low level of efficiency. This will influence the urban transport model to assess Sydney as having greater need. As such, policy decisions and

<sup>23</sup> Health does not follow the normal economic rules of demand (see Arrow 1963. "Uncertainty and the welfare economics of medical care." *The American Economic Review*. 53(5): 941-973.), and targets for state provided services are provided in the National Health Reform Agreement. These targets are aspirational and consistently not met by states, illustrating that need for healthcare is higher than supply of state-provided healthcare. Need for public healthcare varies between states based on demographic factors, which predispose certain individuals to certain illnesses and limit their ability to access private healthcare.

<sup>24</sup> Community surveys regularly and consistently find that the community does not feel safe in all instances (see Productivity Commission 2023. *Report on Government Services: Part C – Justice, Section 6 – Police services.*). This would indicate that there is a continued need for policing services in the community to tackle offending. The number of offenders, and therefore the level of police services required varies between states depending on demographic factors.

<sup>25</sup> A nationally consistent framework for schooling is agreed in the National School Reform Agreement. This means that there should be limited policy differences between states in school education. Levels of state-provided schooling required will vary between states depending on demographic factors and the availability and ability to afford private education.

<sup>26</sup> The National Housing and Homelessness Agreement establishes a framework for states to provide social housing. Differences in need are determined by demographic factors. Consistently there is a higher demand than supply of social and community housing (see Australian Housing and Urban Research Institute 2013. *What is the right level of social housing in Australia?* Available at <https://www.ahuri.edu.au/analysis/brief/what-right-level-social-housing-australia#:~:text=Demand%20for%20social%20housing&text=The%202021%20Census%20recorded%20there,and%2012%20C098%20applicants%20for%20SOMIH.>)

	inefficiencies are distorting equalisation through this model. <b>This further demonstrates the model lacks conceptual foundations, is not policy neutral, and is not fit for purpose.</b>
<b>Issue 2: The population weighted density variable (PWD) lacks explanatory validity.</b>	PWD's correlation with public transport usage is largely driven by the dominant SUAs of Sydney and Melbourne. Furthermore, SUAs with very similar PWD and demographic factors have very different public transport usage, despite the Commission's assertion that PWD is the most significant driver of urban transport need. These inconsistencies demonstrate that PWD lacks explanatory validity. <b>Thus, PWD is a not fit for purpose variable to assess urban transport need and lacks policy neutrality.</b>
<b>Issue 3: Population weighted density is not comparable between SUAs.</b>	<p><i>Issue 3a – Inconsistencies in the treatment of non-residential land affect PWD.</i></p> <p>SA1 data has very little consistency in the inclusion of non-residential land use in SA1s. There are hundreds of examples of large areas of non-residential land use being included in residential areas in Queensland, Western Australia, Northern Territory, Tasmania, and South Australia. Meanwhile, there are hundreds of examples of similarly sized areas of non-residential land use being excluded from residential SA1s in New South Wales. Overall, Queensland Treasury analysis has revealed approximately 15 to 20 per cent of SA1s in the Brisbane SUA are significantly diluted by non-residential land uses compared to less than 5 per cent in the Sydney SUA. <b>These inconsistencies are materially impacting PWD. This demonstrates that the Commission's method for calculating PWD is not fit for purpose, overly complicated, and not of a suitable quality for a Commission assessment.</b></p>
	<p><i>Issue 3b – Inconsistencies in the classification of ABS boundaries affect PWD.</i></p> <p>The classification of rural residential areas as UCLs is inconsistent between SUAs. For example, a rural residential SA1 in the Sydney SUA is much less likely to be classified as UCL than rural residential SA1s in SUAs in other states, including Queensland, Northern Territory, South Australia, and Western Australia. These inconsistencies also extend to the classification of SA1s including mostly agricultural uses. <b>These inconsistencies are materially impacting PWD. This demonstrates that PWD is not fit for purpose, overly complicated, and not of a suitable quality for a Commission assessment.</b></p>
	<p><i>Issue 3c – New developments affect PWD.</i></p> <p>Greenfield developments are often in large SA1s, however only take up a small proportion of the total area. As such, the completion of these new developments results in their assessed urban transport need being diluted. Given the differences in rate of building Greenfield developments between states, this is likely materially impacting the assessment. <b>This further demonstrates that the Commission's model is not fit for purpose, is overly complicated, lack quality assurance, and is not contemporaneous.</b></p>
	<i>Issue 3d – Geographic factors impact PWD.</i>

	<p>Different SUAs have different geographies. Brisbane has substantially higher levels of urban green space and tree coverage compared to Sydney or Melbourne. These differences in geography do not impact on the urban transport task. However, the assessed urban transport need using PWD will decrease. <b>Again, this shows that the PWD variable is not fit for purpose, is overly complex, lacks quality assurance, and cannot be policy neutral.</b></p>
	<p><i>Issue 3e – The assessed urban transport need associated with PWD is non-intuitive.</i></p> <p>There are multiple examples of the PWD associated with an individual SA1 having no rationale. For example, population increases in individual SA1s have resulted in assessed need increasing by over \$50,000 per capita because of PWD, or SA1s in the same suburb having significant disparate assessed need because of PWD. <b>This demonstrates that the assessed urban transport need associated with PWD has no rationale and that the variable is not fit for purpose, lacks simplicity, and has not been adequate quality assured.</b></p>
<b>Issue 4: The model is no longer contemporaneous.</b>	<p>The COVID-19 Pandemic has resulted in a permanent shift in work from home habits and commuter modes. As such, the public transport task has changed and assuming commuters is an accurate proxy of need is no longer justified. Furthermore, there has been a disproportionate level of change in Sydney and Melbourne compared to other SUAs, which is likely affecting the assessment. <b>This further demonstrates that the Commission’s model is not fit for purpose and is not contemporaneous.</b></p>
<b>Issue 5: The model has design limitations.</b>	<p>The development of the urban transport regression model at the 2020 Methodology Review was impacted by the quality and availability of data. This resulted in a model being developed with inadequate data for the assessment task. <b>This demonstrates that the Commission’s model does not meet the Commission’s criteria for quality assurance. Because of this lack of quality assurance, a not fit for purpose model was introduced.</b></p>
<b>Principles affected</b>	<p><i>Practicality – fit for purpose.</i></p> <ul style="list-style-type: none"> <li>Violated by Issue 1, Issue 2, Issue 3, Issue 4, and Issue 5.</li> </ul>
	<p><i>Practicality – simplicity.</i></p> <ul style="list-style-type: none"> <li>Violated by Issue 3.</li> </ul>
	<p><i>Practicality – quality assurance.</i></p> <ul style="list-style-type: none"> <li>Violated by Issue 3 and Issue 5.</li> </ul>
	<p><i>Policy neutrality.</i></p> <ul style="list-style-type: none"> <li>Violated by Issue 1, Issue 2, and Issue 3d</li> </ul>
	<p><i>Contemporaneity.</i></p> <ul style="list-style-type: none"> <li>Violated by Issue 3c and Issue 4.</li> </ul>
<b>Effect on horizontal fiscal equalisation</b>	<p>The current urban transport assessment is extremely damaging to fiscal equalisation. Multiple shortcomings in the regression model result in it being not fit for purpose and it breaches numerous Commission principles.</p>
<b>Urban transport investment</b>	<p>Redistribution against equalisation is even more exaggerated in the investment assessment because of the use of a population squared variable. This variable suffers from many of the same shortcomings as the urban transport expense regression model itself. Overall, the drivers of need for urban transport</p>



	investment are broadly identical to the drivers of need for urban transport expenses.
	This will be further discussed in Queensland's Tranche 2 submission.
Changes sought	<b><i>Change 1 – Urban transport expenses should be assessed according to urban population share.</i></b>
	<b><i>Change 2 – Urban transport investment should be assessed according to urban population share.</i></b>

## Key Issues

### *Issue 1 – The model lacks a conceptual foundation.*

In the development of the urban transport model at the 2020 Methodology Review, the consultancy group Jacobs used significant urban area (SUA) expenses data to calculate the impact of a range of factors on urban transport costs in an Australian context. The regression methodology suggested that the only significant drivers of urban transport expense are PWD and heavy rail patronage. However, this model was developed using policy contaminated expenses data. Consequently, the findings that increasing PWD and numbers of heavy rail passengers increases public transport need are invalid. Instead, the model has been measuring the impacts of policy decisions leading to inefficient outcomes in the dominant SUAs, particularly Sydney.

Overall, reviewing academic literature and analysing Sydney's public transport efficiency would suggest that policy choices have caused a shift in Sydney's public transport long-run average cost curve, distorting the observation of economies of density. Sydney's dominance in both PWD and heavy rail means that its policy decisions significantly impact the urban transport assessment. As such, policy decisions and inefficiencies have resulted in the model incorrectly correlating increased need with PWD and heavy rail usage, when it is likely that the opposite is the case.

This issue is separated into two sections and argued below:

- *Issue 1a – Economies of density and scale.*
- *Issue 1b – State policy impacting efficiency.*

### *Issue 1a – Economies of density and scale.*

#### Summary of Issue 1a:

Principles violated:

- *Practicality – Fit for purpose.*
- *Policy neutrality.*

The Commission's urban transport model incorrectly assumes that uncorrectable diseconomies of density are present in Australia, particularly in heavy rail networks. This assumption is unanimously and strongly refuted by a significant volume of international academic literature. Instead, the Commission has incorrectly associated increased inefficiency from policy decisions with increased need. **Overall, the urban transport model is lacking a conceptual framework, is not policy neutral, and is not fit for purpose.**

### Discussion of Issue 1a:

The urban transport regression model lacks economic validity. The evidence suggesting urban transport need is correlated with PWD and heavy rail patronage has not been demonstrated as causal and does not satisfy the criteria of being non-spurious. There are multiple explanations for the observed covariation of these effects, which will be discussed in this section. As such, the model lacks economic validity and therefore has no conceptual foundation.

Indeed, the effects predicted in the urban transport model are contradictory to academic literature and international experience. In particular, the dominance of PWD in the regression would indicate that there are significant diseconomies of density in Australia, despite economic theory and international studies consistently indicating the existence of *economies of density*.<sup>27</sup> The correlation between PWD and heavy rail patronage and increased expenditure is not a function of increased need and is instead measuring economic inefficiency and oversupply in dominant SUAs, in particular in Sydney.

As a result, the current urban transport assessment is unfairly penalising other SUAs for this inefficiency. This is against the Commission's principles as noted in the 2020 Methodology Review:

*"If a State is less efficient than average, it must finance this above average inefficiency itself."*<sup>28</sup>

The Jacobs Stage Two consultancy report discusses economies of scale. Jacobs conducted a worked example, where two different SUAs at the same point in time have a different position on the underlying long-run average cost curve depending on demand.<sup>29</sup> As illustrated in Figure 4.1, if the production function for the provision of public transport exhibits economies of scale, as volume expands network capacity and operation are optimised at each volume.<sup>30</sup> Thus, SUA 2 will have lower costs per capita than SUA 1 because of higher demand in SUA 2.

---

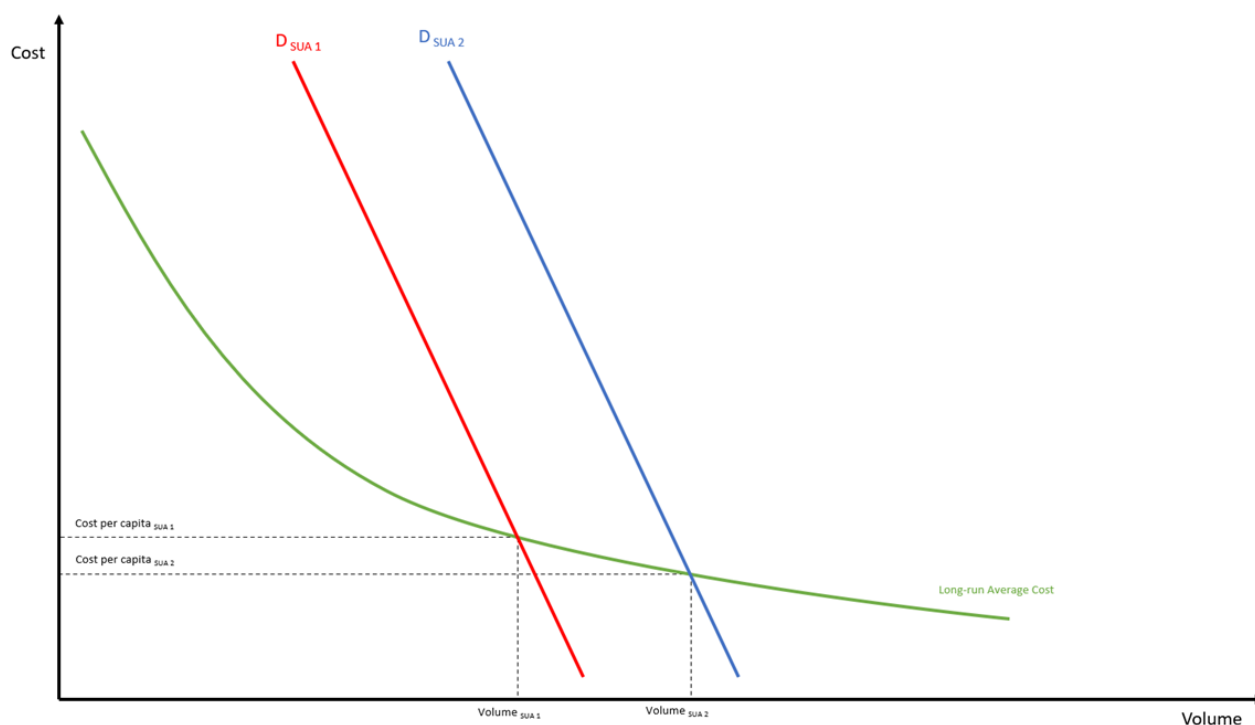
<sup>27</sup> Economies of scale refers to the economic concept that the costs of providing a service decrease as scale increases. This submission will mostly refer to economies of density. Economies of density are where the costs of providing a service decrease as the density of the service population increases.

<sup>28</sup> Commonwealth Grants Commission 2020. *Report on GST Revenue Sharing Relativities, 2020 Review, Volume 2 – Methodology for measuring State fiscal capacities*.

<sup>29</sup> Jacobs 2018. *Urban Transport Consultancy Stage 2*.

<sup>30</sup> Jacobs 2018. *Urban Transport Consultancy Stage 2*.

**Figure 4.1: Illustrating economies of scale**



Source: Jacobs 2018. *Urban Transport Consultancy Stage 2*.

One common cause of increases in demand for public transport are increases in density.<sup>31</sup> This produces a specific economy of scale referred to as an economy of density, where costs decrease as urban density increases. **The results of the urban transport model imply the opposite, that is diseconomies of density.**

The example in Figure 4.1 assumes the two SUAs have identical policy settings, both servicing at average levels and qualities, with average levels of subsidies. As noted in the Jacobs report, there are issues in measuring scale and density economies if there is uncertainty in the volume of passengers, particularly if this volume can be affected by policy choices such as fare subsidisation.<sup>32</sup> Thus, economies of density would only be observable in expenses data if all SUAs had the same urban transport policies. Consequently, the presence of economies or diseconomies of density in Australia could only be objectively assessed if all SUAs had identical policy settings. This is not the case, and therefore using net expenses data from SUAs cannot give an accurate indication of the true nature of density economies.

The Jacobs report also undertook a literature review on scale economies. The review primarily focused on measurements of scale economies between bus networks in different jurisdictions, partly as there is a larger literature base on scale economies in bus networks than other methods of public transport (heavy rail, light rail, or ferry). Based on the literature survey of de Grange et al (2017), Jacobs noted that there is no clear consensus on whether there are economies or

<sup>31</sup> Jacobs 2018. *Urban Transport Consultancy Stage 2*.

<sup>32</sup> Jacobs 2018. *Urban Transport Consultancy Stage 2*.

diseconomies of scale for urban bus networks.<sup>33</sup> Studies such as Miller (1970) indicate that the efficiency of bus networks is likely determined by city specific variables, such as terrain.<sup>34</sup>

However, the mixed findings of the Jacobs literature review on scale economies in bus networks are not significantly relevant to the validity of the urban transport model as bus patronage is not a significant variable in the urban transport regression. Additionally, bus network expenses only make up a fraction of the total urban transport costs in the dominant SUAs, Sydney and Melbourne. Therefore, the existence of diseconomies or economies in bus networks will not substantially affect GST allocations.

As PWD is the dominant driver of the regression results, the model is suggesting significant diseconomies of density in Australia. Incorrectly, the literature review into economies of scale in urban bus networks has been assumed to be reflective of economies for all modes of public transport in justifying the internal validity of the urban transport model.

However, a literature review of economies or diseconomies of scale and density in heavy rail networks would have been more appropriate to inform the urban transport modelling.

Contradictory to the assumption of diseconomies of density, Graham et al (2003), the only reviewed research on heavy rail scale economies in the Jacobs report, found evidence for economies of density.<sup>35</sup> Furthermore, the study found constant returns to scale.<sup>36</sup> These findings would suggest that the cost per capita of providing heavy rail services decreases as density increases but remains the same for population increases without the density increasing. Further studies reviewed by Jacobs examining light rail (Farsi et al (2007))<sup>37</sup> and bus networks (Giacomo and Ottoz (2010))<sup>38</sup> also reported these economies of density. Overall, Jacobs concluded that:

*“based on these insights one would expect to at least see economies of scale [specifically density] across both key modes in a wider sense”.<sup>39</sup>*

Despite this acknowledgement, the urban transport model developed has assumed diseconomies of density are present and redistributes GST to over-equalize the highest PWD SUAs.

In contrast to the mixed outcomes of studies on bus networks in terms of the significance of density economies, literature on density economies for heavy rail networks consistently reports efficient networks produce large economies of density.<sup>40</sup> This is likely as buses have a much lower capacity limit than trains and are significantly more limited by congestion than heavy rail.

---

<sup>33</sup> L. de Grange, R. Troncoso, & I. Briones 2017. “Cost, production and efficiency in local bus industry: An empirical analysis for the bus system of Santiago.” *Transportation Research Part A: Policy and Practice*. 108: 1-11.

<sup>34</sup> D. Miller 1970. “Differences Among Cities, Differences Among Firms, and Costs of Urban Bus Transport.” *Journal of Industrial Economics*. 19(1): 22-32.

<sup>35</sup> D. Graham, A. Fidalgo do Couto, W. Adeney, & S. Glaister 2003. “Economies of scale and density in urban rail transport: effects on productivity.” *Transportation Research Part E: Logistics and Transportation Review*. 39(6): 443- 458.

<sup>36</sup> D. Graham, A. Fidalgo do Couto, W. Adeney, & S. Glaister 2003. “Economies of scale and density in urban rail transport: effects on productivity.” *Transportation Research Part E: Logistics and Transportation Review*. 39(6): 443- 458.

<sup>37</sup> M. Farsi, A. Fetz, & M. Filippini 2007. “Economies of Scale and Scope in Local Public Transportation.” *Journal of Transport Economics and Policy*. 41(3): 345-360.

<sup>38</sup> M. Giacomo & E. Ottoz 2010. “The relevance of Scale and Scope Economies in the Provisions of Urban and Intercity Bus Transport.” *Journal of Transport Economics and Policy*. 44(2): 161-187.

<sup>39</sup> Jacobs 2018. *Urban Transport Consultancy Stage 2*.

<sup>40</sup> Anupriya, D. Graham, J. Carbo, R. Anderson, & P. Bansal 2020. “Understanding the costs of urban rail transport operations.” *Transportation Research Part B: Methodological*. 138: 292-316. Based on research in: (1) M. Batarce & P. Galilea 2018. “Cost and fare estimation for the bus transit system of Santiago.” *Transportation Policy* 64: 92-101; (2) M. Karlaftis & P. McCarthy 2002. “Cost structures of public transit systems: a panel data analysis.” *Transportation Research Part E: Logistics and Transportation Review*. 38(1): 1-18.; (3) M. Karlaftis, P. McCarthy, & K. Sinha

Research by Savage (1997) for the US Department of Energy concluded that a range of economies of scale existed in urban rail transit networks, particularly economies of density, stating:

*“large economies of density are found in operating costs”.*

Furthermore, like Graham et al (2003), Savage (1997) reported constant returns to scale.<sup>41</sup> More contemporary research by Bitzan and Karanki (2022) has further reinforced the existence of density economies, stating:

*“We find that large density economies persist.”*<sup>42</sup>

Other studies have found evidence of economies of density for urban rail in Switzerland (Farsi et al (2007))<sup>43</sup>, Germany (Ahlfeldt et al (2015))<sup>44</sup>, Europe (Mizutani et al (2015))<sup>45</sup>, China (Li et al (2019))<sup>46</sup>, and East Asia (Mizutani and Uranishi (2013))<sup>47</sup>. A longitudinal study by Graham et al (2008) found constant returns to scale and increasing returns to density across almost 200 urban heavy rail networks worldwide.<sup>48</sup> Meta-analysis published by Anupriya et al (2020) illustrated that 16 studies all concluded economies of density or scale, using a variety of econometric methods and analysing the characteristics of hundreds of urban heavy rail networks.<sup>49</sup> Indeed, research published by Wills-

---

1999. “System size and cost structure of transit industry.” *Journal of Transportation Engineering*. 125(3): 208-215; **(4)** P. Viton 1981. “A translog cost function for urban bus transit.” *Journal of Independent Economics*. 287-304. This analysis was based in data from Chile (1) and the USA (2, 3, 4).

<sup>41</sup> I. Savage 1997. “Scale economies in United States rail transit systems.” *Transportation Research Part A: Policy and Practice*. 31(6): 459-473.

<sup>42</sup> J. Bitzan & F. Karanki 2022. “Costs, density economies, and differential pricing in the U.S. railroad industry.” *Transport Policy*. 119: 67-77.

<sup>43</sup> M. Farsi, A. Fetz, & M. Filippini 2007. “Economies of Scale and Scope in Local Public Transportation.” *Journal of Transport Economics and Policy*. 41(3): 345-360.

<sup>44</sup> G. Ahlfeldt, S. Redding, D. Strum, & N. Wolf 2015. “The economics of density: evidence from the Berlin Wall.” *Econometrica*. 83(6): 2127-2189.

<sup>45</sup> F. Mizutani, A. Smith, C. Nash, and S. Uranishi 2015. “Comparing the costs of vertical separation, integration, and intermediate organisational structures in European and East Asian railways.” *Journal of Transport Economics and Policy*. 49(3): 496-515. Earlier published in the Kobe University Graduate School of Business Administration Discussion Paper 37 (2014). European nations with urban transit networks analysed were Austria, Belgium, Bulgaria, Czechia, Switzerland, Germany, Denmark, Spain, Finland, France, Great Britain, Greece, Hungary, Ireland, Italy, Latvia, Luxembourg, the Netherlands, Norway, Poland, Portugal, Sweden, Slovakia, & Turkey.

<sup>46</sup> H. Li, K. Yu, K. Wang, & A. Zhang 2019. “Market power and its determinants in the Chinese railway industry.” *Transportation Research Part A: Policy and Practice*. 120: 261-276.

<sup>47</sup> F. Mizutani & S. Uranishi 2013. “Does vertical separation reduce cost? An empirical analysis of the rail industry in European and East Asian OECD countries.” *Journal of Regulatory Economics*. 43: 31-59. East Asian nations with urban rail networks analysed were Japan & South Korea.

<sup>48</sup> D. Graham 2008. “Productivity and efficiency in urban railways: Parametric and non-parametric estimates.” *Transportation Research Part E: Logistics and Transportation Review*. 44(1): 84-99. Countries with urban transit networks analysed include Mexico, Russia, Japan, Turkey, Germany, Great Britain, Denmark, the USA, Canada, France, Australia, & Hong Kong SAR.

<sup>49</sup> Anupriya, D. Graham, J. Carbo, R. Anderson, & P. Bansal 2020. “Understanding the costs of urban rail transport operations.” *Transportation Research Part B: Methodological*. 138: 292-316. The 16 studies analysed in the meta-analysis were: **(1)** F. Mizutani 2004. “Privately owned railways’ cost function, organisation size and ownership.” *Journal of Regulatory Economics*. 25(3): 297-322; **(2)** P. Sanchez & J. Villaroyya 2000. “Efficiency, technical change and productivity in the European rail sector: a stochastic frontier approach.” *International Journal of Transport Economics*. 27(1): 55-76; **(3)** N. Wills-Johnson 2010. “Cost functions for Australia’s railways.” *Journal of Infrastructure Systems*. 17(1): 1-14; **(4)** D. Hensher, R. Daniels, & I. Demellow 1995. “A comparative assessment of the productivity of Australia’s public rail systems 1971/72-1991-92.” *Journal of Productivity Analysis*. 6(3): 201-223; **(5)** I. Savage 1997. “Scale economies in United States rail transit systems.” *Transportation Research Part A: Policy and Practice*. 31(6): 459-473; **(6)** M. Ivaldi & G. McCullough 2007. “Railroad pricing and revenue-to-cost margins in the post-Staggers era.” *Research in Transportation Economics*. 20: 153-178; **(7)** M. Farsi, A. Fetz, & M. Filippini 2007. “Economies of Scale and Scope in Local Public Transportation.” *Journal of Transport Economics and Policy*. 41(3): 345-360; **(8)** J. Bitzan 2003 “Railroad costs and competition: The implications of introducing competition to railroad networks.” *Journal of Transport Economics Policy*. 37(2): 201-225. **(9)** H. McGeehan 1993 “Railway costs and productivity growth: The case of the Republic of Ireland, 1973-1983.” *Journal of Transport Economic Policy* 19-32; **(10)** M. Filippini & R. Maggi 1992 “The cost structure of the Swiss private railways.” *International Journal of Transport Economics*. 19(3): 307-327. **(11)** D. Caves, L. Christensen, & J. Swanson 1981. “Productivity growth, scale economies, and capacity utilization in US railroads, 1955-74.” *American Economic Review*. 71(5): 994-1002. **(12)** T. Keeler 1974. “Railroad costs, returns to scale, and excess capacity.” *The Review of Economics and Statistics*. 56(2): 201-208. **(13)** D. Graham, A. Fidalgo do Couto, W. Adeney, & S. Glaister 2003. “Economies of scale and density in urban rail transport: effects on productivity.” *Transportation Research Part E: Logistics and Transportation Review*. 39(6): 443- 458; **(14)** D. Graham 2008. “Productivity and efficiency in urban railways: Parametric and non-parametric estimates.” *Transportation Research Part E: Logistics and Transportation Review*. 44(1): 84-99; **(15)** P. Gagnepain & M. Ivaldi 2002. “Incentive regulator policies: the case of public transit systems in France.” *The RAND Journal of Economics*. 33(4): 605-629; **(16)** R. Pozdena & L. Merewitz 1978. “Estimating cost functions for rail rapid transit properties.” *Transportation Research*. 12(2): 73-78. Of these studies, urban rails networks were analysed in the countries of: Japan (1); Australia (3, 4); the USA (5, 6, 8, 11, 12, 16); Switzerland (7, 10); Ireland (9); France (15). Studies also conducted multi-national analysis in Europe (2), and Worldwide (13, 14).

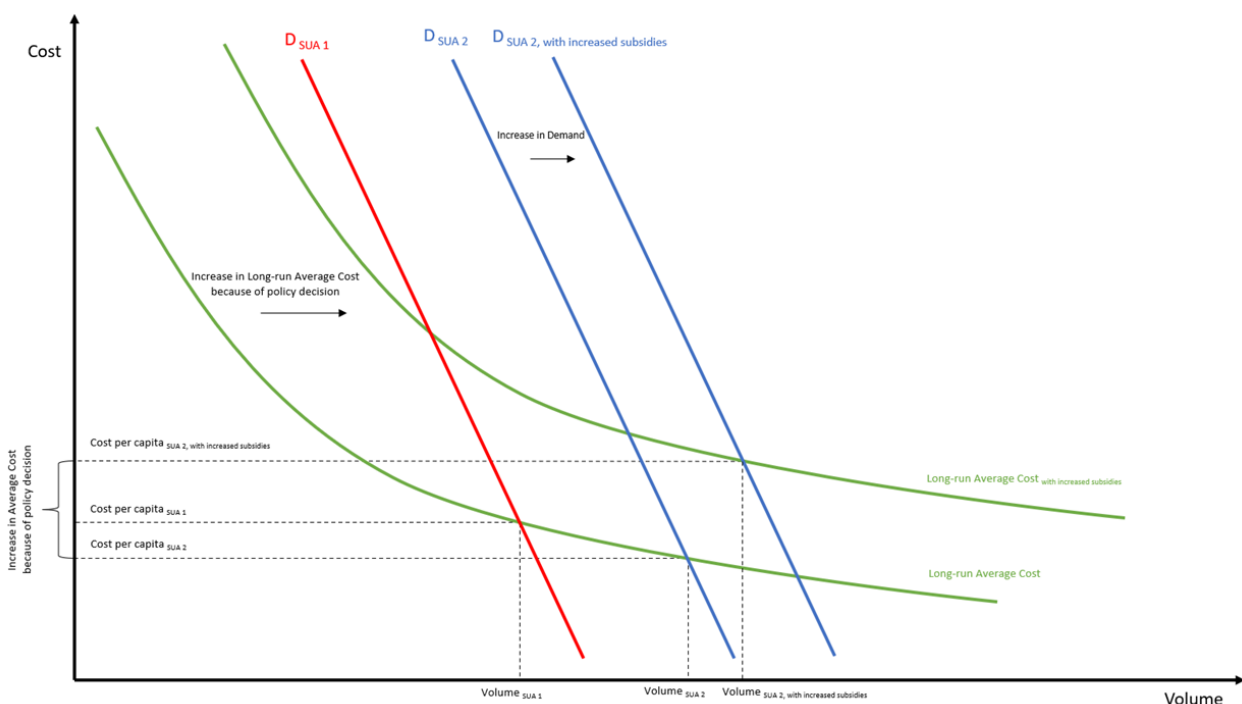
Johnson (2010)<sup>50</sup> and Hensher et al. (1995)<sup>51</sup> both reported economies of density in Australian urban heavy rail networks.

Overall, decades of academic research analysing hundreds of urban heavy rail networks in dozens of countries indicates that there are economies of density and scale in urban heavy rail transit networks.

Despite this, the Commission has repeatedly suggested diseconomies of scale (specifically diseconomies of density, based on the dominance of PWD) exist in Australian public transport networks, particularly heavy rail networks. The reason diseconomies of scale have been assumed is that cost per capita appears to increase with increased demand based on density. This is based on the Commission using actual expense data for SUAs and *not accounting for policy differences*.

The reason for costs increasing with density is unrelated to diseconomies or economies of density. The urban transport model is measuring policy decisions. Figure 4.2 demonstrates how policy can cause cost per capita to increase, even when increasing economies of density are present.

**Figure 4.2: Effect of policy decisions in SUA 2 on long-run average cost and demand.**



Source: Queensland Treasury based on Jacobs 2018. *Urban Transport Consultancy Stage 2*.

Initially, SUA 1 and SUA 2 are on the same long-run average cost curve. As both SUAs have identical policy settings in the initial scenario, economies of density are easily observed. SUA 2 has lower costs per capita because of increased density and the corresponding higher demand. However, SUA 2 then introduces a fare subsidy. This results in the long-run average cost and demand curves for SUA 2 increasing. This results in a substantial increase in cost per capita for SUA 2. As there has been no policy change in SUA 1, it remains on the initial long-run average cost curve and experiences no

<sup>50</sup> N. Wills-Johnson 2010. "Cost functions for Australia's railways." *Journal of Infrastructure Systems*. 17(1): 1-14.

<sup>51</sup> D. Hensher, R. Daniels, & I. Demellow 1995. "A comparative assessment of the productivity of Australia's public rail systems 1971/72-1991-92." *Journal of Productivity Analysis*. 6(3): 201-223.

change in cost per capita. Thus, the cost per capita in SUA 2 is now higher than in SUA 1. If it is still assumed that both SUAs have identical policy settings, it would be incorrectly surmised that diseconomies of density are observed between the SUAs. Indeed, if SUA 1 also introduced the same level of fare subsidy, it would again have costs per capita higher than SUA 2. This demonstrates that not adjusting for policy can result in incorrect conclusions being drawn.

#### *Issue 1b – State policy impacting efficiency.*<sup>52</sup>

##### Summary of Issue 1b:

Principles violated:

- *Practicality – fit for purpose.*
- *Policy neutrality.*

Because of the overreliance of the urban transport model on the PWD variable, the model is highly sensitive to the policy decisions impacting Sydney and Melbourne public transport systems. International analysis of Sydney's public transport system has revealed that it is being operating at a low level of efficiency. This will influence the urban transport model to assess Sydney as having greater need. As such, policy decisions and inefficiencies are distorting equalisation through this model. **This further demonstrates the model lacks conceptual foundations, is not policy neutral, and is not fit for purpose.**

##### Discussion of Issue 1b:

As discussed, the weighting of PWD is highly influenced by Sydney and Melbourne and their policies have a dominant effect on the urban transport regression model. If either of these cities oversupply public transport, offer higher than average quality of service, or offer above average levels of subsidies, it will skew the regression results to suggest diseconomies of density. As Sydney and Melbourne are so dominant in their skewing of PWD, it is likely that there are no diseconomies of density, instead the model is measuring policy choices and inefficiency in these networks.

The Jacob's Stage 1 and Stage 2 consultant reports identify that a fit for purpose urban transport analysis should be based on the concept of average policy and average technical efficiency such that a state should not be compensated for adopting low fares, providing above average regularity of public transport, or providing above average quality of service.<sup>53</sup> All of these should be acknowledged as inefficient policy decisions, and states should not be compensated for implementing them.

There is significant evidence from an Australian perspective to suggest that these distortions are being produced because of urban transport policy decisions and inefficiencies, specifically in Sydney. An Imperial College Centre report showed that the cost-to-revenue ratio for rail transit networks in

---

<sup>52</sup> Queensland Treasury would like to specifically address the findings of the NSW Treasury commissioned VLC Consultancy from the 2020 Methodology Review. This consultancy found a correlation between net expenditure and city size, using a robust and sound methodology with sound assumptions. However, this model uses supply by seat-kms as a proxy for cost, which fails to account for the possibility of increased cost recovery because of economies of density and did not conduct any research into the utilisation of services. Furthermore, the model used supply data to estimate the regression. This data was dominated by supply from Sydney, limiting the policy neutrality of the regression estimate. As will be discussed in this section, we do not believe that supply is an appropriate proxy for cost. This is because of Sydney's dominant influence on average policy.

<sup>53</sup> Jacobs 2018. *Urban Transport Consultancy Stage 2*.

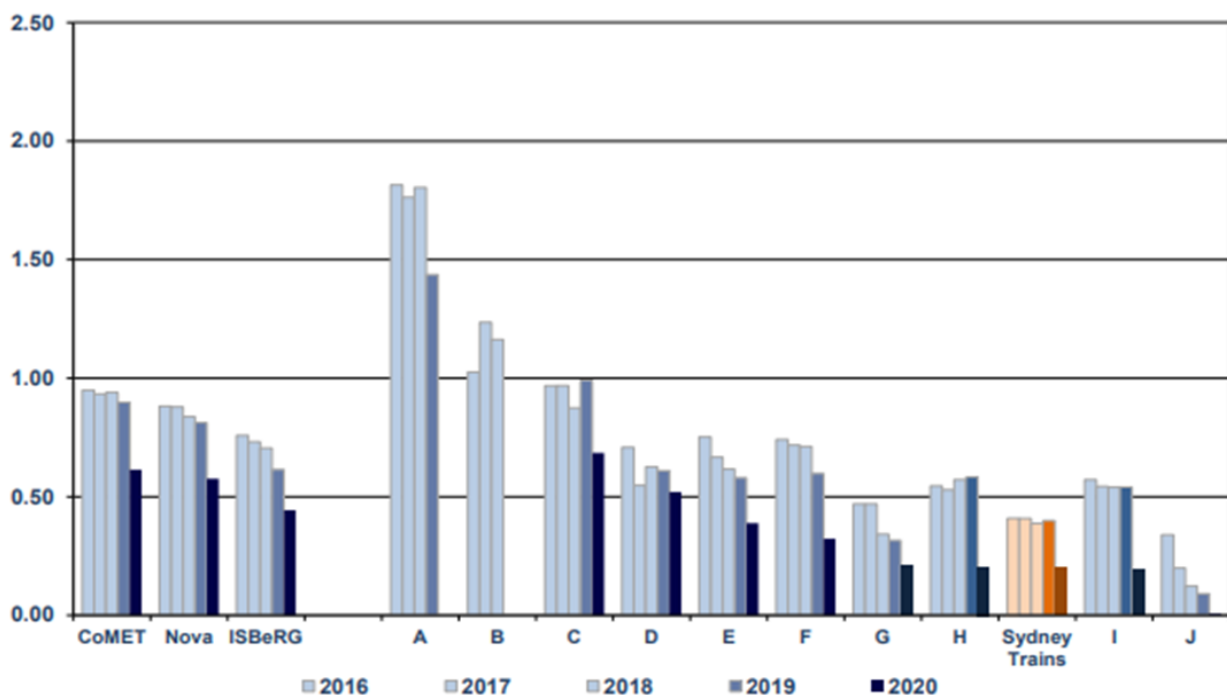
comparable cities (ISBeRG members<sup>54</sup>) to Sydney were close to cost neutral or revenue raising, which was largely attributed to population density.<sup>55</sup> However, Sydney was significantly less efficient than the international standard.<sup>56</sup>

This can clearly be observed in Figure 4.3, showing Sydney train fare revenue to operating cost performance relative to ISBeRG group average (listed as “ISBeRG”) and the individual ISBeRG members.<sup>57</sup> Imperial College Centre attributed this low level of efficiency to:

*“very low fares and to low average capacity utilisation”.*<sup>58</sup>

These findings would suggest that Sydney’s long-run average cost curve for urban transport expenses has been elevated by inefficient policy decisions. Indeed, the issue of policy decisions generating inefficiencies was identified by the Jacob’s reports as being incompatible with developing an urban transport model.<sup>59</sup>

**Figure 4.3: Train fare revenue to operating costs of ISBeRG group members (per cent)**



Source: Imperial College London Transport Strategy Centre 2020. *Sydney Trains Update 2020: Comparison with International Benchmarking Groups*.

<sup>54</sup> ISBeRG (International Suburban Railway Benchmarking Group) comprises 15 railways located in 13 cities (Barcelona, Brisbane, Copenhagen, Cape Town, Hong Kong, London, Melbourne, Munich, New York, Oslo, San Francisco, Sao Paulo, Sydney). Typically, these railways link the suburbs to the CBD, with longer lines and larger networks than metros, but with fewer, longer passenger journeys. Sydney joined the group in 2011. Like most other ISBeRG members, Sydney Trains operates a complex network of interconnected lines, partly shared with longer distance passenger and freight trains.

<sup>55</sup> Imperial College London Transport Strategy Centre 2020. *Sydney Trains Update 2020: Comparison with International Benchmarking Groups*.

<sup>56</sup> Imperial College London Transport Strategy Centre 2020. *Sydney Trains Update 2020: Comparison with International Benchmarking Groups*.

<sup>57</sup> Note – other benchmarking group averages have been included in the graph (COMET and Nova), however, Sydney Trains’ performance is generally more comparable with that of ISBeRG members due to its larger network size and lower patronage levels. COMET (Community of Metros) is a group of 20 of the world’s largest metros. Its constituents typically have more than 500 million passenger journeys per annum. Nova is a group of 22 small to medium-sized metros, typically with fewer than 500 million passenger journeys per annum. Sydney has a larger network than nearly all the COMET/Nova group members, but comparatively lower patronage.

<sup>58</sup> Imperial College London Transport Strategy Centre 2020. *Sydney Trains Update 2020: Comparison with International Benchmarking Groups*.

<sup>59</sup> Jacobs 2018. *Urban Transport Consultancy Stage 2*.



Further, Infrastructure Australia has noted that Sydney's cost recovery from fare revenue is significantly lower than could be expected for its network size.<sup>60</sup> Indeed, despite being the Australian city with the highest residential density by far, Sydney has a cost recovery rate comparable to smaller cities like Adelaide and Brisbane, both of which would be expected to have a much lower ratio for cost recovery based on international benchmarks.<sup>61</sup> This suggests that inefficient fare subsidy policies have artificially elevated Sydney's long-run average cost curve in relation to other Australian urban transport networks. A 2015 review for the Independent Pricing and Regulatory Tribunal of NSW found that the New South Wales (including Sydney) public transport services operated with an efficiency gap of approximately 30 per cent, a figure that would significantly impact on their average costs.<sup>62</sup>

There is also academic literature indicating Sydney is likely to have an inefficient public transit network. Research by Tsai et al (2015) found that Sydney's urban transport network had cost inefficiencies and allocative efficiencies.<sup>63</sup> The research found that Sydney was overservicing aspects of its network and employing an excess of staff. Furthermore, it is likely that approved projects such as the Sydney Metro West will continue to make this network less integrated, and therefore less efficient.<sup>64</sup>

Even if diseconomies of density were present in Sydney's urban transport network, this would not demonstrate increased need but rather reflect the impacts of government policy decisions. Research by Coulombel and Monchambert (2023) found that public transport networks efficiently subsidising ticketing and allocating resources could have economies of density. However, inefficient subsidisation policies can result in diseconomies of density which could be avoided if resources and subsidies were allocated efficiently.<sup>65</sup> This would further suggest that overspending on public transport is both inefficient and ineffective.

This oversupply of public transport in Sydney is illustrated in Figure 4.4, showing public transport services per capita for six capital cities. The number of services per capita is significantly higher in Sydney (10.7), compared to the 2022 average (7.6).<sup>66</sup>

Brisbane provides a much more appropriate level of service compared to Sydney. If passenger demand in Sydney and Brisbane was equalised, Sydney would provide 50 per cent more service than Brisbane.<sup>67</sup> This is a substantial difference that suggests Sydney's public transport network is substantially less efficient than Brisbane's. This increased inefficiency is artificially raising expenditure. The current urban transport model will incorrectly assess this increased expenditure in Sydney as need generated by PWD and penalise Brisbane for being efficient. This clearly demonstrates that the model is policy influenced, not fit for purpose, and producing outcomes perverse to HFE.

---

<sup>60</sup> Infrastructure Australia 2018. *Outer Urban Public Transport – Improving accessibility in lower-density areas*.

<sup>61</sup> Infrastructure Australia 2018. *Outer Urban Public Transport – Improving accessibility in lower-density areas*.

<sup>62</sup> The Independent Price and Regulatory Tribunal of NSW 2015. *Efficiency of NSW public transport services*.

<sup>63</sup> C. Tsai, C. Mulley, & R. Merkert 2015. "Measuring the cost efficiency of urban rail systems." *Journal of Transport Economics and Policy*. 49(1): 17-34.

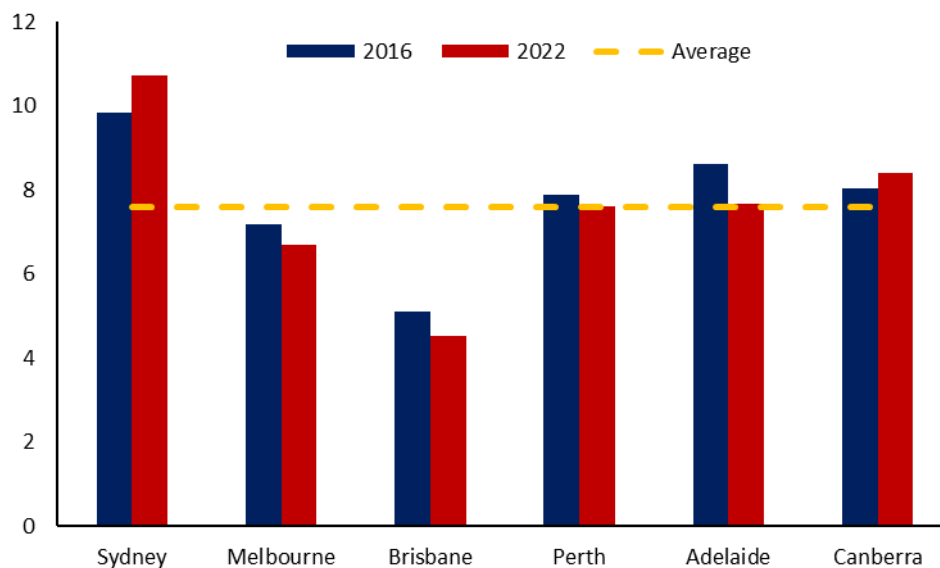
<sup>64</sup> This will be discussed further urban transport investment section in the Tranche 2 submission.

<sup>65</sup> N. Coulombel & G. Monchambert 2023. "Diseconomies of scale and subsidies in urban public transportation." *Journal of Public Economics*. 223.

<sup>66</sup> Commission calculation based on General Transit Feed Specification data.

<sup>67</sup> This is how many kilometres are travelled on public transport, divided by the total population of the SUA. It is 601 passenger kilometres per capita in Brisbane, compared to 939 passenger kilometres per capita in Sydney. As Sydney provides 2.4 times more services based on number of stops per day, Sydney is providing 52% more services than Brisbane for their per capita usage.

**Figure 4.4: Public transport services available per capita in selected capital cities**  
(Number)<sup>68</sup>



Source: Commonwealth Grants Commission

This issue of policy decisions distorting the urban transport assessment has been further exacerbated by COVID-19. As can also be observed in Figure 4.4 above, public transport service growth rates were substantially higher in Sydney compared to other SUAs between 2016 to 2022. This is despite the substantial drop in public transport demand due to COVID-19 over the same period, with the drop in demand being substantially higher in Sydney than in other SUAs (*see Figure 4.10 in Issue 4*). This increase of services by Sydney represents an increase in their oversupply of services. Consequently, net expenses will have substantially increased because of this policy decision. This is a policy induced inefficiency and should not be compensated through HFE. This will be further discussed in Issue 5.

Other academic literature suggest that heavy rail has lower operating costs than light rail or bus, if operated efficiently.<sup>69</sup> Zhang (2009) analysed 34 urban transport networks in the USA, finding that bus operation was significantly more expensive as heavy rail, accounting for usage and network length.<sup>70</sup> This finding contrasts with the urban transport regression model results, where heavy rail is the significant driver of cost. Indeed, research by Tirachini et al (2010) found that heavy rail optimises cost effectiveness with high levels of demand.<sup>71</sup> Given, heavy rail patronage is highly concentrated in Sydney and Melbourne it is probable that inefficient policy decisions to provide services at a level above demand in Sydney and Melbourne are causing an artificial increase in cost per capita for all heavy rail networks in Australia as determined by the regression model. This above

<sup>68</sup> Public transport services available = stops per service multiplied by the number of days a service runs.

<sup>69</sup> M. Zhang 2009. "Bus versus rail: Meta-analysis of cost characteristics, carrying capacities, and land use impacts." *Journal of the Transportation Research Board*. 2110: 87-95.

<sup>70</sup> M. Zhang 2009. "Bus versus rail: Meta-analysis of cost characteristics, carrying capacities, and land use impacts." *Journal of the Transportation Research Board*. 2110: 87-95.

<sup>71</sup> A. Tirachini, D. Hensher, & S. Jara-Diaz 2010. "Comparing operator and user costs of light rail, heavy rail and bus rapid transit over a radial public transport network." *Research in Transportation Economics*. 29: 231-242.

average level of expenditure for heavy rail networks compared to bus networks is again skewing the regression results and incorrectly suggesting higher costs associated with them.

Overall, the urban transport policy choices of the dominant SUAs of Sydney and Melbourne are substantially influencing the urban transport model outcomes through the PWD variable. This is producing outcomes inconsistent with HFE and demonstrates the urban transport model is not fit for purpose and not policy neutral. As such, its continued usage undermines the Commission's aim of HFE.

**The conceptual basis for the urban transport regression model is flawed. Substantial volumes of academic literature refute the Commission's assumption of diseconomies of density, showing the model lacks a conceptual foundation. Furthermore, state policy is significantly impacting the assessment and influencing the GST redistribution. These factors make the model not fit for purpose and lacking policy neutrality.**

*Issue 2 – The population weighted density variable lacks explanatory validity.*

#### Summary of Issue 2:

Principles violated:

- *Practicality – fit for purpose.*
- *Policy neutrality.*

PWD's correlation with public transport usage is largely driven by the dominant SUAs of Sydney and Melbourne. Furthermore, SUAs with very similar PWD and demographic factors have very different public transport usage, despite the Commission's assertion that PWD is the most significant driver of urban transport need. These inconsistencies demonstrate that PWD lacks explanatory validity. **Thus, PWD is not fit for purpose for inclusion in the regression model to assess urban transport need, lacks policy neutrality, and is producing outcomes inconsistent with equalisation.**

#### Discussion of Issue 2:

Further to the significant conceptual shortcomings of the urban transport model, the dominant explanatory variable within the model – population weighted density (PWD) – is not fit for purpose. PWD is used as a proxy variable to capture policy neutral demand and accounts for about 60 per cent of assessed urban transport need for each SUA. However, PWD's dominance of the assessment has been overstated by the extreme outlier of Sydney's PWD. Excluding Sydney and other dominant SUAs severely limits the explanatory power of PWD. This suggests that the regression has been skewed by Sydney and Melbourne's dominance which, as discussed above, is largely a reflection of policy decisions.

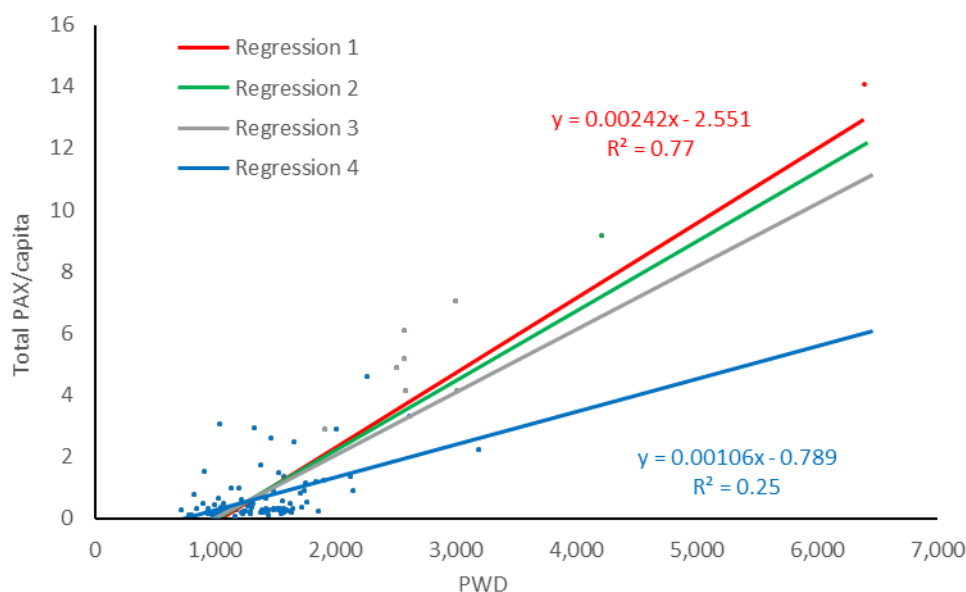
Modelled passenger numbers can be used as a proxy to estimate the correlation of urban transport need as determined by PWD. While modelled passenger numbers are likely policy influenced to a

degree, this data should be able to illustrate if PWD as a variable has broad conceptual validity.<sup>72</sup> Regression 1 in Figure 4.5 illustrates the regression results of PWD to total passengers (PAX)/capita of all 101 SUA datapoints<sup>73</sup>, which shows a strong correlation between these two variables, with an  $R^2$  value of 0.77. According to the regression results, Sydney's total PAX/capita in 2021-22 would be estimated at 12.94 per cent (approximately 1 percentage point lower than the census-derived modelled passenger numbers).

However, this result is largely driven by the extreme outlier PWD value in Sydney. Regression 2 in Figure 4.5 illustrates the regression of 100 of 101 SUAs excluding Sydney. There is a corresponding decrease in the  $R^2$  value to 0.63. This significant decrease in explanatory power of PWD indicates the influence of Sydney on the regression results. Indeed, in this example, the estimated level of total PAX/capita based on Sydney's PWD would be 12.11 per cent (approximately 2 percentage points lower than their actual modelled passenger numbers).

If Melbourne is also excluded, the  $R^2$  value of the remaining 99 of 101 SUAs decreases to 0.53 (Regression 3 in Figure 4.5). In this result, Sydney's estimated total PAX/capita would be 11.00 per cent, or 22 per cent lower than the actual modelled passenger numbers. If all capital cities are excluded, the results indicate that PWD has no explanatory power of Total PAX/capita for the remaining 92 of 101 SUAs (Regression 4 in Figure 4.5). In this final scenario, Sydney would be estimated to have a total PAX/capita of 6.00 per cent, less than half of the estimated level in the first scenario and an almost 60 per cent reduction on actual modelled passenger numbers.

**Figure 4.5: Population weighted density to passengers per capita, including regressions**



Source: Commonwealth Grants Commission.

If PWD was an accurate indicator for public urban transport need, all four of these regressions should have a similar level of correlation and reach similar conclusions about the value of total

<sup>72</sup> Passenger number will be influenced by SUA specific policies, such a ticketing prices, discounts, and availability of services. However, across the sample of 101 SUAs, it can be reasonably assumed that differences in policy between comparable cities will result in modelled passenger numbers being a strong aggregate measure of need.

<sup>73</sup> The satellites of Bacchus Marsh, Melton, Gisborne, and Yanchep are excluded, as is the SUA of Parkes. Gold Coast-Tweed Heads (NSW and Queensland), Canberra-Queanbeyan (ACT and NSW), Albury-Wodonga (Victoria and NSW), Mildura-Buronga (Victoria and NSW), and Echuca-Moama (Victoria and NSW) are all included twice, with one SUA in each state.

PAX/capita based on PWD values. This is clearly not the case, with the explanatory power of PWD largely derived from Sydney and Melbourne skewing the results. This issue will also result in Sydney's and Melbourne's expenses having an undue effect on the assessed urban transport need. Given PWD's dominance of the urban transport model, this lack of fitness for purpose renders the entire model inadequate for determining urban transport need.

Multiple specific examples can be used to further demonstrate the lack of conceptual validity of PWD as a variable. The Gold Coast-Tweed Heads and Brisbane SUAs have very similar PWDs (3,183 and 2,999 respectively). As such, according to the current urban transport model, these two SUAs have almost identical urban transport need (\$402 per capita in Brisbane and \$374 per capita in Gold Coast-Tweed Heads). Both transport networks are operated by a single operator – TransLink – and are part of an integrated network. Thus, they have nearly identical ticketing policies. Furthermore, both also have heavy rail and bus networks, with the Gold Coast also having light rail and Brisbane also having ferry services. Therefore, the service availability is similarly comparable between the two SUAs. Mean slope and average distance to work are also similar.

Given the similarities in policy and PWD, the total PAX/capita should be very similar. However, the total PAX/capita in Brisbane are 7.04 per cent, more than three times higher than total PAX/capita of 2.22 per cent in the Gold Coast-Tweed Heads. This significant difference clearly suggests that there is a factor other than PWD (and all other variables used in the regression) impacting on urban transport need.

Similar comparisons can be made between multiple SUAs with very similar PWDs, comparable policy regimes, and comparable demographic structures.<sup>74</sup> Central Coast (PWD: 2,255) and Newcastle-Maitland (PWD: 2,124) are adjoining mid-sized SUAs in NSW, both with a heavy rail network and public transport operated by NSW Transport. The overall model assessed urban transport need for Central Coast is \$308 per capita compared to \$271 per capita for Newcastle-Maitland. Despite this similar assessed need, total PAX/capita for the Central Coast is 4.62 per cent, which is more than three times higher than the total PAX/capita of 1.38 per cent in Newcastle-Maitland. These significant disparities associated with PWD demonstrate that it lacks explanatory validity across a broad range of realised Australian examples. As such, this is a further demonstration of the PWD variable being not fit for purpose.

Overall, PWD appears to have only been correlated with urban transport need because of the dominance of Sydney and Melbourne. Additionally, real Australian examples can illustrate that PWD is not consistently estimating urban transport need. Thus, it is a not fit for purpose variable to assess urban transport need and is undermining the Commission's aim of HFE.

---

<sup>74</sup> For these pairs (Brisbane and the Gold Coast (Queensland); Central Coast and Newcastle-Maitland (NSW)) there are similar levels of unemployment, Indigenous status, English only spoken at home, and highest level of education achieved. Other examples where SUAs in the same state (and therefore should have similar policy settings) with similar PWDs and demographic features, but with substantially different total PAX/capita (more than 100% difference) include: Hobart and Launceston (Tasmania); Port Headland and Karratha (WA); Port Headland and Kalgoorlie-Boulder (WA); Broome and Karratha (WA); Broome and Kalgoorlie-Boulder (WA); Brisbane and Sunshine Coast (Queensland); Townsville and Toowoomba (Queensland); Mackay and Toowoomba (Queensland); Yeppoon and Gympie (Queensland); Rockhampton and Gladstone (Queensland); Gladstone and Hervey Bay (Queensland); Emerald and Warwick (Queensland); Whyalla and Mount Gambier (SA); Whyalla and Port Pirie (SA); Traralgon-Morwell and Shepparton-Mooroopna (Victoria); Colac and Bairnsdale (Victoria); Nelson Bay and Port Macquarie (NSW); Nelson Bay and Singleton (NSW). These examples cover a range of SUA sizes, from small rural towns to regional metropolitan cities, and capital cities and their adjoining SUAs. There are also examples in every state except ACT and NT, both of which do not have any SUAs which are comparable with other SUAs in the state.

### *Issue 3 – Population weighted density is not comparable between SUAs.*

PWD is calculated by summing all the PWDs' of the individual statistical areas (SA)1s in a significant urban area (SUA) (excluding SA1s not classed as an urban centre and locality (UCL)).<sup>75</sup> There are significant issues and inconsistencies in the classification of SA1s by the Australian Bureau of Statistics (ABS) between and within different SUAs. The major identified issues are:

- *Issue 3a - Inconsistencies in the treatment of non-residential land affect PWD.*
- *Issue 3b – Inconsistencies in the classification of ABS boundaries affect PWD.*
- *Issue 3c – New developments affect PWD.*
- *Issue 3d – Geographic factors impact PWD.*
- *Issue 3e – The assessed urban transport need associated with PWD is illogical.*

Each issue individually renders PWD not fit for purpose. Their persistence as major issues demonstrates that PWD calculated using SA1 data cannot be reasonably compared across different SUAs, is not fit for purpose and is likely highly distorting the assessment of urban transport need.

The inconsistencies with SA1 classification and treatment are likely the result of there being 61,845 individual SA1s, thus making rigorous guidelines for data consistency highly impractical.<sup>76</sup> Indeed, Jacobs Stage One report suggested using Mesh Block level data for calculating PWD.<sup>77</sup> However, this is also not viable, given the sheer volume of Mesh Blocks would make the assessment even more complicated and quality assurance issues would arise.<sup>78</sup>

These impracticalities and inconsistencies suggest that using SA1 data violates the Commission's simplicity component of the practicality principle, as well as its terms of reference direction to deliver quality assured relativities. Additionally, it indicates that there is no fit for purpose dataset available for calculating PWD. Overall, PWD cannot be a reliable variable for explaining urban transport need and cannot be used to compare different SUAs. This is resulting in redistribution against equalisation.

### *Issue 3a – Inconsistencies in the treatment of non-residential land affect PWD.*

#### Summary of Issue 3a:

Principles violated:

- *Practicality – fit for purpose.*
- *Practicality – simplicity.*
- *Practicality – quality assurance.*

SA1 data has very little consistency in the inclusion of non-residential land use in SA1s. There are hundreds of examples of large areas of non-residential land use being included in residential areas in Queensland, Western Australia, Northern Territory, Tasmania, and South Australia.

---

<sup>75</sup> Unless otherwise stated, SA1 codes refer to 2016 SA1s and populations refer to ERPs in 2021-22.

<sup>76</sup> Australian Bureau of Statistics 2021. *Australian Statistical Geography Standard (ASGS) Edition 3: Statistical Area Level 1*.

<sup>77</sup> Jacobs 2018. *Urban Transport Consultancy Stage 2*.

<sup>78</sup> There are 368,286 Mesh Blocks across Australia. Geographic data of this level of disaggregation could be biased based on respondent and processing errors, as well as undercounting which is less likely to be quality assured during the post enumeration process than for less disaggregated levels of geography. Australian Bureau of Statistics 2021. *Australian Statistical Geography Standard (ASGS) Edition 3: Mesh Blocks*.

Meanwhile, there are hundreds of examples of similarly sized areas of non-residential land use being excluded from residential SA1s in New South Wales. Overall, Queensland Treasury analysis has revealed approximately 15 to 20 per cent of SA1s in the Brisbane SUA are significantly diluted by non-residential land uses compared to less than 5 per cent in the Sydney SUA. **These inconsistencies are materially impacting PWD. This demonstrates that the Commission's method for calculating PWD is not fit for purpose, overly complicated, and not of a suitable quality for a Commission assessment.**

### Discussion of Issue 3a:

SA1 data has very little consistency in the inclusion of non-residential land use in SA1s. For instance, Gallipoli Barracks (SA1 code: 30,404,109,804; population: 911; density: 139), UQ Moggill Farm (SA1 code: 30,402,109,104; population: 356; density: 61), and Griffith University Nathan Campus (SA1 code: 30,304,107,008; population: 337; density: 124) are all major non-residential areas that are included in SA1s with medium density residential areas.<sup>79</sup> Their inclusion in the SA1 dilute the respective PWDs of the whole SUA.

Furthermore, the inclusion of non-residential land uses in UCL SA1s is not consistent. For example, non-residential land uses such as Wentworth Park (SA1 code: 11,703,133,128; population 0), Bardwell Valley Golf Course (SA1 code: 11,904,137,521; population: 0), and Western Sydney Stadium (SA1 code: 12,504,148,914; population: 0) are excluded from residential SA1s.<sup>80</sup> Their

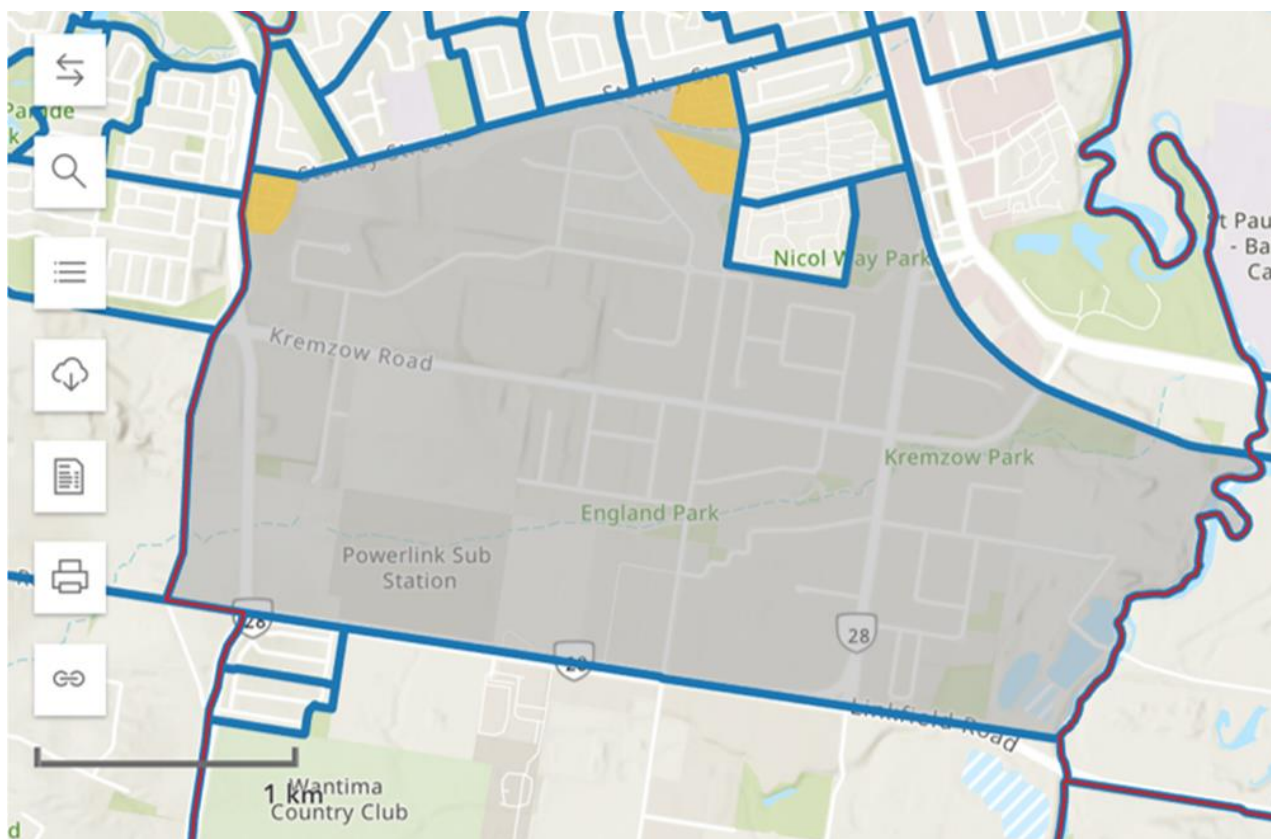
<sup>79</sup> Other examples include schools, prisons, parks, golf courses, reserves, hospitals, shopping centres, stadiums, cemeteries, racecourses, and national parks. Examples SA1 codes include (SA1 population in brackets): **In Adelaide:** 40,304,108,747 (972); 40,304,108,716 (549); 40,304,107,228 (270); 40,303,106,620 (494); 40,403,110,720 (356); 40,303,107,015 (456); 40,303,107,017 (385); 40,401,109,701 (413); 40,401,109,002 (356); 40,204,117,101 (493); 40,402,110,106 (250); 40,204,117,113 (789); 40,204,117,118 (602); 40,204,104,641 (746); 40,204,117,108 (366); 40,403,110,802 (436); 40,403,110,803 (428); 40,303,106,511 (565); 40,403,110,613 (516); 40,401,109,501 (426); **In Brisbane:** 31,001,127,607 (1,352); 30,304,107,116 (425); 30,504,113,715 (393); 30,504,113,505 (340); 30,503,112,614 (625); 30,504,113,309 (564); 31,401,138,601 (332); 30,504,113,707 (593); 30,403,109,306 (622); 30,403,109,311 (448); 30,302,105,803 (690); 30,502,111,503 (411); 30,501,110,930 (419); 30,501,111,109 (523); 30,203,103,923 (489); 30,204,104,404 (377); 30,204,104,111 (529); 31,403,139,419 (311); 31,403,139,429 (354); 31,403,139,420 (882); 31,403,139,425 (583); 31,403,139,422 (450); 31,403,139,129 (541); 30,501,111,018 (2,228); 30,501,111,014 (443); 30,501,111,013 (840); 30,403,109,703 (379); 30,504,113,719 (506); 30,404,110,311 (563); 30,404,110,334 (574); 30,404,110,302 (381); 30,404,110,303 (663); 30,503,113,004 (691); 30,403,109,512 (489); 30,302,105,517 (643); 30,501,1105,27 (758); 30,503,112,301 (618); 30,202,103,206 (329); 30,202,103,106 (859); 30,202,103,417 (363); 30,202,103,006 (473); 30,202,103,005 (483); 30,204,104,615 (413); 30,202,102,708 (465); 30,504,113,414 (377); 30,504,113,214 (371); 30,401,108,112 (507); 31,001,127,506 (550); 30,203,103,815 (246); 30,203,103,903 (261); 30,204,104,410 (521); **In Darwin:** 70,102,101,103 (467); 70,102,102,204 (527); 70,102,102,211 (374); 70,102,101,801 (588); 70,101,100,406 (243); 70,101,100,404 (599); 70,103,103,116 (1,350); 70,104,103,701 (572); 70,104,103,809 (392); 70,102,102,202 (556); 70,101,100,405 (767); **In Hobart:** 60,105,102,904 (586); 60,105,103,127 (723); 60,105,103,205 (567); 60,103,102,108 (286); 60,103,101,723 (238); 60,103,101,730 (299); 60,103,101,608 (375); 60,103,101,708 (323); 60,103,101,709 (446); 60,105,103,011 (490); 60,103,101,509 (316); 60,103,101,313 (276); 60,101,100,115 (386); 60,102,100,801 (592); 60,102,100,805 (823); 60,102,100,905 (296); 60,102,100,405 (374); 60,102,100,709 (878); 60,106,103,507 (941); **In Perth** 50,301,103,512 (736); 50,502,109,412 (536); 50,502,109,411 (400); 50,502,108,910 (293); 50,502,109,210 (538); 50,502,108,905 (329); 50,502,109,404 (416); 50,502,109,401 (279); 50,502,108,903 (240); 50,501,108,326 (655); 50,503,110,852 (561); 50,503,110,862 (187); 50,401,104,424 (404); 50,602,111,807 (633); 50,602,112,219 (640); 50,602,111,806 (484); 50,602,111,810 (800); 50,302,104,174 (1,390); 50,302,104,178 (455); 50,702,116,401 (409); 50,704,117,910 (413); 50,604,113,215 (314); 50,603,112,815 (427); 50,603,112,926 (611); 50,603,112,809 (627); 50,603,112,413 (349); 50,603,112,446 (570); 50,604,113,239 (447); 50,402,105,421 (581); 50,402,105,101 (299); 50,402,105,004 (379); 50,301,103,314 (899); 50,301,103,207 (448); 50,301,103,411 (320); 50,704,117,716 (538). This list is not exhaustive, there are multiple other examples, both in these SUAs and in others.

<sup>80</sup> Other examples **in Sydney** include schools, parks, golf courses, reserves, hospitals, shopping centres, stadiums, cemeteries, and national parks. Examples SA1 codes include (SA1 population in brackets): 12,501,147,501 (5); 11,703,133,750 (3); 11,801,134,201 (0); 11,801,134,136 (0); 11,801,134,515 (10); 11,801,134,611 (3); 12,002,138,724 (0); 12,002,138,738 (0); 12,002,138,909 (4); 11,703,133,101 (0); 12,002,138,905 (5); 12,001,138,336 (0); 12,001,138,332 (0); 12,001,138,303 (0); 12,001,138,305 (0); 12,001,138,631 (0); 12,001,138,440 (104); 12,001,138,405 (0); 12,003,139,622 (15); 12,101,140,108 (40); 12,104,141,727 (0); 12,501,158,628 (0); 12,503,148,133 (0); 12,503,148,143 (0); 12,504,149,127 (4); 11,501,155,527 (0); 12,602,150,125 (3); 12,602,150,001 (21); 11,601,130,303 (5); 11,601,130,330 (0); 11,601,130,313 (0); 11,601,130,309 (0); 11,601,130,337 (0); 11,603,131,716 (0); 11,603,131,637 (0); 12,405,158,135 (0); 12,703,160,104 (4); 11,901,135,437 (0); 12,802,153,824 (0); 11,603,131,329 (0); 11,603,131,713 (14); 12,203,143,012 (0); 11,801,133,916 (0); 11,801,133,909 (0); 11,703,133,018 (28); 12,504,149,210 (23); 12,502,147,721 (8); 12,502,147,723 (0); 12,203,142,918 (3); 12,203,142,722 (0); 12,203,142,724 (0); 12,203,142,725 (0); 12,203,142,730 (0); 12,203,142,731 (0); 12,103,141,019 (0); 12,103,140,720 (0); 12,103,140,716 (0); 12,201,141,802 (0); 12,002,138,910 (37); 12,001,138,612 (5); 12,001,138,332 (0); 12,601,149,611 (0); 12,601,149,612 (0); 12,102,140,617 (0); 11,904,137,809 (0); 11,904,138,128 (8); 11,903,137,453 (0); 12,003,139,209 (5); 11,801,134,034 (5); 11,703,133,745 (0); 11,703,133,720 (12); 12,002,138,901 (0); 11,703,133,203 (0); 11,703,133,601 (4);

exclusion ensures that PWD in neighbouring SA1s is not diluted. Because of this inconsistency, the Commission cannot compare SUAs using SA1 derived PWD. This issue is likely disproportionately affecting Queensland because of geographic factors, which will be discussed further in the Issue 4b section of this submission.

The impact of including non-residential areas with residential areas in an SA1 can be demonstrated with the example of SA1 31,403,139,421, shown in Figure 4.6. This SA1 in the Brisbane SUA consistently had a population of over 1,000 between the 2016 and 2021 ABS censuses. All the residents in this SA1 lived in three high density blocks, highlighted in yellow. The rest of the SA1, highlighted in grey, was used exclusively for non-residential purposes, mostly industrial. The total area of the SA1 is 6.37 square kilometres, of which only 2.5 per cent of the area is reserved for residential purposes. If non-residential areas are excluded from this SA1, based on the Commission's methodology, the assessed cost per resident from PWD increases from \$17 to \$623. Queensland Treasury analysis indicates that if just this single SA1 had had its areas of non-residential use excluded, the Brisbane SUA would have had \$3.3 million more assessed urban transport need over five years.

**Figure 4.6: Residential and non-residential land use in 2016 ABS SA1 31,403,139,421**



Source: Australian Bureau of Statistics and Australian Bureau of Agricultural and Resource Economics and Sciences.

11,901,136,102 (0); 12,802,153,402 (0); 12,802,153,421 (6); 12,602,150,329 (0); 12,203,142,935 (0); 12,201,141,942 (16); 11,802,156,427 (0); 12,203,143,012 (0); 11,901,135,941 (16); 12,602,150,114 (0); 12,503,148,334 (3); 12,501,158,419 (0); 12,003,157,547 (27); 12,501,158,510 (0); 12,001,138,346 (0); 11,801,134,619 (12); 12,203,143,115 (0); 12,801,160,615 (0); 12,801,160,464 (0); 11,904,137,508 (4); 11,904,137,926 (4); 12,702,151,716 (4); 12,403,146,017 (0); 11,801,134,514 (12); 12,101,140,232 (0); 12,203,142,520 (7); 12,202,142,343 (3); 11,701,132,248 (0); 11,701,132,324 (7); 11,903,136,947 (0); 12,301,143,423 (6); 11,801,134,046 (0); 12,503,147,928 (0); 12,504,149,209 (0) This list is not exhaustive, there are multiple other examples.



Overall, Queensland Treasury conservatively estimates that between 15 to 20 per cent of the UCL SA1s in the Brisbane SUA have more than half their area reserved for non-residential land use.<sup>81</sup> Additionally, Queensland Treasury estimates about 5 per cent of the UCL SA1s in the Sydney SUA have more than half their area reserved for non-residential land use, demonstrating there is a significant difference of the size of this problem in different SUAs.<sup>82</sup> This is significantly diluting PWD. As the inclusion of non-residential land uses in SA1s is inconsistent, PWD cannot be compared across different SUAs and its inclusion in the urban transport model is likely causing redistribution that does not represent need.

### *Issue 3b – Inconsistencies in the classification of ABS boundaries affect PWD.*

#### Summary of Issue 3b:

Principles violated:

- *Practicality – fit for purpose.*
- *Practicality – simplicity.*
- *Practicality – quality assurance.*

The classification of rural residential areas as UCLs is inconsistent between SUAs. For example, a rural residential SA1 in the Sydney SUA is much less likely to be classified as UCL than rural residential SA1s in SUAs in other states, including Queensland, Northern Territory, South Australia, and Western Australia. These inconsistencies also extend to the classification of SA1s including mostly agricultural uses. **These inconsistencies are materially impacting PWD. This demonstrates that PWD is not fit for purpose, overly complicated, and not of a suitable quality for a Commission assessment.**

#### Discussion of Issue 3b:

Although there are ABS guidelines for the classification of UCLs, because of the massive number of datapoints, there are inadvertent inconsistencies on the inclusion of mixed-use land. For example, many SA1s are classed as a UCL within a SUA despite only a very limited portion of the area being residential (example SA1 codes: 31,302,157,220; 30,201,102,610). Meanwhile, some SA1s are not classed as a UCL within a SUA, despite most of the area being residential (example SA1 codes: 12,404,146,802; 12,404,146,803; 12,404,146,804; 12,404,146,805; 12,404,146,811; 12,702,151,810).

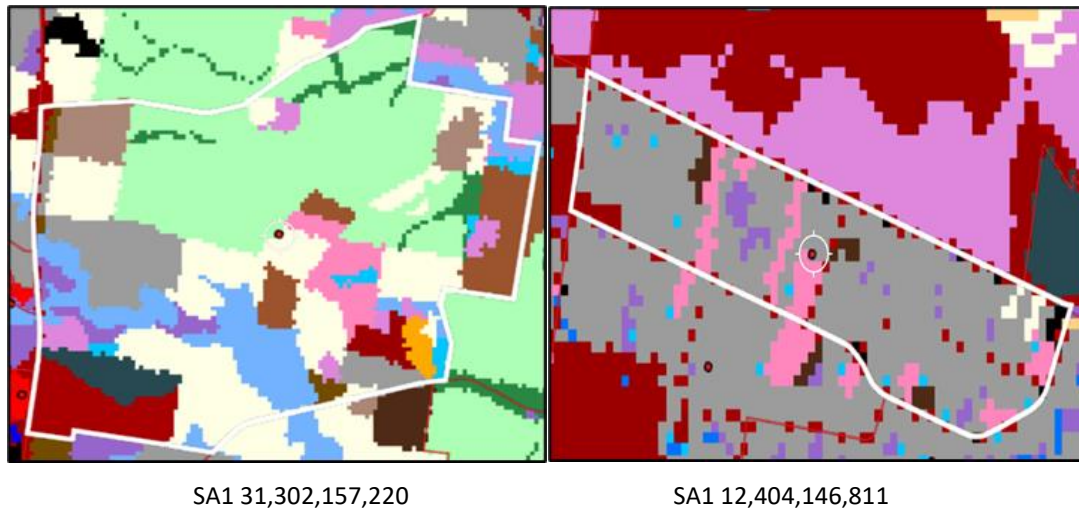
Figure 4.7 illustrates how inconsistent these arbitrarily decided inclusions and exclusions are. The Figure shows two SA1s, both near the outskirts of an SUA. The SA1 on the left (code: 31,302,157,220)

<sup>81</sup> More than half of the area is reserved for non-residential land use in 16.98% (107 of 630) of the SA1s analysed. This included 18.75% (18 of 96) of SA1s in the Nundah SA3, 14.43% (14 of 97) of SA1s in the Strathpine SA3, 19.10% (34 of 178) of SA1s in the Forest Lake-Oxley SA3, 15.22% (21 of 138) of SA1s in the Brisbane Inner SA3, and 16.53% (20 of 121) of SA1s in the Indooroopilly-Sherwood SA3. These SA3s represent a sample of inner city, inner suburb, and outer suburb areas and are representative of the Brisbane SUA as a whole. Analysis completed using 2021 ABS defined SA1s and SA3s. Analysis was based on 2021 SA1s and excluded SA1s with an ERP of 0 in 2021-22 (assuming all 2016 SA1s with a zero-population count would correlate to 2021 SA1s with a zero-population count).

<sup>82</sup> More than half of the area is reserved for non-residential land use in 4.44% (54 of 1,216) of the SA1s analysed. This included 4.41% (13 of 300) of SA1s in the Eastern Suburbs-North SA3, 4.82% (15 of 311) of SA1s in the Blacktown SA3, 6.95% (23 of 331) of SA1s in the Parramatta SA3, and 1.09% (3 of 274) of the SA1s in the Cronulla-Miranda-Caringbah SA3. These SA3s represent a sample of inner city & inner suburbs, Western Sydney, and the outer Sydney areas and are representative of the Sydney SUA as a whole. Analysis was based on 2021 SA1s and excluded SA1s with an ERP of 0 in 2021-22 (assuming all 2016 SA1s with a zero-population count would correlate to 2021 SA1s with a zero-population count).

is classified as a UCL and the SA1 on the right (code: 12,404,146,811) is not. Both SA1s include residential areas (shaded in grey) and non-residential areas (all other colours). Despite these classifications, the SA1 31,302,157,220 has a lower proportion of residential land compared to SA1 12,404,146,811. There are no explanatory notes from the ABS to justify the inclusion or exclusion of any given SA1 from an SUA or as a UCL. This demonstrates the lack of consistency in the definition and classification of SA1s as UCLs.

**Figure 4.7: Land use comparison of 2021 ABS SA1 31,302,157,220 and 2016 ABS SA1 12,404,146,811**



Source: Australian Bureau of Statistics and Australian Bureau of Agricultural and Resource Economics and Sciences.

Additionally, there are multiple rural localities and towns near the outskirts of SUAs which are sometimes included and sometimes excluded in an SUA. For example, Elimbah, Bribie Island, Upper Caboolture, Mount Nebo, Thagoona, and Mount Cotton are all included in the Brisbane SUA, despite being rural locations. These outer city rural residential areas are often lower density and the classification of these SA1s as a UCL can substantially dilute PWD. Any inconsistency in their inclusion between SUAs will therefore be affecting assessed urban transport need.

Furthermore, incorporating new regions in an SUA can also impact on PWD. For example, at the 2021 census, Beaudesert was incorporated into the Brisbane SUA. Consequently, low density UCLs are now being included in the PWD calculation for Brisbane, resulting in a dilution of PWD and an assessed decrease in per capita urban transport need.<sup>83</sup> This is despite there being essentially no changes in the urban transport task. As the inclusion of regions in an SUA is determined by the proximity of UCLs in adjoining SA2s, the expansion of SUAs is also determined by how UCLs are classified.

These issues are particularly pertinent for expanding Australian cities. Greenfield developments are progressively bringing rural residential communities closer to SUA outskirts. As these new developments are made, the ABS will have to decide whether to reclassify these lower density outer city areas as UCLs or to include new regions in an SUA.<sup>84</sup> This issue will disproportionately affect

<sup>83</sup> The inclusion of Beaudesert in the Brisbane SUA meant that towns such as Kooralbyn, which is almost 100kms from Brisbane, were included in the PWD calculations. Another notable SUA expansion occurred on the Sunshine Coast, which resulted in the rural localities of Glass House Mountains, Beerburrum, Beerwah, Landsborough, Peachester, and Mooloolah Valley being included in the SUA.

<sup>84</sup> Examples of rural locality UCLs that could be affected by expanding SUA boundaries in Queensland include Laidley, Plainland, Minden Village, Lowood, Fernvale, Woodford, D'Aguilar, Maleny, Flaxton, Mapleton, Kureelpa, and Tambourine Mountain.

Queensland, as it has one of the fastest growing urban populations, rapidly expanding towards many small rural residential communities near expanding SUAs, most pertinently in South-east Queensland.<sup>85</sup> These are geographic and demographic factors that the state cannot control. The current urban transport assessment would penalise Queensland for these factors resulting in perverse HFE outcomes.

### *Issue 3c – New developments affect PWD.*

#### Summary of Issue 3c:

Principles violated:

- *Practicality – fit for purpose.*
- *Practicality – simplicity.*
- *Practicality – quality assurance.*
- *Contemporaneity.*

Greenfield developments are often in large SA1s, however only take up a small proportion of the total area. As such, the completion of these new developments results in their assessed urban transport need being diluted. Given the differences in rate of building Greenfield developments between states, this is likely materially impacting the assessment. **This further demonstrates that the Commission’s model is not fit for purpose, is overly complicated, lacks quality assurance, and is not contemporaneous.**

#### Discussion of Issue 3c:

SA1 boundaries are updated by the ABS at each census. These updated boundaries and populations are not incorporated for two further Commission updates. Therefore, populations and densities within SA1s can be significantly altered in the final year they are included compared to when these boundaries were decided. As these are demographic changes which states cannot control, they should not be penalised through GST allocations. The current urban transport model will assess a decrease in urban transport need from these changes because of the not fit for purpose PWD variable becoming diluted.

This issue is particularly significant for new developments. Many of these new developments are located within large SA1s. In between censuses new developments begin to fill in some areas of the SA1. Very commonly the new residential areas make up only a small portion of the total area of the SA1, with the remainder used for other purposes. This significantly dilutes PWD.

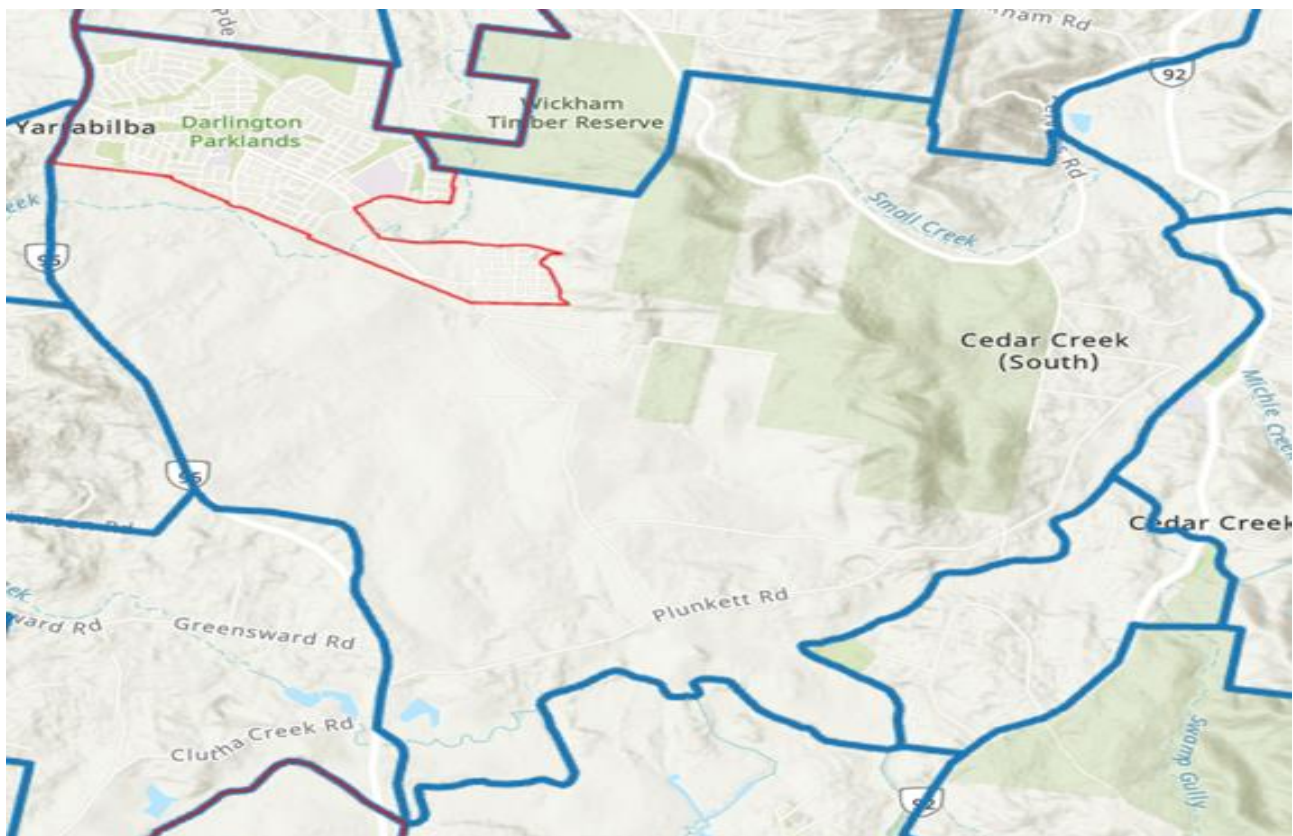
For example, the Yarrabilba development (SA1 code: 31,104,132,108) in the Brisbane SUA had a population of 5,652 following the 2016 Census, with residential areas making up only a small portion of the total area. Between the 2016 and 2021 Census the estimated resident population increased to 11,027, with the population remaining concentrated in less than 10 per cent of the SA1. Overall, the density of the currently used residential areas within the development is higher than the average for the Brisbane SUA. However, the current model assessed the residents as having more than 11 times less urban transport need than average. Overall, based on the Commission’s regression, the

---

<sup>85</sup> Australian Government, Queensland Government, & South East Queensland Council of Mayors 2023. *South East Queensland City Deal: Implementation Plan*.

dilution of PWD in this SA1 alone resulted in the Brisbane SUA's urban transport need being underestimated by \$3.8 million in 2021-22 and \$12.3 million over five years. This SA1 is shown in Figure 4.8, with the blue border showing the outline of the SA1, and the red border showing the maximum extent of the residential areas.

**Figure 4.8: Residential and non-residential land use in 2016 ABS SA1 31,104,132,108**



Source: Australian Bureau of Statistics and Australian Bureau of Agricultural and Resource Economics and Sciences.

Indeed, perversely, as residents move into these new developments it is quite possible that an SUA's PWD compared to population can decrease. This is because these large SA1s have artificially lowered densities because of non-residential area. As their proportion of the total SUA population increases, the proportion of the population living in higher density areas decreases. As PWD is determined by multiplying population density with population share, PWD increases as only a fractional amount of population increase. This is despite a clear increase in the urban transport task, and clearly demonstrates that the urban transport model is not fit for purpose.

Additionally, when SA1 boundaries were redrawn at the 2016 census update, there were multiple examples of large populations (larger than the normal 200-800 residents per SA1) residing in only a small fraction of the SA1 at the beginning of the five-year period.<sup>86</sup> This suggests that it often takes more than one census update for new developments to be classified into their own SA1s by the ABS. Most of the area of these SA1s will remain non-residential for the complete period between censuses, leading to a contracted period of PWD being diluted.

<sup>86</sup> SA1s identified include: SA1 codes 31,104,132,108; 31,403,139,421; 31,003,129,405; 31,004,130,405; 31,104,132,001; 31,104,132,125; 31,403,139,421; 31,004,130,202; 31,103,131,304. This list is not exhaustive. There are many other examples, both in Queensland and other states.

Furthermore, this failing of the model will disproportionately negatively affect Queensland, which has one of the fastest growing urban populations, particularly in Greenfield developments. Multiple large SA1s in the South-east Queensland SUAs have been identified as likely to have their PWDs substantially diluted over upcoming reviews based on the 2021 ABS SA1 boundaries.<sup>87</sup> This distortion will significantly affect these SUAs' overall PWD. In total, South-east Queensland house over 1 million new residents by 2041.<sup>88</sup> This will require significant expansion in new developments, resulting in Queensland being penalised by the urban transport model for demographic changes for multiple decades.

### *Issue 3d – Geographic factors impact PWD.*

#### Summary of Issue 3d:

Principles violated:

- *Practicality – fit for purpose.*
- *Practicality – simplicity.*
- *Practicality – quality assurance.*
- *Policy neutrality.*

Different SUAs have different geographies. Brisbane has substantially higher levels of urban green space and tree coverage compared to Sydney or Melbourne. These differences in geography do not impact on the urban transport task. However, the assessed urban transport need using PWD will decrease. **Again, this shows that the PWD variable is not fit for purpose, is overly complex, lacks quality assurance, and is not policy neutral.**

#### Discussion of Issue 3d:

Many SA1s include significant non-residential areas within them. Combined with the inconsistent inclusion of these areas in SA1s, this makes PWD not fit for purpose in comparing different SUAs. However, even if these spaces were consistently included within SA1s across Australia, PWD would still be inadequate as it would penalise geographic characteristics, breaching the Commission's policy neutrality principle.

One issue is that the presence of parks and urban green spaces differs significantly between cities. Green space coverage is 38 per cent in Brisbane, significantly higher than the 29 per cent in Sydney and 16 per cent in Melbourne.<sup>89</sup> These differences are based on geographic factors which neither decrease nor increase the urban transport task. However, as these spaces are included inconsistently across SA1s, they are having an impact on PWD. This disproportionately penalises Queensland for having more urban green space and is in violation of the policy neutrality principle.

---

<sup>87</sup> SA1s identified include: SA1 codes 31,104,156,908; 31,004,130,438; 31,302,136,419; 31,402,157,818; 31,403,139,201; 31,401,138,301; 31,402,138,941; 31,602,158,001; 31,304,137,549; 31,004,156,501; 31,104,156,906; 31,304,137,609; 31,304,137,603. This list is not exhaustive. There are many other examples, both in Queensland and other states.

<sup>88</sup> Australian Government, Queensland Government, & South East Queensland Council of Mayors 2023. *South East Queensland City Deal: Implementation Plan*.

<sup>89</sup> Y. Hsu, S. Hawken, S. Sepasgozar, & Z. Lin 2022. "Beyond the backyard: GIS analysis of public green space accessibility in Australian metropolitan areas." *Sustainability*. 14(8): 4694.

A second issue is the significant differences between the roadside tree coverage between different cities and total suburb tree coverage. Once again, these characteristics are a result of geographic factors that do not decrease urban transport need. However, these factors do decrease PWD, therefore decreasing assessed urban transport need according to the urban transport model.<sup>90</sup> In Brisbane, 79 per cent of the population lives in suburbs with greater than 20 per cent tree coverage, compared to 44 per cent in Sydney and 30 per cent in Melbourne.<sup>91</sup> Furthermore, tree canopy coverage was 44 per cent in Brisbane<sup>92</sup>, compared to 23 per cent in Sydney<sup>93</sup> and 15 per cent in Melbourne<sup>94</sup>. This higher tree coverage dilutes PWD and, as such, Brisbane is disproportionately penalised for having more trees. As the presence of these trees is a geographic characteristic, this is a further violation of the policy neutrality principle.

Overall, the lack of consideration given to differences in geographic factors is having a significant impact on the measure of PWD which have no bearing on transport need.

### *Issue 3e – The assessed urban transport need associated with PWD is non-intuitive.*

#### Summary of Issue 3e:

Principles violated:

- *Practicality – fit for purpose.*
- *Practicality – simplicity.*
- *Practicality – quality assurance.*

There are multiple examples of the PWD associated with an individual SA1 having no rationale. For example, population increases in individual SA1s have resulted in assessed need increasing by over \$50,000 per capita because of PWD, or SA1s in the same suburb having significantly disparate assessed need because of PWD. **This demonstrates that the assessed urban transport need associated with PWD has no rationale and that the variable is not fit for purpose, and has not been adequate quality assured.**

#### Discussion of Issue 3e:

According to the current urban transport model, about 60 per cent of urban transport need is driven by PWD. By scrutinising this weighting placed on PWD at the SA1 level the results are illogical.

For example, in Doolandella (SA1 code: 31,001,127,369; population: 2,031; density: 1,366) an outer suburb approximately 20km west of Brisbane City, the assessed cost per capita from PWD was \$21. In Brisbane City (SA1 code: 3,110,504; population: 817; density: 75,681) the assessed cost per capita

---

<sup>90</sup> L. Plant, A. Rambaldi, & N. Sipe 2017. "Evaluating Revealed Preferences for Street Tree Cover Targets: A Business Case for Collaborative Investment in Leafier Streetscapes in Brisbane, Australia." *Ecological Economics*. 134: 238-249.

<sup>91</sup> M. Bewley 2021. "Australia's greenest cities and suburbs via Nearmap AI." Available at [https://www.nearmap.com/au/en/aerial-view-blog/greenest-cities-and-suburbs-in-australia?utm\\_source=google&utm\\_medium=organic](https://www.nearmap.com/au/en/aerial-view-blog/greenest-cities-and-suburbs-in-australia?utm_source=google&utm_medium=organic).

<sup>92</sup> Reference area is Brisbane City LGA. Brisbane City Council 2021. "Brisbane's urban forest." Available at <https://www.brisbane.qld.gov.au/clean-and-green/natural-environment-and-water/plants-trees-and-gardens/brisbanes-trees/brisbanes-urban-forest#:~:text=Brisbane%27s%20tree%20canopy%20cover%20is,is%20growing%20in%20public%20parks>.

<sup>93</sup> Reference area is Greater Sydney. Greater Sydney Commission 2018. "Greater Sydney region plan: a metropolis of three cities – connecting people."

<sup>94</sup> Reference area is Metropolitan Melbourne. Department of Environment, Land, Water, and Planning 2018. "Vegetation and heat datasets for Metropolitan Melbourne."

from PWD was \$8,418. Keeping other variables equal, the assessed urban transport need, including consideration of all variables including PWD, Brisbane City is 50 times higher than the assessed need in Doolandella. Have a CBD with an assessed need of 50 times that of an urban area is non-intuitive.

The urban transport assessment purportedly measures need based on commuters travelling to work. Individuals living in Brisbane City are near to the key employment centres in the CBD. Thus, they are less likely to require any transport (other than active transport) to reach their workplace. Meanwhile, most residents of Doolandella would have a significant commute to reach their workplace, and if using public transport, would have to use multiple modes. Therefore, the task for Doolandella would logically be substantially larger than for Brisbane City, completely contrary to the model's assessment.

Even within a suburb there are substantial differences in the model assessed urban transport need. For example, across SA1s with a population of more than 300 in the suburb of Brisbane City, the per capita assessed cost from PWD ranged from \$214 to \$8,418. Keeping other variables equal, individuals in one SA1 are assessed as having 24 times more urban transport need than the other. This lacks credibility as both SA1s are in the same suburb and serviced by the same stations and routes.

Increases in population can also have a substantial impact on assessed expenses because of PWD. Small population changes can illustrate the volatility of PWD to individual SA1s. Most extremely, an SA1 in Sydney had a population increase of 734 people between 2017-18 and 2021-22. This small population change increased Sydney's assessed expense by \$41 million. To put that in context, Sydney's assessed urban transport need from PWD increased by \$55,666 for each additional resident of this SA1.<sup>95</sup> This example illustrates that PWD can easily be distorted and is therefore not fit for purpose.

Beyond extreme examples, across all SA1s in Brisbane City (SA2 code: 30,5011,105) from 2017-18 to 2021-22, assessed urban transport need from PWD increased by \$5,087 for each new resident. This per capita increase is 28 times higher than for the rest of Brisbane, where the assessed increase in urban transport need from PWD was \$182 per additional resident. This massive disparity is illogical and further demonstrates PWD as unfit for purpose.

**Overall, multiple issues with SA1 data make it unsuitable as a source for calculating PWD. This is particularly pertinent given that PWD is such a dominant driver of the urban transport assessment. PWD as a variable is not policy neutral, lacks contemporaneity, is unsuitably complex, does not meet high standards of quality assurance, and is not fit for purpose.**

*Issue 4 – The model is no longer contemporaneous.*

#### Summary of Issue 4:

Principles violated:

- *Practicality – fit for purpose.*
- *Contemporaneity.*

---

<sup>95</sup> Sourced from Queensland Treasury calculations.

The COVID-19 Pandemic has resulted in a permanent shift in work from home habits and commuter modes. As such, the public transport task has changed and assuming commuters is accurate proxy of need is no longer justified. Furthermore, there has been a disproportionate level of change in Sydney and Melbourne compared to other SUAs, which is likely affecting the assessment. **This further demonstrates that the Commission's model is not fit for purpose and is not contemporaneous.**

#### Discussion of Issue 4:

The Commission's consultation paper for transport posits that changes to work habits because of COVID-19 were temporary. This claim is unsubstantiated and ignores evidence that suggests COVID-19 has resulted in sustained change to work habits, including a sustained shift to working from home which will result in less public transport need. Furthermore, this change in work habits has been most pronounced in Sydney and Melbourne. As such, the urban transport assessment has become less fit for purpose and contemporaneous.

In Sydney, prior to COVID-19, 20 per cent of workdays were work from home.<sup>96</sup> Following the lifting of COVID-19 restrictions in early 2022, work from home workdays have stabilised at 35 per cent, a greater than 70 per cent increase on the pre-COVID level.<sup>97</sup> Research by Hensher and Beck (2023b) indicates this shift to work from home is permanent as Australian workers actively asserted their preference to continue working from home.<sup>98</sup> Further research by Hensher et al (2023) found that Australian businesses have also altered their policies to reflect this change, such as updating work flexibility arrangements and decreasing their office sizes.<sup>99</sup> Beyond academic research this change in business and work behaviour is reflected by recent events such as the Australian Public Service allowing all workers to work from home indefinitely<sup>100</sup> and major companies including Westpac, Commonwealth Bank, and KPMG vacating major offices in the Sydney CBD.<sup>101</sup> A McKinsey Global Institute report found that the impacts of COVID-19 will result in a significant decrease in CBD activity in cities across the globe.<sup>102</sup>

This change in work habits has been most pronounced in Melbourne and Sydney. For example, research by Hensher and Beck (2023a) found that there has been a 70 per cent increase in work from home in Sydney.<sup>103</sup> Meanwhile, DITRDCA research found the level of work from home in Brisbane has only increased to 21 per cent.<sup>104</sup>

---

<sup>96</sup> D. Hensher, E. Wei, & M. Beck 2023a. "The impact of COVID-19 and working from home on the workspace retained at the main location office space and the future use of satellite offices." *Transport Policy*. 130: 184-195. This is compared to 15 per cent in SEQ. (See Footnote 105).

<sup>97</sup> D. Hensher, E. Wei, & M. Beck 2023a. "The impact of COVID-19 and working from home on the workspace retained at the main location office space and the future use of satellite offices." *Transport Policy*. 130: 184-195. This is compared to 21 per cent in SEQ, or an increase of 40 per cent. (See Footnote 105).

<sup>98</sup> D. Hensher & M. Beck 2023b. "Exploring how worthwhile the things that you do in life are during COVID-19 and links to well-being and working from home." *Transportation Research Part A: Policy and Practice*. 168: 103579.

<sup>99</sup> D. Hensher, E. Wei, & M. Beck 2023a. "The impact of COVID-19 and working from home on the workspace retained at the main location office space and the future use of satellite offices." *Transport Policy*. 130: 184-195.

<sup>100</sup> D. Keane & B. Alderson 2023. "Work-from-home deal 'groundbreaking', but business groups warn of CBD 'death knell'." *ABC News*. 13 July. Available at <https://www.abc.net.au/news/2023-07-13/business-backlash-to-work-from-home-deal-struck-by-cpsu/102596330>.

<sup>101</sup> C. Kwan 2023. "'Adapt or die': crunch time for office towers as big tenants bail out." *Australian Financial Review*. 24 July. Available at <https://www.afr.com/property/commercial/adapt-or-die-crunch-time-for-office-towers-as-big-tenants-bail-out-20230720-p5dpt4>.

<sup>102</sup> McKinsey Global Institute 2023. "Empty spaces and hybrid places: the Pandemic's lasting impact on real estate."

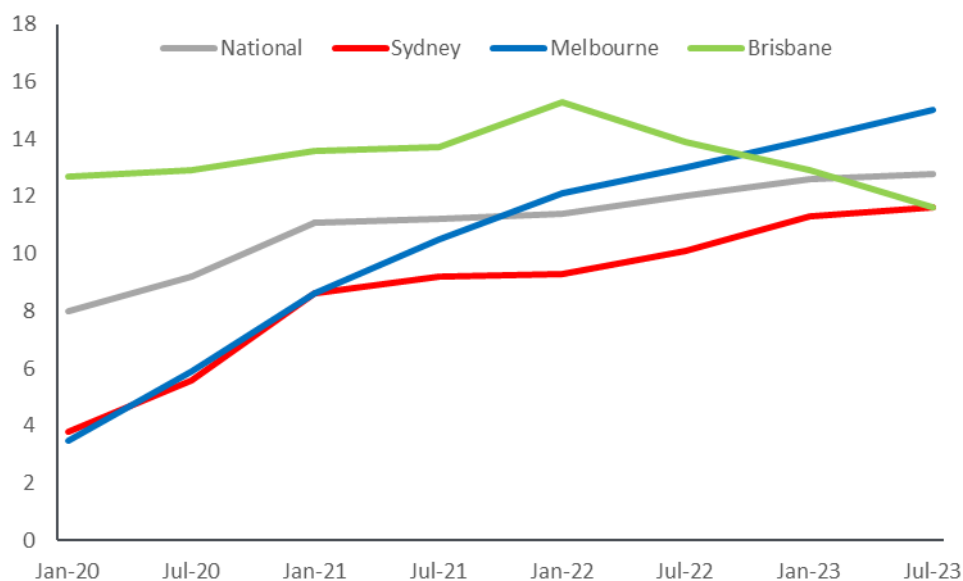
<sup>103</sup> D. Hensher, E. Wei, & M. Beck 2023a. "The impact of COVID-19 and working from home on the workspace retained at the main location office space and the future use of satellite offices." *Transport Policy*. 130: 184-195.

<sup>104</sup> Department of Infrastructure, Transport, Regional Development, Communications, and the Arts 2022. *South East Queensland: Population, Housing, Jobs, Connectivity and Liveability*. Canberra: Australian Government.



The differential shift in work from home rates is further reflected in the relative office vacancy rates in Australian CBDs. Figure 4.9 illustrates office vacancy rates in the Sydney CBD, Melbourne CBD, Brisbane CBD, and the National CBD rate. Office vacancies nationally have increased from 8 per cent to 13 per cent since January 2020.<sup>105</sup> As can be observed in Figure 4.9, this has been driven in large increases in vacancy rates in Sydney (from 4 per cent to 12 per cent) and Melbourne (from 4 per cent to 15 per cent).<sup>106</sup> Furthermore, in both Sydney and Melbourne, office vacancy rates have continued to increase through 2022 and 2023, despite the relaxing of restrictions. This indicates that businesses have less need for workers to travel to the CBD in these cities and is reflective of the shift to work from home. This represents a decrease in the urban transport task.

**Figure 4.9: Office vacancy rates nationally and for select capital cities, January 2020 – July 2023**  
(per cent)



Source: Property Council of Australia.

In contrast, the office vacancy rate in Brisbane CBD has decreased since the beginning of COVID-19 (from 13 per cent to 12 per cent).<sup>107</sup> This would suggest that, unlike Sydney and Melbourne, the need for workers to commute to the CBD has not changed significantly in Brisbane. This suggests that the urban transport task is decreasing in Sydney and Melbourne whilst remaining stable or increasing in Brisbane.

These substantial increases in office vacancy rates are reflected in passenger kilometres statistics for Sydney and Melbourne. This is illustrated in Figure 4.10. As can be observed, there has been a much more marked decrease in total passenger kilometres travelled in the two cities compared to other Australian capital cities (59 per cent in Sydney and 56 per cent in Melbourne).<sup>108</sup> Indeed, in January 2023 (a year after the lifting of all restrictions), Sydney's daily average heavy rail patronage

<sup>105</sup> Property Council of Australia 2023. "Office Market Report July 2023."

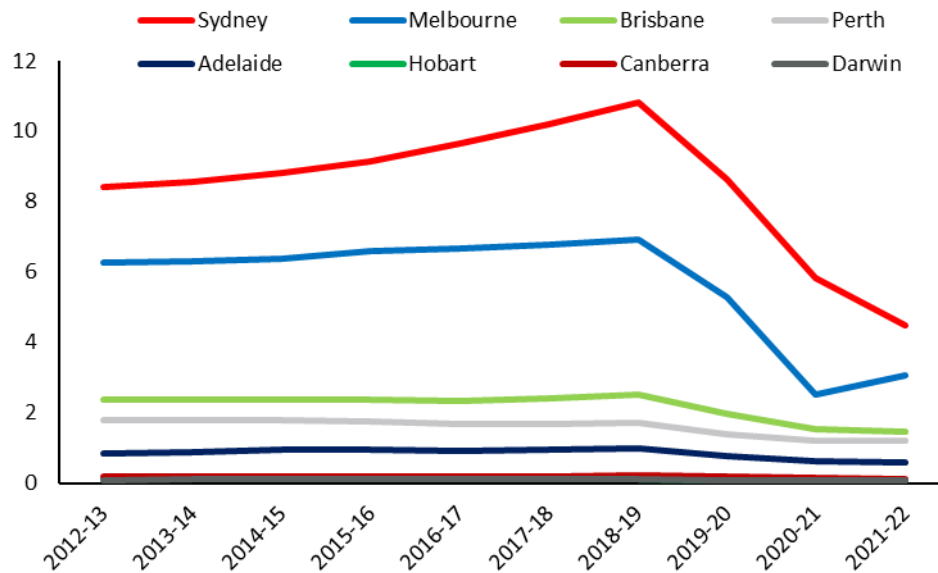
<sup>106</sup> Property Council of Australia 2023. "Office Market Report July 2023."

<sup>107</sup> Property Council of Australia 2023. "Office Market Report July 2023."

<sup>108</sup> Bureau of Infrastructure and Transport Research Economics 2022. "Australian Infrastructure and Transport Statistics: Yearbook 2022."

was still 36 per cent lower than in January 2019.<sup>109</sup> The continued increase in office vacancy rates in the two cities since the lifting of restrictions suggests that this decrease in passenger kilometres travelled is likely to be permanent.

**Figure 4.10: Total public transport distance travelled by capital city, 2012-13 - 2021-22**  
(passenger kilometres)



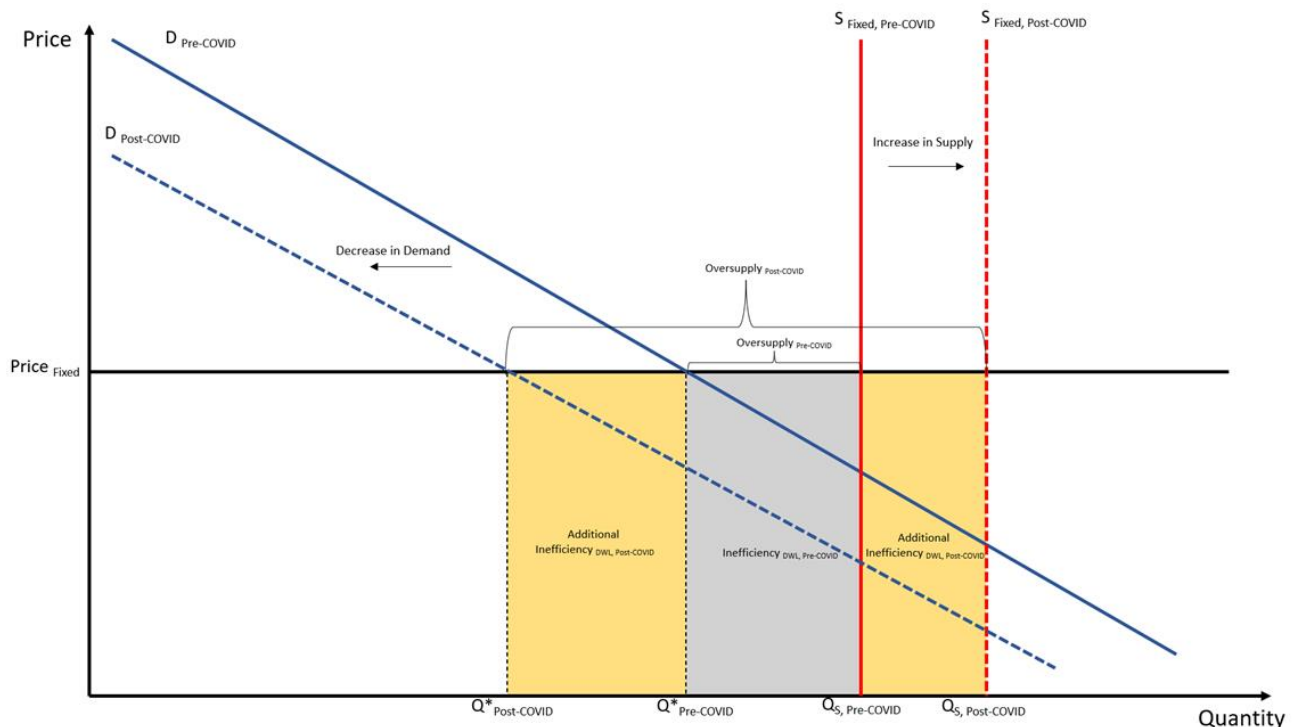
Source: Bureau of Infrastructure and Transport Research Economics.

Meanwhile, despite decreasing demand, Sydney has increased public transport services (see Figure 4.4 in Issue 1b). As Sydney has increased its servicing despite demand decreasing during COVID-19, this overservicing inefficiency gap has grown. Figure 4.11 shows the dead weight loss inefficiency pre-COVID in grey and the additional dead weight loss inefficiency following COVID-19 in yellow.<sup>110</sup> Figure 4.11 shows that the inefficiency has increased following COVID-19. Despite the increase in inefficiency, the corresponding increase in net expense will be assessed by the urban transport model as an increase in need.

<sup>109</sup> Transport for NSW 2023. *Public Transport Trips – All Modes*. Available at <https://www.transport.nsw.gov.au/data-and-research/data-and-insights/public-transport-trips-all-modes>.

<sup>110</sup> The dead weight loss inefficiency post-COVID includes both the grey area and the yellow area. Prices are fixed in this model as fares are set by government policies. Supply is fixed in this model as the number of services is set by government policies.

**Figure 4.11: Illustrating the effect of COVID-19 on the size of dead weight loss inefficiency on Sydney public transport**



Source: Queensland Treasury.

The PWD variable would also assess Brisbane SUA's urban transport task to have increased less than Sydney's. This is despite the data such as office vacancy rates suggesting that Brisbane's urban transport task has not significantly changed since COVID-19 (unlike Sydney's). This indicates that a model designed to assess commuters' needs is not correctly specified in post-COVID Australia. Commuter needs are no longer comparable between different SUAs. Thus, the urban transport assessment has become even less fit for purpose than it was in the pre-COVID era.

There has also been a change in who is taking public transport since the Pandemic. There has been a permanent increase in the number of workers driving to work or using active transport instead of public transport for their commute.<sup>111</sup> Furthermore, there has been an increased proportion of public transport trips taken by non-commuters.<sup>112</sup> Hensher et al (2023b) suggests that the COVID-19 Pandemic has therefore permanently changed how governments provide public transport services. This further suggests that the Commission's use of number of commuters by mode is not a relevant representation of the urban transport task in a post-COVID Australia. Furthermore, as these changes to commuter and non-commuter ratios have been different in different SUAs, the urban transport tasks cannot be accurately compared.

<sup>111</sup> D. Hensher, M. Beck, & C. Balbontin 2023b. "Working from home 22 months on from the beginning of COVID-19: What have we learned for the future provision of transport services?" *Research in Transportation Economics*. 98: 101271.

<sup>112</sup> D. Hensher, M. Beck, & C. Balbontin 2023b. "Working from home 22 months on from the beginning of COVID-19: What have we learned for the future provision of transport services?" *Research in Transportation Economics*. 98: 101271.

## Issue 5 – The model has design limitations.

### Summary of Issue 5:

#### Principles violated:

- *Practicality – fit for purpose.*
- *Practicality – quality assurance.*

The development of the urban transport regression model at the 2020 Methodology Review was impacted by the quality and availability of data. This resulted in a model being developed with inadequate data for the assessment task. **This demonstrates that the Commission’s model does not meet the Commission’s criteria for quality assurance. Because of this lack of quality assurance, a not fit for purpose model was introduced.**

### Discussion of Issue 5:

The initial development of the urban transport assessment by Jacobs and Synergy consultants was significantly impacted by the quality and availability of data. The Jacobs Stage 2 report acknowledges the difficulty in obtaining reliable and relevant public transport data to generate the proposed model. The consultant states that:

*“Not all (recurrent expenditure) data have been derived in the same way. As a result, data consistency for the dependent variable is one of the major challenges of this assignment”.*<sup>113</sup>

Expense data for 70 SUAs out of 101 are used in the model – two thirds of Victoria’s SUA data points and over half of Queensland’s SUA data points have been excluded. The relationship derived from the data is therefore not representative of each State’s entire public transport task and is disproportionately influenced by States with more data points (e.g. NSW which accounts for almost half of the complete datapoints). The discrepancies in data points excluded between states is shown below in Table 4.1.

**Table 4.1: Data overview by state**

State	SUAs	Complete data points	Excluded data points	Reason for exclusion
NSW	35	31	4	Expense data not reported for 4 SUAs
Vic	21	7	14	Derived using population
Qld	18	8	10	Derived using population
WA	11	10	1	Yanchep is a satellite to Perth
SA	8	8	0	
Tas	5	3	2	Derived using population
ACT	1	1	0	
NT	2	2	0	
Total	101	70	31	

Source: Jacobs Stage 2 consultancy report.

<sup>113</sup> Jacobs 2018. *Urban Transport Consultancy Stage 2*.

Further, there is an uneven spread of SUA sizes in the data with a substantial number of small SUAs and few very large SUAs. For example, Sydney should be considered an extreme outlier given its sheer size and its inclusion in the data is heavily skewing the regression results and overstating the significance of both statistically significant variables (PWD and heavy rail patronage).

Limited data at the SUA level has also meant several proxies have been used in the model to account for volume of urban public transport and city specific characteristics on the independent variable side. Volume (passenger kilometres travelled) reflects both the demand that has been satisfied and the supply provided. Again, demand and supply variables have been used as proxies for volume of urban public transport.

The model uses PWD as a proxy variable to capture demand and uses passenger numbers as a proxy variable to capture network supply or level of public transport services. Further, city specifics have been identified by travel distance to work and a topography measure, which is proxied by mean slope of the land. However, the association of independent variables with demand, supply or city-specific characteristics is inexact. That is, density is said to be a demand variable, but equally will affect unit costs of supply. Distance to work is said to be a city-specific variable but can equally affect demand. Bus and train passenger counts have been included to capture network supply or level of public transport services, but equally relate to quantity demanded. Thus, there was likely significant unacknowledged multicollinearity in the development of the model. Furthermore, passenger counts are likely influenced by policy, suggesting the model is compromised as a result of policy contamination.

The model assumes that in a stable transport system the supply of public transport is equal to the level of demand. However, there is no evidence to show public transport systems in Australian jurisdictions (particularly fast-growing cities) are in equilibrium (*see Issue 1*). A review by Liu and Charles (2013) of empirical studies revealed that peak overcrowding of rail services is an endemic problem for rail services around the world with capacity poorly utilised throughout the remainder of the day.<sup>114</sup> The review also noted that it was not feasible to expect capacity (supply) to adjust to meet demand due to financial or technical constraints.<sup>115</sup> This has also been established in New South Wales's State Infrastructure Strategy which stated that "*the network is not running at or near capacity in an absolute sense.*"<sup>116</sup>

The use of inconsistent and incomplete expense data coupled with the layering of inexact supply and demand proxies for explanatory variables means that the final specification of the urban transport model was a long way from the theoretical starting point and is unlikely to provide an accurate estimation of each state's true transport task and need per capita. These specification issues are exacerbated by a lack of contemporaneity, particularly considering the fundamental shift in transport patterns and behaviour in the post-pandemic world (*see Issue 5*). Overall, this inconsistency in the development of the model is just one more factor which indicates that the urban transport assessment is currently not fit for purpose.

---

<sup>114</sup> Y. Liu & P. Charles 2013. "Spreading peak demand for urban rail transit through differential fare policy: a review of empirical evidence." *Australian Transport Research Forum*.

<sup>115</sup> Y. Liu & P. Charles 2013. "Spreading peak demand for urban rail transit through differential fare policy: a review of empirical evidence." *Australian Transport Research Forum*.

<sup>116</sup> Infrastructure NSW 2012. *State Infrastructure Strategy*.

## Principles affected

For the Commission to justify an assessment method, it should be aligned with its guiding principles. The current urban transport assessment violates the principles of practicality, policy neutrality, and contemporaneity.

### *Practicality – Fit for purpose*

- *Violated by Issue 1, Issue 2, Issue 3, Issue 4, and Issue 5.*

As discussed in Issue 1, the urban transport model lacks conceptual foundations. This is largely due to the methodology incorrectly assuming that SUA public transport expenses data is not highly policy contaminated. This incorrect assumption and the resulting lack of economic validity of the results of the regression model mean that the urban transport assessment is not based on sound or reliable methods and therefore is not fit for purpose.

Even if the assumptions underpinning the model were valid, the major explanatory variable, PWD, is also not fit for purpose. This was discussed in Issue 2 and Issue 3. The PWD data used in the assessment is not sound or reliable, and its use renders the entire assessment not fit for purpose. PWD is not fit for purpose as it lacks explanatory validity and is highly influenced by extreme outlier SUAs. Additionally, the SA1 data used to calculate PWD is inconsistent and illogical.

Furthermore, as discussed in Issue 4, the advent of the COVID-19 Pandemic has changed the urban transport task, meaning that the original assumption of the model (that public transport should primarily be provided to commuters) is no longer a sound assumption. This further demonstrates that the model is not fit for purpose.

Overall, there are multiple significant shortcomings in the data and methods of the urban transport assessment. These impact on the model's soundness and reliability. Individually each of these shortcomings should prevent the continued use of the current urban transport model. Combined they demonstrate that the assessment is in violation of the practicality principle and is not fit for purpose.

### *Practicality – Simplicity*

- *Violated by Issue 3.*

At the 2020 methodology review, the Commission stated that “*assessments should be as simple as possible while being conceptually sound.*”<sup>117</sup> As has already been established, the urban transport assessment is not conceptually sound. It is also not simple.

The data used to calculate PWD, the dominant variable in the model, is SA1 data sourced from the ABS. As was discussed in Issue 3, there are 61,845 different SA1s. This means that there are many inconsistencies in the specification of this data, making it incredibly complicated to be able to analyse neutrally across different SUAs. Furthermore, the sheer volume of SA1s make understanding the PWD calculations highly difficult, make any analysis of the data impractical, and mean that the results cannot be practically replicated or effectively scrutinised by states.

Finally, because of the complexity of using SA1 data in the assessment, there is no simple method to standardise states so that they are not adversely impacted by geographic factors. Overall, the

---

<sup>117</sup> Commonwealth Grants Commission 2017. *Commission position paper: the principle of HFE and its implementation.*

urban transport assessment lacks simplicity, violating the practicality principle, and illustrating that the current model is highly flawed.

#### *Practicality – Quality assurance*

- *Violated by Issue 3 and Issue 5.*

The terms of reference for the 2025 methodology review requested that the Commission “ensure robust quality assurance processes.”<sup>118</sup> Given the complexity and inconsistency of the SA1 data, as well as the substantial lack of consistency in the original development of the model, the urban transport model does not meet the required quality assurance standards. Therefore, this model should not be used to determine state capacities and relativities.

#### *Policy neutrality*

- *Violated by Issue 1, Issue 2, and Issue 3d.*

When the policy neutrality principle is violated, states are rewarded or penalised for policy decisions, inefficiencies are unfairly compensated through GST, and perverse incentives are established. All of these are occurring in the severely policy contaminated urban transport assessment.

As was outlined in Issue 1 and Issue 2 the urban transport model is dominated by the PWD variable. PWD’s dominance of the assessment has been overstated by the extreme outlier of Sydney’s PWD. As such, the large explanatory power of PWD is largely a reflection of inefficient policy decisions in Sydney. As such, this assessment is impacted by dominant state issues. Whilst the dominant state issue has been widely discussed by the Commission in reference to revenue assessments, in particular mining, there has been little acknowledgement of the impact a policy dominant state can have on an expense assessment.

In the urban transport model, an increase in expenditure in Sydney or Melbourne will be assessed as increased need for the highest PWD SUAs – Sydney and Melbourne. This clearly demonstrates that policy decisions in Sydney and Melbourne will impact GST relativities and increase the assessed need for Sydney and Melbourne, showing that the assessment cannot be policy neutral.

The current large redistribution towards Sydney and Melbourne given by the urban transport model is likely a reflection of their policy decisions being incorrectly observed as higher need. The rewarding of states for policy decisions is a substantial violation of the policy neutrality requirement for assessments.

Furthermore, as Sydney and Melbourne directly benefit through GST allocations from increasing their public transport expenditure, the Commission is incentivising inefficient increases in service delivery. This perverse incentivisation once again contradicts policy neutrality. These violations of the policy neutrality principle in the current urban transport assessment model should preclude its usage in calculating GST relativities.

#### *Contemporaneity*

- *Violated by Issue 3c and Issue 4.*

---

<sup>118</sup> J. Chalmers 2023. *Terms of Reference for the 2025 Methodology Review*.

For an assessment to remain contemporaneous it must reflect the task states are required to undertake in the present. As was discussed in Issue 4, the urban transport task significantly changed during the COVID-19 pandemic and has remained changed following the transition to a post-pandemic Australia. This means that the assumptions underlying the urban transport model are no longer relevant to the contemporary urban transport task. Without updating the model to reflect these changes, the current assessment is not measuring contemporary need, but rather the assumptions of what need was prior to the COVID-19 pandemic.

Furthermore, to align with the contemporaneity principle, data used in the assessment should not be significantly altered between updates. This is not the case for the urban transport assessment. As discussed in Issue 3c, SA1 data does not remain contemporaneous between assessments, which can have a significant impact on an SUA's PWD.

These two contemporaneity issues present the urban transport assessment as outdated and unable to properly assess the differential need of different SUAs in post COVID-19 Australia. They show that the model is highly specified to a single point in time and a single set of assumptions, and that any changes to these very specific conditions can have significant impacts on the assessed relativities. This overspecification and lack of contemporaneity demonstrate further failings of the urban transport model and suggest that it should not be used to assess urban transport need.

### **Effect of assessment on horizontal fiscal equalisation**

The urban transport expenses assessment redistributes over \$1.5 billion annually. Of the 101 SUAs, only Sydney and Melbourne are assessed as having greater than average need. This means that over \$1.5 billion annually is redistributed away from the other 99 SUAs to compensate Sydney and Melbourne's public transport systems.

This case for change has provided extensive and substantial evidence demonstrating that this redistribution is unfair. The urban transport model is not fit for purpose and has been assessing differences in policy decisions rather than differences in need. The specification of the model has meant that any expenditure in Sydney and Melbourne has been erroneously correlated and assumed to be urban transport need. Sydney and Melbourne have been oversupplying public transport services and benefitting from an increased GST share as a result.

Given the multiple substantial issues with the model, this assessment has likely over-equalised significantly. As such, the current urban transport assessment is extremely damaging to fiscal equalisation. In order to ensure that HFE is not further negatively impacted, the Commission should discard this model and assess urban transport using a different method.

### **Urban transport investment**

While urban transport investment will be specifically addressed in the Tranche 2 consultation paper on investment, given the significant similarities between the issues with the expense and investment assessments it is worthwhile establishing Queensland's position in this submission. As with the urban transport expenses assessment, Queensland does not support the urban transport investment assessment.

Queensland is of the view that the drivers of investment and net recurring expenditure for transport are broadly identical. As such, the issues identified within the expenses assessment are also present in the investment assessment. These issues make the urban transport investment assessment not



fit for purpose and are driving a redistribution of GST at odds with HFE. This issue will be directly addressed in Queensland submission for Tranche 2.

Additional to the issues identified in the expenses assessment, Queensland believes use of the urban population-squared model on the urban transport investment assessment is unjustified and illogical. This use of population-squared causes even further distortion of need in investment than in expenses and has once again been largely developed to explain overprovision in the dominant SUAs of Sydney and Melbourne. A detailed critique of this issue will be provided in the Queensland submission for Tranche 2.

### **Changes sought**

The urban transport assessment is currently not fit for purpose, overly complicated, not ensuring robust standards of quality assurance, and lacking contemporaneity. Additionally, the assessment is not policy neutral and is compensating inefficiency and incentivising increased expenditure in certain SUAs. Consequently, the urban transport assessment is actively undermining HFE.

Queensland considers it imperative to change the urban transport assessment. Fundamentally, this assessment would need to measure the need for urban transport in each SUA in a policy neutral manner. However, given the policy contamination of the public transport expenses data and the difficulties associated with isolating relationships between need and cost, it is the view of Queensland that it would be impractical to develop an alternative model for the urban transport assessment.

Therefore, Queensland believes the most appropriate assessment method is by population shares – urban population shares for urban transport and regional population shares for non-urban transport).

As such, to limit further distortions in fiscal equalisation from the urban transport assessment Queensland strongly recommends the Commission implements the following two changes.

#### *Change 1 – Urban transport expenses should be assessed according to urban population share.*

Urban transport expenses should be assessed according to urban population share. Queensland believes that there is a valid conceptual case for assessing urban transport need using population and that it would improve the urban transport assessment. This is for a range of reasons, including:

- The substantial volume of academic literature that suggests the presence of constant returns to scale for urban transport networks. This would suggest that costs are the same regardless of population size. Thus, an assessment according to urban population share is the most appropriate method.
- The substantial volume of academic literature and international experience that unanimously suggests economies of density in heavy rail networks. This would suggest that costs would be higher in lower PWD SUAs. Assessing urban transport need according to urban population shares would ensure that there are no policy influenced distortions that are currently driving redistribution that are in contrast to economies of density.
- The significant literature that suggests that Sydney's urban transport network is inefficient, and that the costs associated with PWD are largely driven by this inefficiency as opposed to actual need. Furthermore, there is evidence suggesting this inefficiency has become more pronounced during and after the COVID-19 pandemic. This would suggest

states are unfairly funding this inefficiency, and Sydney is being incentivised to increase public transport expenditure. Assessing urban transport need according to urban population shares would prevent this perverse distortion and the incentivisation of inefficiency.

- The evidence that the urban transport task has changed because of the COVID-19 pandemic, with commuters now making up a smaller proportion of the users of public transport. This would suggest that the model is no longer correctly specified. Assessing urban transport need according to urban population shares would allow a better representation of the population that requires public urban transport, regardless of need to commute to work.

Assessing urban transport need according to urban population share would prevent further undermining of fiscal equalisation by the not fit for purpose and policy contaminated urban transport model. It would produce an assessment that assesses states potential demand for urban transport in a policy neutral manner, ensures that there is no distortion of GST relativities, and ends the compensation and incentivisation of inefficient public transport policy decisions.

*Change 2 – Urban transport investment should be assessed according to urban population share.*

Queensland views the drivers of urban transport investment to be essentially identical to the drivers for urban transport need. Therefore, Queensland believes that it would be appropriate to assess both in the same way. It would therefore be appropriate to both remove the regression model from the urban transport investment assessment and replacing the population squared variable with urban population. Overall, Queensland recommends that urban transport investment should be assessed according to urban population share and that the investment assessment should be consistent with expenses assessment.

***Do states consider the urban transport net expense data from 2019–20 to 2021-22 are likely to be overstated?***

Queensland supports the Commission's view that urban transport net expense data from 2019-20 to 2021-22 will be overstated.

***If 2019–20 to 2021–22 data are not fit for purpose, do states support updating the regression with data from 2022–23? Can states provide an indication of when this data could be provided to the Commission?***

***If 2022–23 data are considered fit for purpose but are not available for inclusion in the 2025 Review, do states support updating the assessment in an update following the 2025 Review?***

Queensland does not support updating the urban transport expense assessment due to the significant problems with the assessment (*see the case for change above*). Queensland maintains that using updated data in a flawed assessment is unlikely to result in a more accurate reflection of state need.

***Do states support retaining the 2020 Review proxy variable data in the regression model until fit for purpose net expense data are available?***

Queensland does not support the continued use of the existing urban transport model and, in particular, its inclusion of net expense data. As has been noted in our case for change, net expenses is a highly policy contaminated measure of need.

***Do states agree that the 2021 Census journey to work data were distorted by the COVID-19 lockdowns and are not a fit for purpose measure of current passenger numbers?***

***If the 2021 Census journey to work data are not fit for purpose, do states support the continued use of 2016 Census journey to work data in the model?***

***Do states agree that 2021 Census distance travelled to work data were not significantly distorted by COVID-19 lockdowns and are a reliable measure of network complexity?***

Queensland supports the Commission's view that 2021 Census journey to work data is not suitable for use given the impacts of COVID-19 on work from home arrangements and travel to work patterns. However, Queensland does not support the continued use of the 2016 Census data, as it is no longer relevant given it does not now reflect enduring changes in work practices following COVID-19. This supports Queensland's recommendation of a full review into the appropriateness of the existing model, as Queensland raised in its response to the 2023 New Issues, and which Queensland is progressing through its proposed case for change.

***Do states agree that, if material, 2016 Census journey to work data should be adjusted using the Bureau of Infrastructure and Transport Research Economics measure of passenger kilometres travelled until the 2026 Census data are available?***

Queensland does not support updating the urban transport expense assessment due to the significant problems with the assessment as argued above. Queensland maintains that using updated data in a flawed assessment is unlikely to result in a more accurate reflection of state need.

***Do states agree that if net expense data are available before the 2026 Census passenger numbers it is appropriate to use Bureau of Infrastructure and Transport Research Economics data to index actual passenger numbers?***

Queensland does not support updating the urban transport expense assessment due to the significant problems with the assessment as argued above. Queensland maintains that using updated data in a flawed assessment is unlikely to result in a more accurate reflection of state need.

***Do states support retaining the 2020 Review blending ratio for the urban transport assessment?***

Queensland does not support continuing with the urban transport regression and instead recommends assessing urban transport expense on urban population shares or applying a 100 per cent weighting to urban population under the current blending arrangement.

***Do states support replacing the ferry dummy variable in the urban transport model with the proportion of total commuters using ferry services?***

Queensland does not support updating the urban transport expense assessment and notes the marginal impact of a ferry variable under the current regression approach.

***Do states agree that using a regression model to recognise the growth in passenger numbers in urban areas is a more suitable method for modelling passenger numbers?***

Queensland does not support continuing with the urban transport regression and instead recommends assessing urban transport expense on urban population shares.

## **Non-urban transport expense**

***Do states support the following changes to the non-urban transport assessment:***

- ***assessing non-urban rail passenger expenses based on shares of non-urban train commuters?***
- ***assessing all remaining expenses based on shares of non-urban populations?***

Queensland does not support this approach and instead recommends assessing all non-urban transport expenses based on shares of regional population.

Detailed analysis arguing against the Commission's proposed change and why the non-urban transport assessment should move back to regional population shares is presented below.

**Case for change – non-urban transport should be assessed according to regional population shares.**

## **Context**

In the 2015 Review, the non-urban transport assessment was driven by regional population. During the 2020 Review, the Commission changed its assessment from regional population as the key driver of need to an EPC assessment. This was justified on the basis that the regional population model moved GST away from Victoria despite Victoria's greater than average spend on non-urban transport. Consequently, the Commission argued that there was no policy neutral methodology for differentially assessing non-urban transport need.

The Commission is proposing in the 2025 Review to change the non-urban transport assessment from an EPC assessment to a model that uses the shares of non-urban train commuters to assess non-urban rail passenger expenses and the shares of non-urban populations to assess all remaining expenses. This proposal is not based on evidence, not reflective of what states do, not policy neutral, and not fit for purpose. Overall, implementing this proposal would redistribute a significant amount of GST revenue against equalisation. Three key issues have been identified for the Commission's proposed change:

- *Issue 1 – Non-urban train commuters do not reflect non-urban passenger rail need.*
- *Issue 2 – The proposed change is not policy neutral.*

- *Issue 3 – The proposed change produces non-intuitive results.*

This case for change will discuss these three issues in depth.

## Key issues

*Issue 1 – Non-urban train commuters do not reflect non-urban passenger rail need.*

The Commission's proposal to use non-urban train passenger commuters as the main driver for non-urban transport need is based on the incorrect proposition that most non-urban transport expense relates to rail passenger commuter services. In reality, commuter numbers only capture a portion of the population that uses non-urban passenger rail transport. Consequently, the Commission's proposal would disregard any travel on publicly subsidised non-urban passenger rail services for purposes unrelated to work.

Indeed, in Queensland, most non-urban rail passenger kilometres are travelled on long-distance services. These long-distance services do not have any commuters as part of their service population. However, these services are vital to provide public transport to individuals living in regional, rural, and remote communities who have no other means of long-distance travel. Queensland Rail provides these services as:

*"It is vital to provide subsidised Traveltrain services...as these services ensure regional, rural and remote communities have access to essential medical, educational, cultural and business services."*<sup>119</sup>

As such, the conceptual case for using train commuters travelling between urban areas as a proxy for non-urban transport need is flawed.<sup>120</sup> There is significant need for non-commuters using these long-distance services to access essential services which are not always available in regional and remote locations.

## *Non-urban rail passenger kilometre volumes*

The relative need of commuters compared to non-commuters for non-urban passenger rail can be estimated using data from Census and data provided to Queensland Treasury by Department of Transport and Main Roads. Importantly, this data shows that passenger kilometres is higher for long distance services than commuter services.

Table 4.2 compares the need for non-urban transport by three different groups. First, for commuters between Sydney and other SUAs, second for commuters between Brisbane and other SUAs, and third for non-commuter, long-distance rail travel in regional Queensland.

---

<sup>119</sup> Mark Bailey 2021. *Question on Notice No. 1216*. Brisbane: Parliament of Queensland.

<sup>120</sup> Indeed, it is unclear to what extent the urban transport expense assessment is not already capturing this expense given the difficulties transport departments have in separately identifying these expenses.

**Table 4.2: Key statistics for Interurban commuter services and long-distance rail services in New South Wales and Queensland.**

Terminus	Terminus	Distance (KMs)	Modelled commuters	Estimated trips (pa)	Distance per commuter	Passenger KMs
Sydney	Newcastle	155	482	129,895	41,672	20,081,818
Sydney	Central Coast	71	9,143	2,464,385	19,138	174,971,335
Sydney	Wollongong	83	6,475	1,745,451	22,346	144,697,894
<b>NSW commuters</b>			<b>16,100</b>	<b>4,339,731</b>	<b>21,103</b>	<b>339,751,047</b>
Brisbane	Gold Coast	89	3,829	1,258,181	29,373	112,481,416
Brisbane	Sunshine Coast	105	755	248,094	34,433	26,000,215
Brisbane	Gympie	173	16	5,110	56,841	884,065
<b>QLD commuters</b>			<b>4,600</b>	<b>1,511,385</b>	<b>30,297</b>	<b>139,365,697</b>
Brisbane	Cairns	1,682	NIL	112,080		188,518,560
Brisbane	Rockhampton	639	NIL	170,301		108,822,339
Brisbane	Bundaberg	352	NIL	47,075		16,570,400
Brisbane	Longreach	1,326	NIL	17,472		23,167,872
Brisbane	Charleville	777	NIL	17,472		13,575,744
Townsville	Mount Isa	977	NIL	17,472		17,070,144
<b>QLD long-distance</b>			<b>NIL</b>	<b>381,872</b>		<b>367,725,059</b>

As is illustrated in Table 4.2, whilst there are more than 11 times more total trips by New South Wales interurban commuters compared to Queensland long-distance travellers, the total number of passenger kilometres was higher from Queensland long-distance services compared to New South Wales commuter trips. Furthermore, although there are significantly more interurban commuters in New South Wales compared to Queensland, the average annual distance travelled by Queensland interurban commuters was 44 per cent higher than their New South Wales counterparts. This is because Brisbane's satellites are farther away compared to Sydney's satellites.

Alone, the higher volume of passenger kilometres required from Queensland long-distance services than New South Wales interurban services, and the large differences in the average distance of travel for commuters illustrates how the Commission's proposal is not fit for purpose. However, the difference in cost to meet need between interurban and long-distance services is not captured by passenger kilometres alone.

#### *Drivers of non-urban passenger rail expense*

It is significantly more expensive to provide long-distance services per passenger kilometre compared to interurban services. Estimating a cost weighting per passenger kilometre for both interurban and long distance for NSW and Queensland highlights a large disparity in cost of interurban commuter and long distance rail, particularly long distance rail in Queensland.

There are two primary causes for this higher cost per passenger kilometre. First, there are significantly higher maintenance and logistical costs per passenger because of the long track lengths,

large distances between terminuses, and large amounts of structure infrastructure that must be maintained.

Additionally, these maintenance and logistical costs per passenger will be substantially higher for long-distance services in more dispersed states such as Queensland compared to less dispersed states such as New South Wales. This is because of the longer distances between population centres and the lower volumes of passengers.

Second, there are higher labour costs per passenger because of the lower capacity of long-distance trains compared to interurban services, as long-distance services must provide more amenities including sleeper seats, toilets and showers, baggage carriages, and café carriages.

A cost weighting per passenger kilometre for long-distance services in New South Wales and Queensland can be estimated.

#### *Assessing non-urban passenger rail need*

Using cost weightings, we can adjust the passenger kilometres to give a proxy for the relative need of long-distance services compared to interurban commuter services. This is illustrated in Table 4.3, which shows unadjusted passenger kilometres, adjusted passenger kilometres, and relative non-urban rail need for Queensland and NSW networks.<sup>121</sup>

**Table 4.3: Comparison of non-urban rail transport need by state and network type.**

<b>Networks</b>	<b>Unadjusted KMs</b>	<b>Adjusted KMs</b>	<b>Non-urban Rail transport need<sup>122</sup></b>
NSW Interurban	338,272,416	338,272,416	1.00
NSW Long-distance	629,185,347	2,541,313,811	7.51
<b>NSW Non-urban rail</b>	<b>967,457,763</b>	<b>2,879,586,227</b>	<b>1.00</b>
QLD Interurban	139,365,697	139,365,697	0.41
QLD Long-distance	367,725,059	9,139,404,883	27.02
<b>QLD Non-urban rail</b>	<b>507,090,756</b>	<b>9,278,770,580</b>	<b>3.22</b>

As shown in Table 4.3, adjusted passenger kilometres are 7.5 times higher for NSW long-distance services and 27 times higher for Queensland long-distance services compared to NSW interurban services. Overall, the relative need for long-distance services is 24 times higher than the need for non-urban commuter services. As such, this demonstrates that the non-urban passenger rail task is primarily based in providing long-distance services, with non-urban commuter services accounting for only a very small proportion of need.

<sup>121</sup> NSW passenger kilometres were calculated using line capacity.

<sup>122</sup> The non-urban rail transport need from each individual network (NSW Interurban; NSW Long-distance; QLD Interurban; QLD Long-distance) is indexed to NSW Interurban = 1.00. The non-urban rail transport need for each state (New South Wales and Queensland) is indexed at NSW = 1.00.

In total, this adjusted kilometre model shows Queensland non-urban rail transport need to be 3.22 times higher than New South Wales. Indeed, this is highly reflective of actual non-urban rail expenditure figures, with Queensland spending 3.31 times more than New South Wales.<sup>123</sup>

By contrast, using interurban commuters to assess non-urban passenger rail need would assess New South Wales's need as 3.49 times higher than Queensland, almost completely inverse to the above analysis and actual expenditure. Overall, this suggests that the factors identified by Queensland Treasury are a much more accurate reflection of non-urban passenger rail need than the number of non-urban rail commuters.

The overall conclusion from the above analysis highlights that the needs of non-urban train commuters accounts for only 4 per cent of total non-urban passenger rail need in New South Wales and Queensland. As this is such a small proportion of the cost of non-urban rail, it highlights the contradiction of using only interurban rail commuters to assess all non-urban rail transport need and clearly demonstrates that this proposed change in methodology does not reflect need and 'what states do'.

#### *Issue 2 – The proposed change is not policy neutral.*

The proposed methodological change does not account for the significant differences between state policies and does not propose an assessment based on average policy. Furthermore, it does not reflect the inherent differences between states. There are two issues:

- *Issue 2a – There are significant differences between state non-urban transport policies.*
- *Issue 2b – The proposed change does not account for geographic factors.*

#### *Issue 2a – There are significant differences between state non-urban transport policies.*

In the 2020 Review, the Commission recognised rail passenger services to be the main driver of non-urban expenses and viewed that the assessment should therefore capture populations most likely to be serviced by non-urban passenger rail. However, after considering potential drivers, the Commission ultimately concluded that there were no policy neutral indicators able to accurately represent the non-urban transport task need, and an EPC assessment was the only appropriate methodology:

*"These three States (NSW, VIC, QLD) appear to follow similar policies of providing commuter train connections to their satellite cities. However, differences in the spatial distribution of populations around Sydney, Melbourne and Brisbane meant it was not possible to identify a policy neutral indicator that would capture each State's circumstances."*<sup>124</sup>

In its consultation for the 2025 Review, the Commission now posits that the policy influences of non-urban passenger commuters are "*relatively minor*" and that non-policy factors (referring to geographic and economic factors) appear to be the dominant drivers of difference across states. This is a contradiction from its previous stance. Additionally, this change in position has not been substantiated by the Commission with any evidence. There is indeed academic literature that

---

<sup>123</sup> Commonwealth Grants Commission 2023. *2025 Methodology Review: Transport consultation paper*. Canberra: Australian Government.

<sup>124</sup> Commonwealth Grants Commission 2020. *2020 Methodology Review*. Canberra: Australian Government.



suggests there are policy influences on ridership numbers, particularly on commuter services.<sup>125</sup> This means that assessing need by number of non-urban rail commuters is clearly policy influenced.

Additionally, as already discussed in *Issue 1*, the policy similarity to provide services to satellite cities makes up only a small proportion of non-urban passenger rail need. Indeed, it is consistent across New South Wales and Queensland that there is a substantially higher level of need for long-distance services compared to interurban services for satellite cities. As such, it is average policy to provide non-urban passenger rail services primarily to long-distance travellers who are not commuters, contrary to the Commission's assumptions in its proposed methodological change.

Overall, these policy neutrality issues show that the Commission's proposed methodology is not policy neutral and is not aligned with average policy.

#### *Issue 2b – The proposed change does not account for geographic factors.*

The proportion of services dedicated to interurban services to satellite cities compared to long-distance services is largely driven by geographic factors. For example, Queensland provides a higher proportion of long-distance services compared to New South Wales (see *Table 4.3*), which is largely driven by Queensland's more dispersed population and larger area. As these are geographic factors influencing state's provision of non-urban passenger rail services, they should not be penalising or advantaging any state in GST allocations. This impacted on the cost-weighting developed for *Table 4.3* in *Issue 1*.

Overall, the significant differences between the composition of non-urban rail services in different states is driven by geographic factors. Any method that penalises or advantages some states over others would breach the policy neutrality principle and is opposed to the Commission's commitment to equalisation.

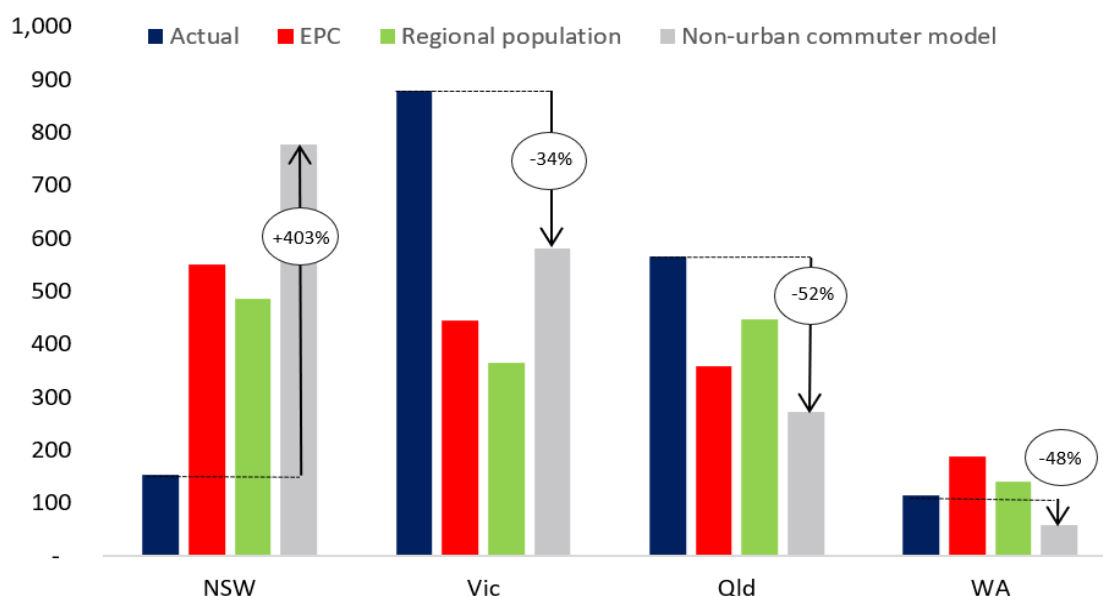
#### *Issue 3 – The proposed change produces non-intuitive results.*

A comparison of the assessed percentage share from the proposed change against actual spend highlights that the assessed need is unreasonable. As shown in *Figure 4.12*, the proposed model (which uses a combination of non-urban train commuters (81 per cent share) and regional population (19 per cent share)) assesses New South Wales's non-urban transport task at almost half of the national total and over five times what it spends. Furthermore, Victoria, Queensland, and Western Australia all have their non-urban transport need assessed as significantly lower than their actual expenditure. Indeed, Queensland's assessed non-urban transport need is less than half of Queensland's actual expenditure. This makes little sense and would, if implemented, lead to a significant underestimation of the genuine need of other states and would be a significant violation of HFE.

---

<sup>125</sup> B. Taylor & C. Fink 2013. "Explaining transit ridership: What has the evidence shown?" *The International Journal of Transportation Research: Transportation Letters*. 5(1): 15-26.

**Figure 4.12: Non-urban transport actual expenditure vs. assessed expenditure by proposed method**  
(\$ million)



Source: CGC 2023 Update data, Commission calculation based on ABS 2016 Census data

## Principles affected

### Policy neutrality

The policy neutrality principle maintains that a state's policy choices should not directly affect its GST share. However, the proposed use of non-urban train commuters does not meet this requirement. Historical choices around non-urban rail corridors continue to have a material impact on distributions by penalising states without existing corridors as they are assessed to have no need. Additionally, ticket pricing policies will affect the level of demand on these interurban services. Furthermore, states will make policy choices around use of different transport modes, such as the use of buses over trains, and this should not influence the level of assessed need.

Additionally, this methodology does not account for the differences in states' geography. For example, there are substantially higher costs associated with provided the same level of service to a more dispersed population in a larger state compared to a smaller state with a lower regional population share.

### What states do

This principle implies that the Commission's methods should reflect what states collectively do. However, measuring non-urban train commuter numbers is not a true reflection of the non-urban transport task. It does not consider the travel unrelated to work, including the ability of vulnerable individuals from regional communities to access services including education, healthcare, cultural, and business services. Indeed, the proposed methodology would only be reflective of approximately 4 per cent of total non-urban passenger rail services across New South Wales and Queensland. This proposed methodology also does not reflect that states may utilise different modes of public transport to service regional areas.

### *Practicality – Fit for purpose*

The practicality principle states that assessments should be based on sound and reliable methods. The proposed changes however would render this assessment unreliable and no longer fit for purpose. This is clearly evidenced by the unreasonable results from these proposed changes, where New South Wales would see a 403 per cent increase on its actual spending of assessed need under the proposed change.

### **Changes sought**

Queensland does not support the proposed change to the non-urban transport expense assessment as it violates many of the Commission’s principles and would redistribute GST against equalisation. Using rail passenger commuter numbers to measure over 80 per cent of the non-urban transport need would lead to a significantly policy influenced assessment and an unreasonable estimation of need across states.

In the *Issue 1* section of this case for change, Queensland Treasury outlined an illustrative methodology for calculating non-urban passenger rail need in different interurban and long-distance services. This method accounts for state-specific factors and would assess need across a much broader base of non-urban rail passengers.<sup>126</sup> Additionally, it demonstrated a high-degree of predictive validity of estimated costs compared to actual costs. As such, a model which similarly produces differential cost-weightings for different aspects of non-urban passenger rail costs to assess the specific differences between states interurban and long-distance passenger rail services could potentially be used to assess differential need.

As well as this illustrative approach, Queensland has also previously proposed that an ideal non-urban transport model would reflect a range of additional drivers including non-urban populations, a self-sufficiency index and dummy variables which reflect the presence of bus, water, and rail services.<sup>127</sup> While this proposal was previously not adopted by the Commission, Queensland would also support further analysis and investigation over whether such a model could be developed.

If no other suitable model can be developed during the 2025 Methodology Review timeframe, Queensland recommends that share of regional population be used to assess of non-urban transport need. This measure would not account for the large increase in cost per passenger kilometre for larger states. However, it would provide a policy neutral variable that could act as a proxy for the level of non-urban transport services states need to provide for their regional populations.

---

<sup>126</sup> This model would assess most passengers using non-urban passenger rail services, however, would exclude passengers on tourism rail networks, and discount the ways and structures maintenance costs for interstate passenger rail.

<sup>127</sup> See ‘Queensland response to the Draft Report on the 2020 Methodology Review’.

## Revenue assessments

### 5. Land tax

#### Proposed changes

Based on information provided in the consultation paper, the proposed question is:

- *Do states support the continuation of the land tax assessment in its current form?*

#### Queensland position

***Do states support the continuation of the land tax assessment in its current form?***

Queensland supports the overall approach to assessing land tax.

## 6. Stamp duty on conveyances

### Proposed changes

Based on information provided in the consultation report, the proposed questions are:

- *Do states agree that the overall approach to assessing revenue from stamp duty on conveyances remains appropriate?*
- *Do states agree that revenue from the New South Wales property tax be assessed with land tax for as long as it exists?*
- *Do states support the Commission not adjusting states' value of property transferred for the elasticity effects of recent reforms on materiality grounds?*

### Queensland position

#### ***Do states agree that the overall approach to assessing revenue from stamp duty on conveyances remains appropriate?***

Queensland supports the overall approach to assessing revenue from stamp duty on conveyances, subject to the continuation of the EPC treatment of non-land asset transactions.

Stamp duties from non-real property transactions are only raised by three states. It remains appropriate and consistent with the Commission's methods as of the 2020 methodology review to continue assessing stamp duty revenue from non-real property transactions on an equal per capita basis.

#### ***Do states agree that revenue from the New South Wales property tax be assessed with land tax for as long as it exists?***

Queensland supports the current treatment of New South Wales property taxes, which are assessed as land tax revenue, consistent with the GFS treatment. A separate assessment is not considered necessary on the grounds of materiality.

#### ***Do states support the Commission not adjusting states' value of property transferred for the elasticity effects of recent reforms on materiality grounds?***

Queensland supports not undertaking adjustments for elasticity effects in assessments given the complexities and measurement issues that this introduces and, in this case, where the materiality threshold is not satisfied. Queensland also supports the Commission continuing to monitor policy developments and respond to these in consultation with states, where it is material to do so.

## 7. Insurance tax

### Proposed changes

Based on information provided in the consultation paper, the proposed question is:

- *Do states support the continuation of the insurance tax assessment in its current form?*

### Queensland position

#### ***Do states support the continuation of the insurance tax assessment in its current form?***

Queensland supports the overall approach to assessing insurance tax. As the Commission notes there have not been any significant changes that would require a change in assessment methods.

## 8. Motor tax

### Proposed changes

Based on information provided in the consultation report, the proposed questions are:

- *If an assessment of revenue from electric vehicle charges becomes material in future updates, do states support the revenues being assessed as a separate component of the motor taxes category?*
- *Do states agree that the number of registered light vehicles remains an appropriate measure of revenue capacity for revenue raised from emissions-based registration fees?*

### Queensland position

***If an assessment of revenue from electric vehicle charges becomes material in future updates, do states support the revenues being assessed as a separate component of the motor taxes category?***

It is expected that the usage of electric vehicles will grow significantly in future years, Queensland therefore supports the inclusion of electric vehicle charges within the motor tax assessment, if and when the assessment becomes material and provided suitable data is available to assess state revenue raising capacities.

Where the average policy continues to apply to registration fees on a per vehicle basis then Queensland agrees with not assessing revenue raised from electric vehicles as a separate component and that the existing components (light vehicles and heavy vehicles) should continue to apply. However, if more states implement emissions based registration systems (as ACT have done) which are applied on a different basis (distance travelled rather than vehicle weight/engine capacity) and materiality thresholds have been satisfied, then assessing this separately may be justified.

Queensland considers that any updates to assessment methodology should be held until the outcome of the High Court challenge to the validity of Victoria's electric vehicle charge as this will potentially impact future State revenue from electric vehicles.

***Do states agree that the number of registered light vehicles remains an appropriate measure of revenue capacity for revenue raised from emissions-based registration fees?***

Queensland supports the use of *number of light vehicles* as a suitable proxy measure for emissions based registration fees. The average policy is based on imposing registration fees per vehicle and this does not change regardless of the characteristics of the vehicle or its use.

## Expense assessments

### 9. Schools

#### Proposed changes

Based on information provided in the consultation report, the proposed questions are:

- *Do states support a differential assessment of primary and secondary school students and if so, support including in the regression model variables to account for differences in the fixed cost of secondary schools and the additional costs of secondary school students?*
- *Do states agree that, if relevant school level data are available and determined fit for purpose, an assessment of needs for educating students with a disability should be included in the schools assessment?*
- *Do states agree that the average state funding of schools is not sufficiently based on the Schooling Resource Standard funding to be adopted in place of the Commission's funding model?*

#### Queensland position

***Do states support a differential assessment of primary and secondary school students and if so, support including in the regression model variables to account for differences in the fixed cost of secondary schools and the additional costs of secondary school students?***

Queensland supports the proposed change in-principle. With all states having now transitioned to a standard model with Year 7 in secondary schools, it is appropriate for the regression model to account for the difference in the way education is delivered in secondary schools through the introduction of the additional fixed cost variable and the additional per student variable.

***Do states agree that, if relevant school level data are available and determined fit for purpose, an assessment of needs for educating students with a disability should be included in the schools assessment?***

Queensland supports the proposed change on a conceptual basis but recommends that this change be delayed. To ensure that the data collected and used in the assessments is fit for purpose and comparable between states / territories, over time, Queensland recommends that the introduction of this assessment be delayed until the 2030 methodology review.

We acknowledge that there is an additional resourcing requirement to support students with a disability, and that any material differences in prevalence rates between states should be recognised.

Since 2018, the public funding component of state schools' sector-level budget has been based on meeting a target percentage of the Schooling Resource Standard (SRS). The SRS incorporates a funding loading for students with disability, based on results from the annual Nationally Consistent Collection of Data (NCCD).



Queensland is in the process of transitioning toward a new and more targeted state schools resourcing allocation model for students with disability, which will also be based on results from the NCCD.

While the NCCD has now been in place for a number of years, and is used by the Queensland Government for both sector-level budgeting and individual schools resource allocation, concerns remain about inconsistent reporting between jurisdictions and schooling sectors. In its 2021–22 Budget, the Australian Government committed \$20 million over four years (2021–22 to 2024–25) towards improving the quality and integrity of the NCCD data that underpins ongoing funding for students with disability.

***Do states agree that the average state funding of schools is not sufficiently based on the Schooling Resource Standard funding to be adopted in place of the Commission’s funding model?***

Queensland supports leaving the current funding model in schools assessment unchanged.

The Commission’s schools assessment assesses states’ GST needs based on the definition and principles of horizontal fiscal equalisation – states receive GST to ensure a similar level of service. This is based on the Commission assessing states needs both from a population perspective and what states actually spend.

As noted by the Commission the results of the Schooling Resource Standard (SRS) do not reflect what states actually spend and is at this time not a good substitute for the Commission’s existing assessment.

## 10. Post-secondary education

### Proposed changes

Based on information provided in the consultation report, the proposed questions are:

- *Do states agree that a course mix driver should not be introduced?*
- *Do states agree that the variables used in the socio-demographic assessment of needs be retained?*

### Queensland position

#### ***Do states agree that a course mix driver should not be introduced?***

Queensland accepts that there remains a conceptual basis for including course mix given that different courses incur different costs. However, on the basis that this is immaterial for all states Queensland supports this not being included as a driver.

#### ***Do states agree that the variables used in the socio-demographic assessment of needs be retained?***

Queensland considers that the current set of socio-demographic drivers best reflects the needs for this assessment and supports their continued use. In particular, the higher costs of services and usage rates in remote regions and amongst the Indigenous population should continue to be recognised.

Queensland supports the cost weights being updated in line with latest available data during reviews. This is in line with the Commission's contemporaneity principle.

## 11. Services to communities

### Proposed changes

Based on information provided in the consultation report, the proposed questions are:

- *Do states agree that the existing assessment methods for spending on disaster mitigation remain appropriate?*
- *Do the definitions used in the National Partnership on Disaster Risk Reduction provide an appropriate basis for describing the type of spending that could be classified as natural disaster mitigation?*
- *Where is this spending currently classified in the Government Finance Statistics framework?*
- *Is spending on mitigation measures expected to increase significantly over the next five years?*

### Queensland position

***Do states agree that the existing assessment methods for spending on disaster mitigation remain appropriate?***

Queensland supports using the existing assessment methods for assessing disaster response and would welcome a review into whether a separate assessment is required for disaster mitigation in light of an increased incidence of future disaster events. However, using the National Partnership, as proposed in the subsequent questions is not appropriate due to a lack of contemporaneity.

***Do the definitions used in the National Partnership on Disaster Risk Reduction provide an appropriate basis for describing the type of spending that could be classified as natural disaster mitigation?***

Queensland supports establishing a consistent definition for disaster mitigation. However, while the current definitions of disaster, disaster risk and disaster risk reduction - which are based on the UN Office for Disaster Risk Reduction - are appropriate to use, we note specific limitations with the national partnership agreement and its use in this assessment. This includes contemporaneity issues in the underlying BITRE data (it is based on the cost of natural disasters from 1967 to 1999).

The national agreement also specifies its distribution on the basis of “*population, and cost of disasters and relative disadvantage*”. However, as it is unclear how this is calculated and does not factor in climate and other risk factors, this likely fails to recognise the disproportionate impact of disaster events on Queensland. For example, a 2021 Special Report from the Australian Business Roundtable for Disaster Resilience and Safer Communities estimates that Queensland will account for 40 per cent of economic costs from natural disasters by 2060.

***Where is this spending currently classified in the Government Finance Statistics framework?***

Disaster risk reduction spending is currently predominantly classified as capital grant expenses (ETF 1261) to local government (SDC 333) under social protection: natural disaster relief (COFOG 1091).

***Is spending on mitigation measures expected to increase significantly over the next five years?***

Queensland supports the view that disaster mitigation spending will increase significantly over the next five years based on a number of studies including the recently released Australian Government's Intergenerational Report 2023: Australia's future to 2063.

Furthermore, while it is still unclear if new partnership arrangements will be established following the cessation of the current National Partnership Agreement in June 2024, it is noted that programs such as the Disaster Ready Fund will provide extensive funding (up to one billion dollars over the next five years from 2023-24) for natural disaster resilience and risk reduction across Australia, with this funding to be matched by states and territories. In the first round of project approvals, Queensland has received more than \$84 million in funding to support disaster risk reduction, 42% of the \$200 million annual allocation.

## 12. Native title and land rights

### Proposed changes

Based on information provided in the consultation report, the proposed questions are:

- *Do states agree that the APC assessment of Native Title expenditure remains appropriate?*
- *Do states anticipate that treaty processes will affect how they negotiate Native Title and land rights claims?*

### Queensland position

#### ***Do states agree that the APC assessment of Native Title expenditure remains appropriate?***

Queensland supports the current APC treatment for assessing administrative and legal costs. As noted, states are required to respond to native title claim and compensation applications within the framework of national legislation and this remains unchanged by developments subsequent to the 2020 review. Queensland has not yet commenced section 47C negotiations (disregarding of extinguishment over park areas by agreement), but these would likely add to costs particularly where the mechanism is a revised determination application.

Queensland budgets have for some time acknowledged a significant liability will eventuate for native title compensation claims, but this is not yet quantifiable. Queensland considers that its native title compensation settlement framework which has as one of its principles consistent and repeatable compensation valuation methods, alongside the guiding principles<sup>128</sup>, will ensure that states follow best practice in valuing native title compensation.

Queensland is also a member of the Senior Officers Group – Compensation Working Group (SOMCOM), comprising the Commonwealth, states, territories, and the National Native Title Council, which provides a platform for information sharing and discussion on approaches to native title compensation. Furthermore, the High Court's Timber Creek decision established a legal precedent with a structure and formula for calculating the economic value component to compensation claims for certain extinguishing acts. Given this, any differences should therefore be seen to be as a result of circumstances specific to each claim, such as the calculation of cultural loss, rather than States' policies or influence. Queensland welcomes the Commission continuing to monitor compensation expenses to ensure expenses remain appropriate and free of influence.

Therefore, these compensation expenses should also be assessed on an actual per capita basis.

#### ***Do states anticipate that treaty processes will affect how they negotiate Native Title and land rights claims?***

Queensland supports the expectation that treaty processes will likely have an impact on native title claims, though the implications at this time are unclear. We do note however that the processes and requirements for recognition of native title are dealt with under the Commonwealth *Native Title Act 1993* (NTA) and that native title compensation is a legal entitlement under the NTA. As noted, significant divergence in state policies may require the current APC treatment to be

---

<sup>128</sup> Queensland Government. [Native title compensation](#). Accessed 1 September 2023

reassessed but this should not occur until it becomes clear what actions are being taken across states. Queensland supports the Commission continuing to monitor developments and consulting with states on this issue.

For Queensland, treaty processes will commence once the First Nations Treaty Institute and Queensland Government have developed a Treaty Making Framework. The development of this Framework will require extensive negotiation with native title holders and other Aboriginal and Torres Strait Islander groups and will need to take into consideration 30 years of prior engagement under the Native Title processes.

## Other assessments

### 13. Commonwealth payments

#### Proposed changes

Based on information provided in the consultation report, the proposed questions are:

- *Do states agree the guideline for deciding the treatment of Commonwealth payments remains appropriate?*
- *Do states agree to a default treatment of 'impact' in cases where there is substantial uncertainty about the payment's purpose or whether relative state expenditure needs are assessed? It remains open to states to provide evidence in support of no impact.*
- *Do states agree to discontinue the assessment of Commonwealth own-purpose expense payments?*
- *Do states agree that the guideline for determining the GST treatment of Commonwealth payments should be applied in cases where payments include elements aimed at addressing pre-existing structural disadvantage?*

#### Queensland position

***Do states agree the guideline for deciding the treatment of Commonwealth payments remains appropriate?***

Queensland supports the current methods around Commonwealth payments, subject to the Commission's response to the issues noted under the National Health Reform Agreement (see *comments in the case for change for the health assessment*). We welcome however any effort by Commission to provide guidance for payments where there is uncertainty around treatment.

***Do states agree to a default treatment of 'impact' in cases where there is substantial uncertainty about the payment's purpose or whether relative state expenditure needs are assessed? It remains open to states to provide evidence in support of no impact.***

Queensland supports adopting a default impact treatment in cases of substantial uncertainty, **but subject to:**

- *Recommendation 1 – states are afforded the opportunity to argue the conceptual case where it does not agree with this assessment.*
- *Recommendation 2 – the Commission will reconsider their decision in light of new evidence.*
- *Recommendation 3 – prior to applying a default impact treatment, the Commission would continue to assess all payments on a case by case basis and assign treatment, where clear, on the basis of supporting state need and coverage in existing assessments.*

***Do states agree to discontinue the assessment of Commonwealth own-purpose expense payments?***

Given the small share (0.1 per cent) of impacting Commonwealth payments that Commonwealth own-purpose expense payments represent and difficulties in compiling a complete set of payments, Queensland supports excluding Commonwealth own-purpose payments from assessments.

***Do states agree that the guideline for determining the GST treatment of Commonwealth payments should be applied in cases where payments include elements aimed at addressing pre-existing structural disadvantage?***

Queensland supports the current approach absent a direction from the Commonwealth Treasurer to quarantine a specific payment. The Commission should continue to assess and assign treatment as required. As the Commission notes it is not best placed to assess if a Commonwealth payment is aimed at addressing structural disadvantage.



## 14. Socio-economic status

### Proposed changes

Based on information provided in the consultation report, the proposed questions are:

- *Do states agree that an annual MADIP-based measure of socio-economic status for non-Indigenous people has the potential for a more contemporaneous assessment?*

### Queensland position

***Do states agree that an annual MADIP-based measure of socio-economic status for non-Indigenous people has the potential for a more contemporaneous assessment?***

Queensland supports the Commission's research into using MADIP as a measure of socio-economic status to improve the contemporaneity of their assessment. However, Queensland does not support the use of a MADIP-based measure of socio-economic status, as the measures selected by the Commission are not conceptually sound.

However, if the Commission does introduce a MADIP-based measure, Queensland would recommend that this measure is rescaled and standardised to the NISEIFA every five years, as this census-based measure should be recognised as the highest quality data available.

These issues are discussed in more detail below.

#### *Issue 1 – MADIP was not designed for highly accurate data analysis.*

MADIP data is collected and analysed to support policy making and academic research.<sup>129</sup> Analysis of the dataset is valuable for providing insight into the dynamics and trends of socio-economic status in Australia. However, research by the ANU Centre for Social Research & Methods stated that *"analysis of the dataset should be done with caution, taking into account some key limitations, including incomplete linkage (which is likely to be non-random)."*<sup>130</sup> Individuals not submitting personal income tax statements or having insecure housing being the most likely to have linkage gaps.<sup>131</sup> **These individuals are disproportionately of lower socio-economic status.**<sup>132</sup> This incomplete linkage and its likely non-randomness mean that MADIP is not fit for purpose in use for the Commission's socio-economic status assessment.

#### *Issue 2 – Shortcomings with the measures identified by the Commission.*

Of the measures identified in the consultation paper, there is a strong conceptual case that the age standardised population receiving selected income support payments and age-standardised couple income over \$200,000 per annum being good indicators of socio-economic status.

Queensland has significant concerns with the measure of population receiving prescription medication for alimentary tract and metabolism related (AT&M) disorders, and strongly opposes

---

<sup>129</sup> Australian Bureau of Statistics 2023. [Multi-Agency Data Integration Project \(MADIP\)](#). Accessed 28 May 2023.

<sup>130</sup> N. Biddle, R. Breunig, F Markham, & C Wokker 2019. *Introducing the longitudinal MADIP and its role in understanding income dynamics in Australia*. Australian National University Centre for Social Research & Methods: Canberra.

<sup>131</sup> N. Biddle, R. Breunig, F Markham, & C Wokker 2019. *Introducing the longitudinal MADIP and its role in understanding income dynamics in Australia*. Australian National University Centre for Social Research & Methods: Canberra.

<sup>132</sup> E. Robinson & R. Adams 2008. *Housing stress and the mental health and wellbeing of families*. Australian Institute of Family Studies: Canberra.

using this measure in the socio-economic status assessment. Whilst literature suggests there is a link between socio-economic status AT&M disorders, individuals may not always choose to seek treatment for some lower burden disorders in this category. The cohorts opting-out are likely to be non-random based on volition and health literacy.<sup>133</sup> Volition decreases in regional and remote areas, whilst health literacy decreases with both remoteness and socio-economic status.<sup>134</sup> This suggests that regional and low socio-economic areas are the least likely to access PBS services for any lower burden AT&M disorders.

Furthermore, the Commission suggests that the PBS is a universal scheme. However, there are significant barriers to access across geographic regions or because of socio-economic status as discussed below. Therefore, the use of any PBS data for assessing socio-economic status does not meet the Commission's own criterion that “[a measure] must not reflect accessibility of service provision.”

**Table 14.1: PBS expenditure by remoteness**

	Major cities	Inner regional and outer regional	Remote and very remote
Total expenditure (\$ million)	8826.15	4026.61	164.79
Expenditure per capita (\$, age standardised)	515.60	522.27	304.51
Indexed at Major cities	1.00	1.01	0.59

Source: National Rural Health Alliance – Evidence base for additional investment in rural health in Australia, 2023

Although PBS is nominally universal, a prescription is required to access the scheme. For chronic conditions, such as AT&M disorders, these prescriptions are commonly issued by Medicare-funded general practitioners. **Regional and remote communities are much more likely to experience barriers to accessing GPs compared to their major city counterparts.**<sup>135</sup> This is reflected in PBS expenditure by remoteness statistics, suggesting that age standardised expenditure is much lower in remote areas than in major cities, as illustrated in Table 14.1.<sup>136</sup> This is despite remote areas having significantly higher disease burdens.<sup>137</sup>

Furthermore, the initial increase in PBS prescriptions dispensed in regional areas compared to major cities is likely because of pharmaceutical treatments being used instead of allied health services which are not readily available outside of major cities.<sup>138</sup> This substitution of allied health services for pharmaceutical services can be observed in Medicare statistics, that show a marked decrease by rurality in age standardised expenditure.<sup>139</sup> This inflates the number of PBS prescriptions provided in these regions, suggesting that there is a lower proportion of services for AT&M medications, despite the higher disease burden.

<sup>133</sup> National Rural Health Alliance 2023. Evidence base for additional investment in rural health in Australia.

<sup>134</sup> Australian Bureau of Statistics 2018. National Health Survey: Health literacy, 2018. Accessed 28 May 2023.

<sup>135</sup> Royal Australian College of General Practitioners 2023. RACGP pre-budget submission 2023-24.

<sup>136</sup> National Rural Health Alliance 2023. Evidence base for additional investment in rural health in Australia.

<sup>137</sup> Australian Institute of Health and Welfare 2023. Rural and remote health. Accessed 28 May 2023.

<sup>138</sup> National Rural Health Alliance 2023. Evidence base for additional investment in rural health in Australia. Age standardised Medicare expenditure in FY2021-22 was \$1,011.14 in major cities, \$814.57 in inner and outer regional areas, and \$519.20 in remote and very remote areas.

<sup>139</sup> National Rural Health Alliance 2023. Evidence base for additional investment in rural health in Australia.

Furthermore, as there are less services available in regional and remote locations, comparably more resources must be expended on the management of higher burden chronic conditions.<sup>140</sup> As regional and remote areas also have a higher prevalence of these conditions, lower-burden illnesses and disorders are likely to be underdiagnosed in regional and remote areas compared to major cities. This would also result in a decrease in PBS services dispensed compared to major cities. Therefore, PBS medication is not comparable across different geographic regions, and should not be used to develop an area-based measure of socio-economic status.

There are further barriers to access established by a lack of pharmacists and pharmacies in regional and remote areas.<sup>141</sup> This firstly makes it more difficult to access PBS services and secondly decreases competition.<sup>142</sup> This decrease in competition inflates the PBS co-payment, including for concession card holders, which may incentivise some individuals of low socio-economic status to not access PBS services.

Research by the Pharmaceutical Society of Australia also suggests that there is an oversupply of pharmaceutical services in major cities, resulting in supply of PBS services equalising above need.<sup>143</sup> As there is less accessibility to PBS and Medicare services in regional and remote areas, there is likely to be additional use of the state-funded healthcare system.<sup>144</sup> This means that where a MADIP-based measure of socio-economic status would suggest greater need because of increased AT&M medications dispensed, there is actually a lower need for state-funded healthcare services.

Finally, there is significant discrepancies between existing data on AT&M prescriptions dispensed compared to the SEIFA index.<sup>145</sup> PBS data suggests that NT has less than half of the average per capita share of AT&M prescriptions, despite having significant disadvantage according to the SEIFA index.<sup>146</sup> This demonstrates the conceptual case for using the PBS services is not realised in an Australian perspective.

**Overall, PBS data of any form is not fit for purpose in a Commission assessment. It is conceptually unsound and is significantly affected by service accessibility across socio-economic status and geographic location. As PBS data is not fit for purpose in any Commission assessment, the current proposal by the Commission for MADIP-based measure of socio-economic status would not be appropriate.**

### *Issue 3 – Comparability of MADIP and NISEIFA*

Queensland would support the Commission undertaking further research on the MADIP database. If in the future MADIP's data linkages become more complete and the Commission can identify more appropriate indicators, the database could be an invaluable addition to the assessment.

Data sourced from MADIP would only be suitable if the Commission can demonstrate that its fitness for purpose is equal to the NISEIFA as this census-derived data is acknowledged as the highest quality data available. It will be important for the Commission to test the comparability of any MADIP-based measure and NISEIFA. It is the view of Queensland that if any MADIP-based annual measure is introduced, it should be standardised and rescaled to the NISEIFA every five years.

---

<sup>140</sup> Royal Australian College of General Practitioners 2023. *RACGP pre-budget submission 2023-24*.

<sup>141</sup> Pharmaceutical Society of Australia Ltd. 2021. *Medicine safety: rural and remote care*.

<sup>142</sup> Pharmaceutical Society of Australia Ltd. 2021. *Medicine safety: rural and remote care*.

<sup>143</sup> Pharmaceutical Society of Australia Ltd. 2021. *Medicine safety: rural and remote care*.

<sup>144</sup> Pharmaceutical Society of Australia Ltd. 2021. *Medicine safety: rural and remote care*.

<sup>145</sup> This is an aggregate of Indigenous and non-Indigenous disadvantage, as PBS statistics do not classify prescriptions according to Indigenous status.

<sup>146</sup> Medicare Australia 2022. *Statistics - Pharmaceutical Benefits Schedule (PBS) Group Statistics*. Accessed 28 May 2023.

