




Australian Government
Commonwealth Grants Commission

2025 Methodology Review

Investment consultation paper

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Overview of category

- 1 The Investment assessment covers state and territory (state) gross investment, including investment in new assets and investment that replaces existing, depreciated assets. It includes all capital investment by the general government sector as well as by housing and public transport public non-financial corporations.
- 2 It does not include the acquisition of financial assets. Examples include shares or equity injections into typically profit making public non-financial corporations, such as ports, or electricity generating or water supply corporations.

Current assessment method – 2020 Review

Conceptual framework

- 3 State investment in capital infrastructure is by its nature irregular and heavily influenced by state policy. The Commission, in assessing investment needs, looks for drivers of investment that are beyond states' control. This is to remove the influence of state policy choices. Accordingly, it has concluded that population is the most policy neutral driver of state investment needs. Across a range of service components, for example, schools and health, the investment assessment assesses the need for each state to provide the national average level of capital infrastructure per person using that particular service (i.e., the relevant 'user population').
- 4 The capital assessment framework calculates a state's investment needs in a year as:
 - the value of the national average capital per user for the user population at the end of the year, minus
 - the same concept at the start of the year.
- 5 This can also be expressed as a state is assessed to need investment to provide:
 - its new population with the same level of capital as the rest of the population, plus
 - the national average improvements in capital per capita to the entire user population.¹

¹ If a state has declining population, it is assumed to have the capacity to dispose of stranded assets, and hence needs less GST.

Current assessment method

- 6 As described in the conceptual framework, for each component the investment assessment provides each state with the capacity to:
 - invest in additional physical assets to provide the state's new user population (added through the year) with the same per user stock the existing user population had at the start of the year, at the national average capital intensity; and
 - invest in physical assets to ensure the user population receives the increase in assets brought about by the replacement of depreciated assets and the national increase in capital intensity during the year.
- 7 These 2 measures represent the volume of stock required in each state and can also be calculated as the assessed closing minus assessed opening stocks.
- 8 The relative cost of providing physical assets is captured by the capital cost factors, which allow for differences between states in the price of materials and other unavoidable factors affecting the cost of providing infrastructure.

User population growth

- 9 The user populations in investment components are generally calculated using the same approach as the corresponding recurrent category assessments. For example, the weighted user population for investment in health infrastructure is calculated using the same approach as the recurrent spending on health. Some drivers have been removed where they are deemed not relevant to capital stock requirements (Table 1).

Table 1 Calculation of user populations, 2020 Review

Capital component	Associated recurrent component	Treatment
Schools	State funded government schools	Government students (a)
	Commonwealth funded government schools	— Not used
	State funded non-government schools	— Not used
Post-secondary education	Post-secondary education	Assessed spend
Health	Admitted patients	Assessed spend and cross border
	Emergency departments	Assessed spend
	Non-admitted patients	Assessed spend
	Community and other health	Assessed spend
	Non-hospital patients transport	Assessed spend
Housing	First home owner expenses (FHOE)	— Not used
	Social Housing	Assessed spend
	Social housing user charges	— Not used
Welfare	Child protection and family services	Assessed use
	NDIS	Assessed spend
	Non-NDIS disability, aged care and national redress	Assessed spend
	Concessions	— Not used
	Other welfare	Assessed spend
	Services to communities	Water subsidies
Electricity subsidies		Total population
Indigenous community development		Total population
Other community development and amenities		Total population
Environmental protection		Total population
Justice	Police	Assessed spend
	Criminal Courts	Assessed use
	Other legal services	Assessed use
	Prisons	Assessed use
Rural roads	Rural roads	Capital specific weighted drivers
Urban roads	Urban roads	Capital specific weighted drivers
Bridges and tunnels	Bridges and tunnels	— Not used
Urban transport	Urban transport	Urban characteristics blended with population squared
Non-urban transport	Non-urban transport	Assessed use (total population)
Services to industry	Agriculture regulation	Assessed spend
	Mining regulation	Assessed spend
	Other industries regulation	Assessed spend
	Business development	Assessed spend
Other Expenses	Service expenses	Assessed use (total population)

(a) includes adjustment for schools with high numbers of First Nations students.

Note: Where possible, recurrent wage drivers and regional costs are not assessed in the measure of capital stock requirements.

Components

10 The investment category has 14 components. In addition to the size and growth of user populations, the value of the stock of assets and the level of investment have a major effect on each component. The size of these elements is shown in Table 2.

Table 2 Size of components

	Investment		Stocks	
	\$m	%	\$m	%
Investment in Schools	5,260	13	67,806	10
Investment in Post-secondary education	969	2	7,598	1
Investment in Health	6,400	16	67,231	10
Investment in Housing	1,134	3	56,319	8
Investment in Welfare	232	1	1,755	0
Investment in Services to communities	6	0	15,079	2
Investment in Justice	2,067	5	18,453	3
Investment in rural roads	5,437	14	159,203	23
Investment in urban roads	6,841	17	90,978	13
Investment in Urban Transport	7,470	19	146,181	21
Investment in Non-urban transport	59	0	1,391	0
Investment in Services to industry	313	1	2,722	0
Investment in Other expenses	3,389	8	58,313	8
Investment in land	431	1	0	0
Total	40,008	100	693,030	100

Source: Commission calculation.

Data used in the assessment

- 11 Data used in the assessment are mainly provided by the Australian Bureau of Statistics (ABS) and the states:
- investment data by category — ABS provides Government Finance Statistics data for the first 2 assessment years, state data are provided for the latest year
 - asset data by category — states provide data for all assessment years
 - user populations — derived in the relevant category assessments and from ABS population data.
- 12 Cost drivers — construction cost drivers are derived from the most current *Rawlinsons Australian Construction Handbook* each year, and the wage costs assessment.

Category and component expenses

13 Table 3 shows that total investment expenses make up around 15% to 20% of the total assessed state spending annually, and highlights how rapidly this can change.

Table 3 Total investment expenses

	2018-19	2019-20	2020-21	2021-22
Total expenditure (\$m)	36,003	43,310	49,639	51,996
Proportion of total expenditure (%)	15.1	19.1	19.6	18.0

Source: Commission calculation, 2023 Update.

GST distribution in the 2023 Update

14 Table 4 shows the GST impact (difference from equal per capita) of the investment assessment. It distributed just under \$2.5 billion, or \$93 per capita, away from an equal per capita distribution in the 2023 Update. The 2 components with the largest GST impact are rural roads and urban transport.

Table 4 GST impact of the investment assessment, 2023 Update

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total effect
Investment component	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
Schools	-169	-68	169	129	-74	-33	23	24	345
Post-secondary education	-11	-18	11	13	1	1	1	2	29
Health	-153	-261	104	135	44	45	14	73	414
Housing	-101	-128	98	89	16	7	-5	24	233
Welfare	2	-11	4	2	0	0	0	2	11
Services to communities	-14	-28	16	20	1	1	2	1	42
Justice	-41	-134	44	45	6	16	-8	73	183
Rural roads	-524	-927	461	560	103	-4	-106	437	1,561
Urban roads	13	-318	277	149	-100	-45	33	-11	473
Urban transport	1,280	248	-696	-31	-309	-275	-97	-120	1,528
Non-urban transport	-2	-2	2	2	0	0	0	0	4
Services to industry	33	2	-12	-13	-7	-4	2	-1	37
Other expenses	-67	-101	70	77	5	6	9	1	168
Land	0	0	0	0	0	0	0	0	0
Total (\$m)	246	-1,745	548	1,178	-314	-285	-133	504	2,476
Total (\$pc)	30	-257	101	414	-169	-488	-282	1,939	93

Source: Commission calculation, 2023 Update.

15 Further detail on this assessment, including the scope of the adjusted budget and the underlying conceptual cases for the assessment methods, are explained in volume 2, chapter 24, [Report on GST Revenue Sharing Relativities, 2020 Review](#).

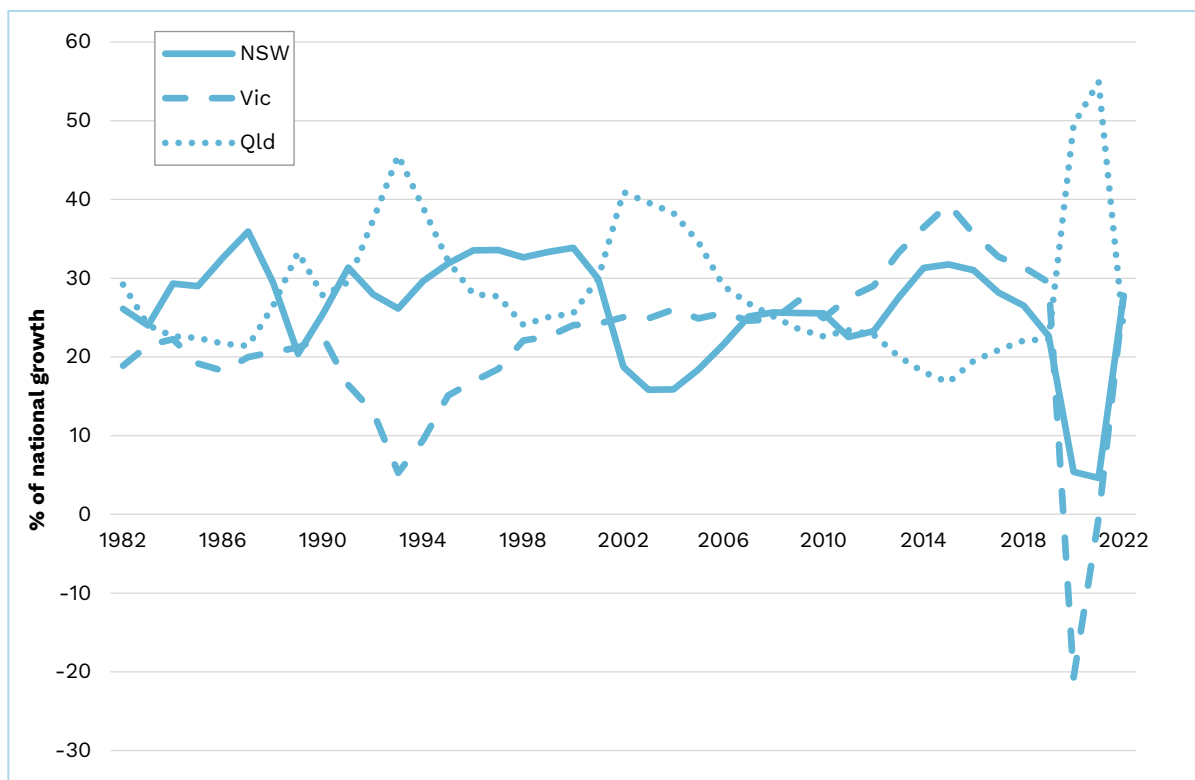
16 These concepts are also explained in the Commission's [Research Paper 6 — GST distribution and state investment needs](#).

What has changed since the 2020 Review?

Population growth became more volatile

- 17 Population dynamics generally change slowly, with the pattern of growth in one year generally similar to the pattern in the next year. During the COVID-19 pandemic, this changed significantly. In most of the past 40 years, Victoria has contributed around 20 to 30% of total population growth in Australia, falling outside this range in the early 1990s recession, and mid-2010s. During the COVID-19 pandemic Victoria had negative growth, pushing it well outside its historic levels. All states except the Northern Territory had record high or low shares of national population growth during the pandemic.
- 18 While state investment spending can be lumpy, it tends to be driven by expected or past medium to long term population growth trends, rather than annual population changes. While population growth patterns may revert to pre-pandemic patterns, this volatility does highlight that there appears to be more year-to-year variation in population growth than in state government investment plans.

Figure 1 Proportion of national population growth by state, 1982-2022



Source: Commission calculation

The Commission may change some recurrent assessments

- 19 As detailed above, recurrent drivers of need are used as the basis for the capital stock factors in each component. In its consultation papers, the Commission has expressed a preliminary view to change recurrent assessments in some expense categories. Changes to the recurrent assessments in the following categories would

flow through to the changes in the user populations of the respective investment components:

- health
- housing
- welfare
- justice
- roads
- transport
- services to industry.

20 The Commission has not proposed any changes to post-secondary education, and while it is proposing changes to the schools assessment, these changes would not affect the capital user population. All other investment components are assessed using the total population, so changes to the respective recurrent categories would have no effect.

Opportunity to reduce data requirements

21 Experience with the assessment since the 2020 Review suggests there may be an opportunity to reduce data requirements, and the corresponding burden on states, by freezing the value of asset stocks.

Implications for assessment

22 The Commission has identified 3 issues for consideration in the 2025 Review:

- should user population growth be smoothed to reduce the volatility of the assessment?
- should the value of asset stocks be frozen to reduce the burden on states without compromising the reliability of the assessment?
- are any changes to the user populations required in response to changes in corresponding recurrent category assessments?

Volatile rates of population growth

23 Annual change in user populations is a major driver in the investment assessment. The level of growth can change significantly from year to year. While the volatility in population growth seen during the pandemic is unlikely to be maintained, it has highlighted that trends in population growth can change more rapidly than state investment decisions.

24 Using a moving average of growth rates, say over 3 years, would reduce the volatility of the investment assessment. It would, however, also mean that the assessment is more backward looking, using data up to 6 years before the reference period, rather than 4 under the current approach. Some of that data would necessarily be based on

2020 Review, rather than 2025 Review, definitions. The 2025-26 relativities would be based on estimates of investment needs for the 2021-22 to 2023-24 assessment years (Table 5). The 2023-24 assessment year needs could be calculated as the average for the 3 years ending in 2023-24. Estimates for assessment years 2021-22 and 2022-23 would include estimates of user populations using 2020 Review definitions, as the data on 2025 Review based user populations would not be available for years before the 2025 assessment years. In most assessments, the 2020 and 2025 definitions of user populations are likely to be the same. However, for some assessments, including the major investment categories of urban roads, urban transport and health, the Commission has proposed changes.

Table 5 Data required for 3-year lagged investment assessment, 2025-26

Data reference year	Assessment year		
	2021-22	2022-23	2023-24
2019-20	Yes (a)		
2020-21	Yes (a)	Yes (a)	
2021-22	Yes	Yes	Yes
2022-23		Yes	Yes
2023-24			Yes

(a) Data for years before 2021-22 will not be produced as part of the 2025 Review. Where definitions of user populations change between reviews, these definitions would be based on the 2020 Review methods.

- 25 The possible change should produce a less volatile assessment, although it would be more complex and less contemporaneous than the unsmoothed approach. However, both approaches would result in a similar assessment of investment needs over time. Moreover, there would be advantages in reducing the volatility in the assessment caused by annual population changes given that state investment tends to be driven more by medium to long term population trends rather than annual changes.
- 26 The Commission’s preliminary view is to smooth user population growth. If changes are made to smooth population growth in the assessment category, the Commission considers it would be appropriate to make a similar change to the net borrowing category.

Consultation questions

- Q1. Do states support smoothing user population growth to reduce volatility, with an associated reduction in contemporaneity?
- Q2. If user population growth were to be smoothed, do states support a 3-year moving average of growth rates?

Can data requirements be reduced by freezing the value of asset stocks?

- 27 Collecting annual data on the value of asset stocks in each component is a significant burden on states. Removing this requirement could reduce this burden and simplify the assessment. Variability in the value of stocks from one year to the

next appears to increase the volatility of the assessment without necessarily increasing its reliability. For example:

- In June 2020, states collectively held \$91 billion in urban transport assets. In 2020-21, they spent about \$8 billion on new and replacement assets, but in June 2021, they valued their assets at \$117 billion.
- In June 2019, states valued their justice assets at \$22.7 billion, and despite spending \$2.3 billion, ended the year with only \$18.5 billion in assets.

- 28 While revaluations or reclassifications of this magnitude are relatively rare, changes in valuation are a more significant driver of changes in estimates of stock than investment.
- 29 The Commission could freeze the category-specific shares of the total stock of assets for the life of the review, and only require data on the total value of assets across all categories. This would lead to a reduction in volatility of the assessment and would also reduce the annual burden on states producing and validating these data. The case to use more contemporaneous, annual stock information is undermined by the impact of potentially large asset revaluations or reclassifications.
- 30 The Commission's preliminary view is to freeze the component shares of the value of assets for the life of the 2025 Review.

Consultation question

Q3. Do states support freezing the component shares of the value of assets for the life of the 2025 Review?

Do changes to recurrent category assessments warrant a change to any investment assessments?

- 31 In most components, the user populations are based on those used in the corresponding recurrent category assessment (Table 1). Changes proposed to the recurrent assessments would generally flow through and affect the calculation of the user populations for investment. In the 2025 Review, the most significant change in recurrent assessments may be to non-urban transport. In 2020, this was assessed equal per capita but in the 2025 Review the Commission is proposing to assess it using inter-city train commuters. The user population for non-urban transport investment would change to reflect this.
- 32 While user populations generally follow the recurrent assessments, minor variations are made where elements of the calculation of recurrent assessments are not relevant to the associated capital needs. For example, the Commission recognises that First Nations students, remote students and students of low socio-educational advantage have higher recurrent costs, but generally not higher capital costs. Only schools with more than 25% of First Nations students are assessed to require additional infrastructure.

- 33 The Commission’s preliminary view is that where a user population is defined in the same way as the recurrent assessment, any changes proposed to the recurrent assessment would be reflected in the capital assessment. Where a user population is defined differently from the recurrent assessment, that definition would not change, regardless of changes to the recurrent assessment.

Proposed assessment

Differences from the 2020 Review approach

- 34 Subject to state views, the Commission proposes to estimate the stock of assets in each component from a one-off state data request on shares of investment in each component applied to ABS (early assessment years) and state (final assessment year) data on the total stock of assets.
- 35 Changes to user populations in recurrent assessment methods would also generally flow through to the calculation of user populations in investment assessments.

Proposed assessment structure

- 36 Subject to state views, Table 6 shows the proposed structure of the investment assessment.

Table 6 Proposed assessment structure for the investment assessment

Element	Approach to assessment	Change since 2020 Review
Value of stock	GFS data split by component using state data	Yes
Level of investment	GFS and state data	No
User population		No
Schools	Students in government schools, with adjustment schools with significant First Nations student numbers	No
Post-secondary education	Recurrent assessed use	No
Health	Recurrent assessed spend (excl wages) and cross border use of admitted patient services	No
Housing	Recurrent assessed use	No
Welfare	Recurrent assessed use excluding Concessions	No
Services to communities	Total population	No
Justice	Recurrent assessed use, including regional influences for police	No
Rural roads	Recurrent assessed use, with capital specific weights for combining drivers.	No
Urban roads	Recurrent assessed use, with capital specific weights for combining drivers.	No
Urban transport	Recurrent assessed urban characteristics assessment blended with urban population squared.	No
Non-urban transport	Recurrent assessed expenses (excl wages)	Yes
Services to industry	Total population	No
Other expenses	Total population	No
Land	Equal per capita assessment	No

Consultation

37 The Commission welcomes state views on the consultation questions identified in this paper (outlined below) and the proposed assessment. State submissions should accord with the 2025 Review framework. States are welcome to raise other relevant issues with the Commission.

- Q1. Do states support smoothing user population growth to reduce volatility, with an associated reduction in contemporaneity?
- Q2. If user population growth were to be smoothed, do states support a 3-year moving average of growth rates?
- Q3. Do states support freezing the component shares of the value of assets for the life of the 2025 Review?