FINAL REPORT

Evaluation of infrastructure contributions reform in New South Wales

Prepared for
NSW Productivity Commission

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Executive summary

This report sets out the CIE's assessment of infrastructure contributions in NSW and the impact of changes being investigated by the NSW Productivity Commissioner's Infrastructure Contributions Review.

Infrastructure contributions reforms assessed

The Infrastructure Contributions Review is investigating reforms that include:

- reform of the local government rate peg to enable rates revenue to grow in line with population, removing the existing financial disincentive councils face with respect to growth. Additional rates revenue will enable councils to recoup the operating and maintenance costs associated with providing services to a larger population. In addition, extra revenue can help service debt to forward fund infrastructure, improving the coordination of service delivery with development. These additional funds will help councils with delivering the infrastructure required for new development
- applying region-wide contributions for state infrastructure, with a simple rate, and transitioning to have no new specific Special Infrastructure Contributions (SICs) and a more restricted use of state planning agreements
- adjustments to local infrastructure contributions to restrict the use of planning agreements, increase the threshold for S7.12 levies and allow S7.11 contributions for development-contingent costs only. This includes IPART establishing and maintaining benchmark costs based on 'efficient' delivery and reviewing the essential works list to ensure only development-contingent items are funded from infrastructure contributions
- other changes to increase the certainty of charges, such as releasing contributions plans at the time of rezoning and providing calculators for infrastructure contributions.

The impacts of these changes on revenue, the NSW community and the NSW economy are set out below.

Revenue impacts

Local council revenue impacts

We have modelled the impacts of the following reforms on local council revenue:

- increasing the rate cap by population growth

- applying the essential works list to all S7.11 contribution plans (rather than just those that go through the IPART approval process) and allowing S7.11 contributions for development contingent costs only
- increasing the maximum S7.12 contribution to the equivalent of 3 per cent of construction value for residential development and 1 per cent for commercial development
- restricting the use of planning agreements to direct delivery and 'out of sequence' development.

We estimate that the proposed changes would result in a net increase in aggregate council revenue of 6.9 per cent over a 20-year period from 2023-24 to 2042-43 (table 6.1).

- Over this period, we estimate that rates revenue would be around $925 million per year higher. The increases are initially small, but become larger over time. The additional revenue would be expected to fund the operating and maintenance costs of a growing population, to increase borrowing capacity and help finance debt
- However, this would be partly offset by lower revenue from contributions (including in-kind contributions). An increase in revenue from S7.12 contributions would be more than offset by reduced revenue from S7.11 contributions and local planning agreements.
  - We estimate that the loss of revenue from infrastructure contributions would be around $90 million in 2024 (subject to implementation arrangements), increasing to around $153 million (in nominal terms) after 20 years.
  - On average, we estimate that infrastructure contributions would decrease by around $117 million per year over the 20 year period.

1 Change in council revenue, average annual impact from 2024-2043 (nominal)

	Baseline	Proposal	Change	Change
	$m/year	$m/year	$m/year	Per cent
Rates	10 383	11 308	925	8.9
Infrastructure contributions	1 329	1 212	- 117	-8.8
Total	**11 712**	**12 519**	**808**	**6.9**

Source: CIE estimates.

Although there is a relatively strong increase in revenue over a 20-year period, the impacts over 10 years are estimated to be more modest. We estimate that aggregate council revenue would be around 2.4 per cent higher over ten years. This reflects the following factors.

- As the proposed changes to the rate peg affect the growth rate, the impact on revenue accumulates over time.
- By contrast, we assume that the full impacts on infrastructure contributions would occur immediately from implementation. In practice, some transition arrangements, such as grandfathering arrangements for existing contribution plans may apply. However, these arrangements have not yet been finalised. Under any such arrangements, the transition to the new arrangements are likely to be considerably slower.

While the overall increase in council revenue is relatively modest, the proposed change would disproportionately benefit high growth councils (defined as councils with forecast population growth that exceeds the state average) (table 2).

- For high-growth councils, revenue is estimated to be around 12.7 per cent higher over the 20-year period to 2042-43 in metropolitan areas and 12.2 per cent higher in regional areas (note that there are few regional councils where growth is estimated to exceed the statewide average). This is largely due to significantly higher rates revenue.
- For low-growth councils (defined as councils with forecast population growth below the state average), revenue is estimated to be around 5.2 per cent higher over the 20-year period in metropolitan areas and 3.1 per cent higher in regional areas.

2 Distribution of revenue impacts, average annual impact from 2024-2043 (nominal)

	Baseline	Proposal	Change	Change
	$m/year	$m/year	$m/year	Per cent
Low growth metro councils				
Rates	2 884	3 069	184	6.4
Contributions	242	221	- 21	-8.8
Total	**3 126**	**3 289**	**163**	**5.2**
High growth metro councils				
Rates	2 985	3 564	579	19.4
Contributions	870	780	- 90	-10.3
Total	**3 855**	**4 344**	**489**	**12.7**
Low growth regional councils				
Rates	4 429	4 579	150	3.4
Contributions	213	208	- 5	-2.4
Total	**4 642**	**4 787**	**145**	**3.1**
High growth regional councils				
Rates	85	97	11	13.3
Contributions	3	2	- 1	-18.5
Total	**88**	**99**	**11**	**12.2**

Source: CIE estimates.

State government revenue impacts

The Infrastructure Contributions Review is investigating the following changes to funding arrangements for state infrastructure.

- Implementing a per dwelling levy to fund state infrastructure.
  - The levy would apply in the following regions:
    - Greater Sydney
    - Central Coast

    - The Hunter region (including: Lake Macquarie, Newcastle, Maitland, Port Stephens, Cessnock, Singleton, Muswellbrook, Upper Hunter and Dungog LGAs)
    - The Illawarra region (including Wollongong, Shellharbour, Shoalhaven and Kiama LGAs).
  - It is assumed the levy would replace existing SICs and state planning agreements (although in practice these arrangements will be grandfathered) from 2022. The rates modelled are at the lower end of existing rates for SICs, where these are in place, so this may marginally overstate NSW Government revenue changes.
- Implementing a levy on non-residential development at a rate per m2 of gross floor area, depending on the type of development, in metropolitan areas.

The levies are estimated to raise around $632.9 million in 2024, increasing to around $1.24 billion (in nominal terms) after 20 years. The average net increase in NSW Government revenue is estimated at around $793 million per year on average over 20 years (table 6.13).

- The residential levy estimates assume:
  - Levies starting at:
    - $12 000 per dwelling applied to all new dwellings in the Greater Sydney region (our analysis suggests a levy at that rate is unlikely to materially affect feasibility in the Greater Sydney region).
    - $10 000 for all regional areas covered by the new levy (i.e. Central Coast, Hunter and Illawarra).
  - The levy amount would be indexed based on a weighted average of land prices and construction costs. Based on price changes over the past 10 years, the modelling assumes the levy would increase by:
    - 3.7 per cent per year (in nominal terms) in metropolitan areas
    - 2.5 per cent per year (in nominal terms) in non-metropolitan areas.
- The non-residential levy estimates assumes a rate of $35 per m2 for mixed use, $25 for commercial and $12.50 for industrial development.

3 Estimated net impact of proposed changes on NSW Government revenue (average annual impact over 20 years)

	Total
	$m/year
Levy - residential	811.0
Levy – commercial	92.9
SICs	- 97.3
VPAs	- 13.9
Total	**792.8**

Source: CIE estimates.

Based on the assumptions outlined above, the new levy is estimated to raise an additional $16 billion (nominal) over 20 years to fund state infrastructure, mostly in the Sydney metro region.

Overall costs and benefits

The overall estimated costs and benefits of the proposed recommendations are set out in table 4. In total, we estimate quantified net benefits of $2.5 to $11.8 billion over 20 years (discounted).

The benefits are strongly driven by changes to local government rate pegging arrangements and additional growth-related state infrastructure. The direct benefits of these changes reflect:

- for councils there is strong evidence that NSW councils level of service provision cannot accommodate growth because of the structure of the rate peg, and has not been able to accommodate growth historically. By allowing service provision to meet unmet demand, there is a benefit to ratepayers.
- For state infrastructure, there is reasonable evidence of higher returns from the sorts of infrastructure likely to be supported by infrastructure contributions, such as small to medium sized road projects in metropolitan areas.

The indirect impacts that arise from changing the system relate to providing a system that is more supportive of growth for councils and the community. This is because:

- councils would no longer be financially penalised for having more development and growth
- additional infrastructure would be provided to reduce community concerns about development and growth.

The benefits of these changes have been modelled as making a small contribution to alleviating the problems related to development in NSW. Of course, these types of impacts are highly uncertain, in terms of how long it could take and the magnitude of the impact. However, given the large opportunity from improving the operation of the planning system, and clear evidence about why the community is not supportive of development, even small changes have substantial value.

Changes to infrastructure contributions arrangements would also have a benefit from reduced risk to developers. This arises through releasing local contribution plans at the time of rezoning, simple state contributions and improved market information on contributions through digital tools.

4 Overall costs and benefits

	Low	Medium	High
	$m, present value	$m, present value	$m, present value
Net benefits of additional services provided by councils	95	325	556
Better incentives for growth from councils	426	624	822
Better incentives for the community to support development because of state infrastructure	346	507	667
Net benefits of additional and redirected state infrastructure provision	1 575	4 725	9 449
Reduced risk related to infrastructure contributions	47	95	236
Changes to administration costs			
Reduced special rate variations	0	10	19
Reduced NSW Government costs for SICs and VPAs	34	34	34
Digital tool implementation	-15	-15	-15
Developer contributions for water and wastewater	-10	-10	-10
Total	2 498	6 294	11 759
Unquantified			
Reduced rationing of development because of water and wastewater provision	Potentially a moderate positive impact		
Adjustments to method for including land in contributions	This will better allocate risks around land prices, with some small benefits.		
Benchmarked costs for contributions plans	This may reduce S7.11 rates, which is a transfer. Overall benefits will be small		
Changes to competition in water and wastewater provision	Likely positive but small		

Note: Using a 20 year period and a discount rate of 7 per cent.

Source: The CIE.

A central proposition of the report is that, given where the NSW land use planning and housing market is, **it is currently likely that higher charges would be more likely to increase housing supply indirectly, than they would be to reduce housing supply directly**. In our view, the direct impacts of contributions as a cost to a developer should not be passed on into housing prices. This reflects that land prices hold a substantial premium over the opportunity cost of the land for its next best use. Over time, higher infrastructure contributions will be factored into lower land values, rather than higher housing prices. There is a complex temporal issue around this, as it may take years for existing landholder expectations to adjust. This suggests that a slow and predictable transition would be most likely to achieve benefits, without leading to contributions reducing housing supply and increasing housing prices.

Economic impacts

The CIE has also been asked to estimate the economy wide impacts of the proposed changes using a computable general equilibrium (CGE) model. We have employed the CIE Regions model, as set out in Appendix D.

CGE modelling is a useful tool to take account of issues such as tax distortions and allocative efficiency. As discussed above, these issues are of less importance in our view, given the housing market circumstances in NSW. The main weakness of CGE modelling for this project is that it does not adequately capture the range of land use planning restrictions that exist and can be understood through partial equilibrium modelling. This means that additional charges on housing construction will tend to be passed through in part to reduced housing supply and higher housing prices. This would not be likely to occur in the longer term in our view, as existing landholders would bear the increase through lower land values. Other changes being investigated, such as charging the cost of land to landholders would also help to ensure that the distribution of impacts is to existing landholders. This means the impacts from the CGE modelling reflect more of a reduction to housing construction than we expect to occur, and likely a somewhat lower GSP impact.

The impacts on the NSW economy are set out in table 5. On average per year over the next 20 years, the changes are expected to increase NSW GSP by $606 million, increase NSW consumption by $528 million and increase employment by 2600 jobs. This reflects:

- negative impacts from increased infrastructure contributions and higher council rates,
- more than offset by positive impacts from increased housing supply and additional infrastructure expenditure.

Note that for each additional dollar raised from infrastructure contributions and council rates and used on infrastructure, the CGE modelling anticipates that long-run consumption, GSP and employment will be higher.

5 Impacts on the NSW economy (average per year over 20 years)

Item	GSP	Consumption	Employment
	$m/year	$m/year	No./year
Overall impact	606	528	2 631

Source: The CIE.

1 Introduction

On 15 April 2020, the NSW Productivity Commissioner was appointed by the Minister for Planning and Public Spaces to undertake a comprehensive review of the infrastructure contributions system in New South Wales. This Review was tasked with reviewing and making recommendations for an infrastructure contributions system that:

- delivers the public infrastructure required to support development in New South Wales
- achieves greater certainty, transparency, efficiency and fairness in the setting of infrastructure contributions
- identifies legislative regulatory changes necessary to implement the proposed reforms.

The CIE has been asked to undertake economic modelling of options for infrastructure contributions reform in NSW to assist in the NSW Productivity Commissioner's review. In thinking about infrastructure contributions, it is unavoidable that the overall operation of the NSW planning system and provision of infrastructure has to be examined. Infrastructure contributions are one part of this system, and the effect of infrastructure contributions is highly dependent on the other parts of this system.

The types of issues that arise in discussions around infrastructure contributions reflect a complicated mix of perspectives of developers, local councils, the community and policymakers. Key issues that will be important for the NSW infrastructure contributions system include:

- ensuring that changes to infrastructure contributions do not unduly reduce the private feasibility of development
- ensuring that the system developed is more stable and predictable than the existing system, so that those involved can anticipate the contributions they are likely to have to pay
- ensuring the system assists in meeting NSW Government objectives to reduce blockages within the planning system and speed up approval times.

This report continues as follows:

- Chapter 2 identifies the economic role that infrastructure contributions can have
- Chapter 3 examines the current NSW infrastructure contributions system
- Chapter 4 assesses the impacts of the current infrastructure contributions system
- Chapter 5 identifies the potential changes that the NSW Government is considering in relation to infrastructure contributions
- Chapter 6 sets out impacts of the potential changes on council and state revenue
- Chapter 7 sets out the costs and benefits of the potential changes, and
- Chapter 8 sets out the NSW-wide economic impacts of the potential changes.

2 The economics of infrastructure contributions

Infrastructure contributions can have many different impacts on the operation of the planning system and the outcomes for new development. These include the extent to which contributions can drive development decisions to be more efficient, how the impact of contributions compares to other ways of funding infrastructure and how contributions interact with the political processes that determine approval for development. This chapter steps through these different roles of infrastructure contributions conceptually, with empirical evaluation undertaken in later chapters.

Different types of infrastructure related to development

Infrastructure to support development can be classified in different ways depending on what the works involve.

- On-site works — this comprises infrastructure within the development site. For example, water pipes within a new development area. This infrastructure is typically provided and paid for by the developer.
- Extension or lead-in works — this comprises infrastructure to connect existing networks to the development area. It can comprise:
- network extensions only to serve the new development; and
- network extensions that would serve multiple areas, which could be termed 'trunk' network extensions
- open space required to serve the new development area.
- Augmentation works — this is where the capacity of existing infrastructure is required to be upgraded to meet demand generated by the new development. This could include substation upgrades, additional school and hospital capacity and 'headwork' augmentation, such as additional capacity in dams and sewerage treatment plants.

The types of impacts of infrastructure contributions

There are four main types of impacts that we have identified as arising from infrastructure contributions:

1 Incentives for developers to undertake more efficient development because contributions force developers to internalise costs of infrastructure that would otherwise be borne by others

2 The level of efficiency of infrastructure contributions in comparison to other funding mechanisms for infrastructure, including allocative efficiency and administration and compliance costs

3 The role of infrastructure contributions in ensuring that efficient infrastructure is put in place to enable development to occur
4 The role of infrastructure contributions in altering the political economy of planning approval and support or opposition to development.

Seeing infrastructure contributions through these different lenses highlights the complexity of the role that they can play in the development process and for different key participants in this process. The sections below outline each type of impact.

Incentive for efficient development

Different developments are associated with different infrastructure costs. If the person choosing where and how to undertake development (the developer) does not bear these costs and therefore does not take them into account in their development decisions, then we would expect that there will be too much development with high infrastructure costs and too little with low infrastructure costs. That is, these decisions will be allocatively inefficient (box 2.1).

2.1 Defining economic efficiency

There are three main types of economic efficiency:

- allocative efficiency — this is where the price of a good or service is equal to the marginal cost of production. In the case of housing, this would be where the price of housing reflects the marginal cost of producing additional housing
- productive efficiency — this is where the optimal combination of inputs is used to produce outputs. In the case of development, this could reflect an optimal combination of capital, labour and land to produce housing at least cost
- dynamic efficiency — this is how allocative and productive efficiency change over time.

Whether or not this is the case will depend on whether the cost of infrastructure is actually avoided if the development does not go ahead. For example, suppose the NSW Government invests in a large high cost transport project ahead of development, such as Greater Sydney Metro West. If a charge was imposed after the investment decision was made to recover costs of the project and this led to a developer not developing, then this would not improve allocative efficiency. This is because the developers' decision not to develop would not enable the cost to be avoided. There is enormous complexity in what costs are sunk versus avoidable, depending on viewpoints as to how much government decisions are linked to expectations of demand and how long-run a perspective is being taken.

It is also the case that many costs are not related to development, but are related to population growth. For example, the need for additional teachers depends on population growth, not whether there is new development. Population-driven costs are not avoidable if the development does not go ahead, but simply shift elsewhere.

- **Allocative efficiency can only be improved where developers are charged for avoidable, or 'development contingent', costs from development. This means that costs would not be incurred if the development did not go ahead**

Where costs can be avoided, efficiency incentives can operate in multiple ways.

- Different decisions about where to develop — such as a developer choosing a location with lower costs than one with higher costs
- Different decisions about how to develop — such as a developer choosing a development type or mix with lower infrastructure costs than one with higher costs. For example, if infrastructure costs are fixed for serving the precinct, a developer may make a different decision if they are charged per hectare, per dwelling or based on the cost of construction.

For the allocative efficiency incentives to operate, infrastructure contributions must lead to developers changing what they do, either by not developing in some areas or developing in a different way.

- **An infrastructure contribution that leads to allocatively efficient outcomes would be expected to stop some developments in high cost areas**

Finally, efficiency incentives are strongest where costs are very different for different areas or types of development, and where this can be accurately signalled by the infrastructure contribution.

- **Allocative efficiency incentives will be strongest where:**
  - **costs are very different across developments**
  - **infrastructure contributions can accurately signal costs, because they are consistently applied across different areas**
  - **developers can understand and compare contributions across different development areas or types of development at the time of making decisions about land purchase and development.**

From an efficiency perspective, social costs of development can arise other than avoidable infrastructure costs. For example, a development may impose environmental or amenity costs. A fully efficient planning system would seek to internalise these other types of costs into a developer's decision. This is outside the scope of the present work, and is largely a role for the overall operation of the planning system, rather than infrastructure contributions.

Source of funding

Where an infrastructure contribution does not have an efficiency role, it acts as a tax. In this case, is there any reason to levy such a charge? Potentially the answer is yes, because infrastructure has to be funded in some way, and an infrastructure contribution may be a more efficient tax than other forms of tax.

The Commonwealth Productivity Commission identified a wide range of approaches to funding infrastructure.[1] Broad funding approaches relevant to infrastructure provided to support development include:

- direct user charges, which are direct charges applied to users of infrastructure services, such as charges for using a public library or tolls or registration charges for using roads
- some form of levy applied to relevant people. For example, a charge of $1000 per year for dwellings within a particular drainage catchment
- developer charges or in-kind works, which are paid at the time of new development occurring
- government funding from general tax revenue.

A key recommendation from the Productivity Commission's Inquiry into Public Infrastructure, is that user charges based on the efficient cost of provision should be the default option for funding infrastructure.[2] This is not available for some government-provided services, such as drainage and open space, where it is difficult to exclude those that benefit from the infrastructure but do not pay. For other services, such as water, postage stamp pricing is generally used by utilities, which means that the differential costs of an area are not reflected in usage prices.

The efficiency implications of infrastructure contributions as a funding mechanism are highly dependent on the overall operation of the planning system. As a funding mechanism, this is really the amount above the avoidable cost component set out above. Applying infrastructure contributions in this way will be most efficient if it does not stop development from occurring or change the way that development occurs. If development outcomes are being constrained by other restrictions on development, then a development contribution will be more efficient than otherwise.[3] Any efficiency consideration also has to consider alternative funding mechanisms, especially taxes such as stamp duty, affordable housing contributions and combination of local and state contributions.

- **In a supply constrained environment, infrastructure contributions will be a relatively efficient funding mechanism**

The efficiency implications of infrastructure contributions is likely to be heavily influenced by the predictability and longevity of the system. Currently, values for land zoned for residential development in Sydney, or higher density residential development, are markedly higher than values for land not zoned for these purposes.

- Clear examples can be seen of zoning premia for undeveloped land parcels next to each other in greenfield areas — for example, in Austral land zoned for environmental living sells for less than $1m per hectare, compared to well above $2m per hectare for undeveloped land zoned for residential development.

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1 Productivity Commission 2014, *Public Infrastructure*, Inquiry Report No. 71, Canberra, pp. 141-175.

2 Productivity Commission 2014, *Public Infrastructure*, Inquiry Report No. 71, Canberra, pp. 141-142.

3 See Appendix A.

- The same is true in infill areas. Changing of use of land from industrial to residential or mixed use can lead to very large value uplifts. Increasing floor space ratios can also lead to very high value uplifts.[4]

Conceptually, an infrastructure contribution would be subtracted from this premia. For example, if a land parcel zoned for residential development was worth $2 million without any infrastructure contribution, with a $500 000 infrastructure contribution it would be worth ~$1.5 million.[5]

In practice, land markets can be very slow moving in a downward direction. A rapid change in infrastructure contributions would likely lead development to be slowed down for some time, even if they were theoretically feasible, because land owners' price expectations would not be met by developers. It may take years for expectations to gradually decline to a level where development would be feasible. Changes to infrastructure contributions could be more or less effective at accelerating these types of adjustments.

Efficiency also includes the efficiency of administration and compliance. For example, within the existing system, administrative costs would include:

- cost to develop contribution plans (local and state)
- cost for administering plans, collecting revenue and reporting
- cost to negotiate planning agreements
- developer-related costs for the above activities.

The circumstances where an infrastructure contribution tax component is efficient and not efficient are set out in table 2.2.

2.2 Where infrastructure contributions are efficient and not efficient

	Efficient	Inefficient
Development feasibility is high	✓	
Development feasibility is marginal		✓
Low costs to administer	✓	
High costs to administer		✓
Low compliance costs for developers	✓	
High compliance costs for developers		✓
Demand for housing or other development is inelastic	✓	
Demand for housing or other development is elastic		✓

Source: The CIE.

4 See for example http://www.southwestgroup.com.au/wp-content/uploads/2016/11/South-West-Metro-Light-Rail-Investigation-Presentations-LR.pdf

5 There may be some adjustments depending on the timing of the payment.

There are two potential directions for considering the efficiency of infrastructure contributions as a funding mechanism:

- a broad-based levy, such as dollar per dwelling or percentage of development value
- specific rates for individual developments to extract as much revenue as possible without making a development unviable. Examples include betterment taxes, value uplift, planning agreements, or levies set with reference to commercial viability such as the existing affordable housing contributions.[6]

The types of efficiency trade-offs of these options are shown in table 2.3.

- **A key question for infrastructure contributions as a funding mechanism is whether they can be designed at a very detailed level to not impact on development feasibility or should be simple with some impacts on development feasibility at the margin.**

2.3 Efficiency trade-offs of options for infrastructure contributions as a revenue instrument

		Administrative efficiency	
		Low	High
Allocative efficiency	Low		Broad-based levy for development
	High	Development specific rates	

Source: The CIE.

There are also likely to be dynamic efficiency trade-offs/unintended consequences. For example, a system where the government benefits from creating a larger development premium would tend to embed incentives to restrict development so that this premium is higher.

A further question is whether the infrastructure contributions system, above directly reflecting avoidable costs, should be designed to work well within the existing planning system, with its many faults, or with a better functioning planning system. For example, where the housing market is supply constrained, infrastructure contributions are an efficient funding mechanism because they are borne by existing landholders. However, if the housing market was not supply constrained, then this would not be the case, and there would be more efficient funding mechanisms than infrastructure contributions at least for councils.[7]

The comparators in terms of benchmarks for efficiency of taxation instruments include:

- rates for local councils, which is a highly efficient tax instrument, and

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6 NSW Affordable Housing contribution guidelines require that the contribution does not impact on development feasibility and overall housing supply. https://www.planning.nsw.gov.au/-/media/Files/DPE/Guidelines/guideline-sepp70-developing-affordable-housing-contribution-scheme-2019-02-28.pdf

7 State government funding mechanisms are fairly inefficient, so infrastructure contributions may still be efficient where the housing market is not supply-constrained.

- stamp duty, payroll tax and GST for the NSW Government, which vary from highly inefficient to efficient in that order. There are constraints on actually using GST to raise additional tax revenue, with agreement from all governments required, which are unlikely to be practically achievable.

Changes in infrastructure provision

An alternative view of infrastructure contributions is that they change the amount or quality of infrastructure delivered, rather than changing the funding source. For example, suppose that in the absence of infrastructure contributions, governments or utilities under-provided infrastructure, or directed this to less efficient projects that were not related to growth. And an infrastructure contributions regime provided additional funding that allowed infrastructure to be delivered.

The types of benefits that this type of impact would bring could include:

- ensuring infrastructure is delivered in a timely manner for development, so that development can proceed — this would rely on the expectations of infrastructure providers, as the development contributions would likely not be collected early enough to provide funding for infrastructure prior to development[8]
- ensuring that an efficient level of infrastructure is provided for new development
- refocusing government infrastructure spending on areas of growth.

Historically, there have been examples where a lack of infrastructure provision has been noted as a barrier to development by developer groups. For example, the UDIA notes a lack of sewer infrastructure as a substantial constraint for South West Sydney[9] There are also many examples where the timing of infrastructure and development are misaligned, such as Edmondson Park having a rail station with no development around it or Epping Town Centre where the infrastructure has followed zoning and development occurring. The Productivity Commission noted NSW has having a low rating for land use planning and infrastructure integration in its 2014 review of Planning, Zoning and Development Assessment across states.[10] The extent to which infrastructure contributions is a solution to this is discussed in later chapters.

Planning system impacts

The NSW Government and local councils have multiple roles in being recipients of infrastructure contribution revenues, deliverers of infrastructure and responsible for

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8 Contributions are typically collected at time of development approval, as part of the conditions of consent. In the case of Special Infrastructure Contributions this has currently been delayed to when an occupation certificate is issued.

9 UDIA 2018, Building blocks, https://63lh534dvlp1yhlsm1o3ds2k-wpengine.netdna-ssl.com/wp-content/uploads/2019/11/Building-Blocks-II.pdf

10 Productivity Commission 2014, *Planning, zoning and development assessment,* Research report, https://www.pc.gov.au/inquiries/completed/regulation-benchmarking-planning/report/planning-volume1.pdf, Table 4.

planning and development approval. Given these roles, there can be impacts of the infrastructure contributions system that flow through to development approval processes.

The overarching problem that the NSW Government has been grappling with in terms of development is the high cost of housing and commercial property, particularly in Sydney. This primarily reflects a high cost of land.

Evidence on the size of problems related to the planning system is set out in chapter 4.

The planning system is complex, and the NSW Government has or is undertaking many changes to seek to address the problems of the existing system. These include the creation of the Greater Sydney Commission to oversee strategic planning and the expansion of exempt and complying development.

An infrastructure contributions system may be able to impact on the political acceptance of development. If communities see that they are receiving a higher share of the benefits from development then this may reduce opposition to development.

- **As a general rule, a higher infrastructure contribution would be expected to be associated with a higher level of community acceptance of development. Furthermore, an overall revenue system that allows for areas that are growing to have revenue growth would better align incentives for communities and governments to accept growth.**

This is because it allows for government to provide additional infrastructure or services that means that the existing community does not face negative impacts from growth.

Causality can also work in reverse — councils may use high infrastructure contributions to seek to deter development in their area.

The relationship between infrastructure contributions and the overall planning system could work organically or could work with specific changes to other planning policies.

- Organically would be where community opposition to development is lower because they can see that infrastructure contributions will negate some of the negative impacts associated with development.
- Specific changes would be where the planning system was restructured to give a more prominent role to infrastructure contributions and a less prominent role to other planning regulations.

The use of charges as an alternative to zoning has been given some thought in other jurisdictions such as the UK. Cheshire (2013) finds that although planning regulations address market failures, when applied as stringently as in Britain, their costs exceed their benefits.[11] This paper identifies three alternatives that could be less costly:

- Impact Fees on all new development to compensate for the full community costs of additional development — this would essentially move from a quantity based method of regulation to a price based method of regulation. This is similar to an infrastructure contribution, although may cover other costs outside of infrastructure

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11 Paul C. Cheshire (2013), Land market regulation: market versus policy failures, Journal of Property Research, 30:3, 170-188, DOI: 10.1080/09599916.2013.791339.

- Better aligning fiscal incentives so local communities benefitted in fiscal terms from development — this is similar to arguments presented in this report and set out in detail in Appendix B.
- Introducing price signals into planning decisions — effectively trying to trade-off the value reflected in the price premium against any negative amenity or environmental impacts.

Interactions of different views of infrastructure contributions

There are substantial interactions between the different perspectives on the role of infrastructure contributions, which some simple examples illustrate.

Suppose there is a very high cost area (from a government infrastructure perspective) (Area A). It has costs to service of $100 000 per dwelling. However, it is also a high value area and a developer would be able to pay this charge and the development would still be viable, with a viability surplus of $20 000 per dwelling — this is the difference between what a developer can sell dwellings for and all the costs (including required margins) of development.

Nearby is an area (Area B) that is lower cost to develop, costing $10 000 per dwelling for government infrastructure. It has a viability surplus of $110 000 per dwelling.

From a community-wide perspective, we would want both developments to go ahead because both have a net surplus. The surplus is greater for Area B.

Now suppose we are considering a mechanism to be applied to a dwelling that would fund infrastructure. If this mechanism was to be very cleverly designed to not stop any development, then it would be set with respect to the viability surplus. In this case, it would be up to $20 000 for Area A and up to $110 000 for Area B. The total charges for Area A and Area B — comprising the cost to service plus a charge — may end up being very similar, even though the costs for Area A are much higher. That is, the information on the cost to service is not relevant in this example for setting the overall contribution.

Principles for a good infrastructure contributions system

Overarching principles

The NSW Productivity Commission is developing principles for an efficient contributions system. This includes two objectives:

- market signals to guide development
- mechanisms for timely and coordinated funding and delivery of infrastructure.

Within this, it identifies the need to optimise the following trade-offs:

- errors in cost estimation
- cost reflectivity versus certainty

- consistent treatment of circumstances versus bespoke solutions
- achieving simplicity with multiple objectives.

Impactor and beneficiary pays principles are guiding the new approach to State, regional, and local mechanisms (box 2.4). Generally, levying of infrastructure contributions on developers reflects the impactor pays principle. Developers can, however, directly benefit from investment decisions by government. In these instances, the beneficiary pays principles justifies levying a contribution.

2.4 The beneficiary and impactor pays principles

- Beneficiary pays is where those that benefit from the use of infrastructure pay an equivalent share of the cost. Beneficiaries are:
- Those that gain an advantage or profit from infrastructure should contribute to the cost
- Property owners who benefit from access to new infrastructure reflected in rising land value
- Impactor pays is where the costs and additional risks are borne by those who create them.
- Those that create the need for the infrastructure should incur the cost
- Development that creates additional demand for infrastructure.

Trade-offs to consider

Consistent with the beneficiary and/or impactor pays principles, cost reflectivity is a key element underpinning efficiency and equity. However, it is important to acknowledge that there may be trade-offs between cost reflectivity and some of the other key principles.

- Accurately estimating (and verifying) the costs associated with infrastructure provision involves the development of a detailed contributions plan.
- However, this can be a complex and resource intensive process adding to cost and reducing transparency and predictability. This could potentially:
- offset some (or all) of the efficiency benefits from cost reflectivity
- mean that infrastructure contributions are less effective as a price signal.

When do infrastructure contributions lead to better outcomes?

To guide the development of more detailed principles, it is useful to understand the circumstances when infrastructure contributions contribute to efficient outcomes from each of the perspectives outlined above (table 2.5).

2.5 Contribution of infrastructure contributions to efficient outcomes

Perspective	Circumstances where infrastructure contributions contribute to efficient outcomes
Incentive for efficient development	▪ Infrastructure contributions can provide an effective signal for efficient development in the following circumstances. – Infrastructure contributions accurately reflect the avoidable cost of infrastructure provision (and other costs on the community) – Infrastructure contributions are known when development decisions are made (or are predictable) – Infrastructure contributions are applied consistently – More likely to be effective when the cost of infrastructure provision varies. – Administrative costs are not excessive – Developer-led development ▪ Infrastructure contributions less likely to be an effective price signal in the following circumstances. – They are not cost-reflective – Infrastructure provision is not avoidable – The administrative costs are high – They are unnecessarily complex and lack transparency (i.e. are not predictable) – the development area is part of a strategic planning process where factors, such as cost of infrastructure provision have already (at least partly) been taken into account and infrastructure is being put in before development
Source of funding	▪ Infrastructure contributions are likely to be an efficient source of infrastructure funding where they do not affect the viability of development. This is most likely to occur where: – Infrastructure contributions are applied in a way that they are passed back to landowners (rather than affecting developer margins) – There are large zoning premiums – The alternative funding source is inefficient. – They are relatively modest ▪ Infrastructure contributions are less likely to be an efficient source of infrastructure funding where: – There are not significant zoning premiums – The alternative funding source is relatively efficient.
Changes in infrastructure provision	▪ Infrastructure contributions could contribute to timely infrastructure provision where: – the developer can provide the infrastructure or land directly; or – infrastructure providers are not financially worse off from providing the infrastructure – infrastructure contributions are made early in the process or providers can finance against future contributions
Planning system impact	▪ Development more likely to be approved where: – the council is not made financially worse off by approving the development (i.e. the costs associated with additional development and population growth are higher than the revenue generated)

Perspective	Circumstances where infrastructure contributions contribute to efficient outcomes
	– members of the community are not made worse off from development (either financially or through other impacts, such as traffic).

Source: CIE.

Considerations for efficient infrastructure contributions

Taking into account the various ways that infrastructure contributions can affect the incentive and ability to develop land, we developed the following considerations in evaluating current and proposed infrastructure contribution systems.

- It is important to be clear about the objective of each instrument under which developers contribute to the cost of infrastructure provision (i.e. is it intended as a price signal or a means of raising revenue?).
- Where developer contributions are intended as a price signal:
- infrastructure contributions should recover costs that cannot be avoided. This implies that infrastructure contributions should not be used to recover costs that are driven by population growth.
- the infrastructure contribution for any development should at minimum be the avoidable cost of infrastructure required by the development
- The efficiency of infrastructure contributions as a source of revenue requires that mechanisms:
- have limited impact on development feasibility
- are low cost to administer.
- For local councils, infrastructure contributions are not likely to be as efficient as using rates except where there is a clear link to avoidable costs, if this was not restricted by rate pegging arrangements.
- For the NSW Government, infrastructure contributions will likely be a relatively efficient revenue raising instrument where:
- development feasibility is high, as reflected in high rezoning premiums
- the administrative costs are low
- contributions are predictable and can be factored into land prices.

3 Current infrastructure contributions arrangements in NSW

The development process in NSW

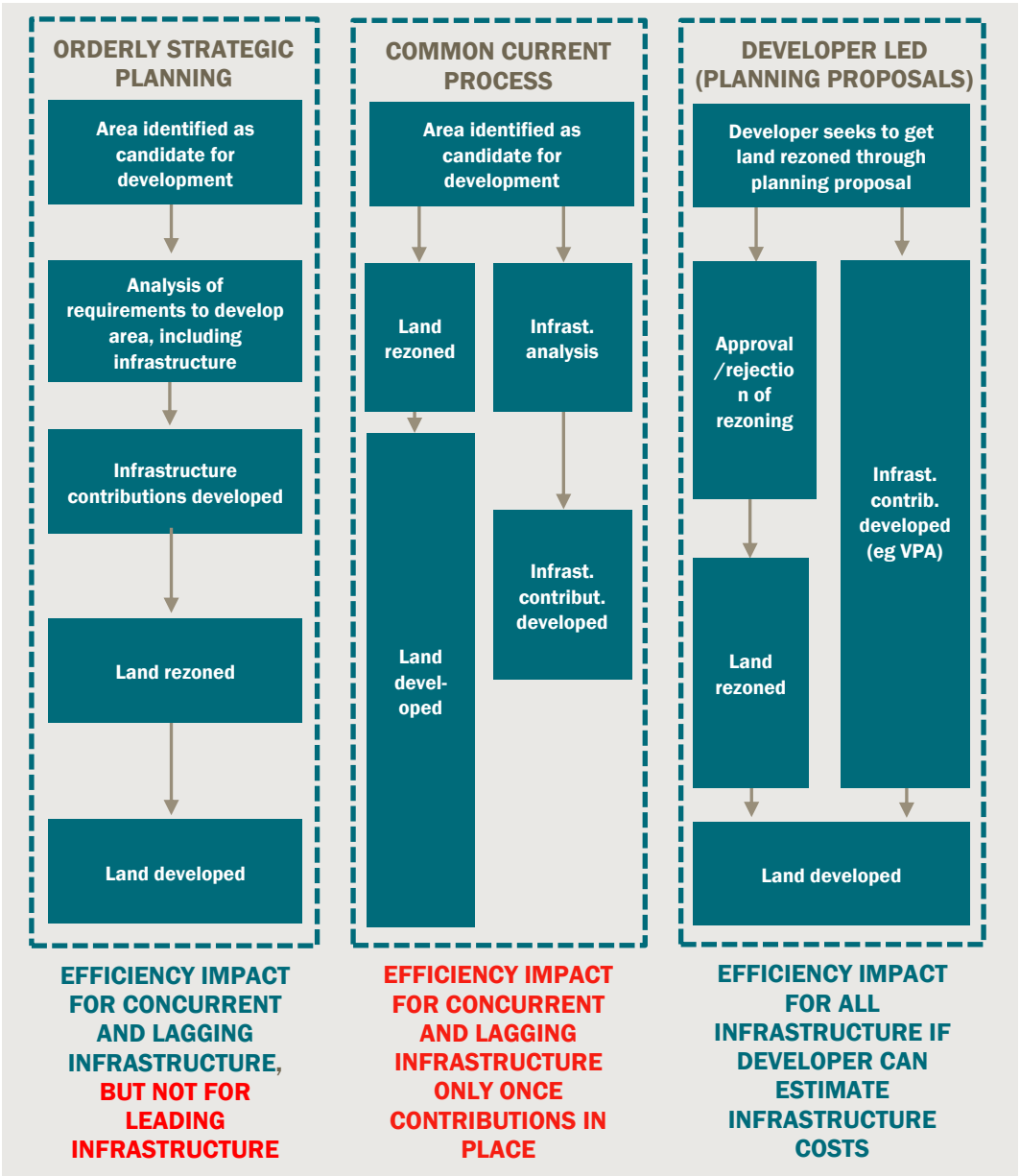
The overall development process will be critical for how infrastructure contributions changes impact. There are alternate development pathways in NSW, these include:

- Orderly strategic planning — this involves governments determining the areas for development based on a range of factors, including infrastructure requirements, identifying what is required and then zoning land. Ideally, infrastructure contributions are determined prior to land zoning.
- The common current strategic planning process — which typically involves an area being identified as suitable for development, and this is followed by a rezoning of the area. Development of the land occurs and may coincide with the analysis of required infrastructure and determination of a developer charge or works in kind. This can lead to some developments occurring prior to a contributions arrangement being in place and/or councils seeking to hold-back development until contributions are in place.
- Developer led planning proposals — alternatively, developers may identify a suitable development location and seek to get the area rezoned. The approval of the development proposal may include negotiations on infrastructure provision such as through a Voluntary Planning Agreement. The land is then rezoned on this basis and development proceeds.

These processes are outlined in chart 3.1.

There is more of a case for infrastructure contributions for developer led proposals — strategic planning processes should factor in a range of issues, including infrastructure costs, in deciding where to rezone.

3.1 Alternative development pathways



Data source: The CIE.

In terms of what infrastructure is leading (put in before development proceeds), concurrent (happening at the same time) or lagging (happening after), a summary is shown in table 3.2. The infrastructure in rows highlighted in teal are those most likely to have an efficiency impact from charging because they happen at the same time or after development, and hence a signal of cost can lead to development not proceeding and infrastructure costs being avoided.

3.2 Alignment of infrastructure to development process

Sector	Responsibility	Leading or lagging
Water and wastewater augmentation	Water utilities	Concurrent or lagging
Water and wastewater connection to networks	Water utilities	Concurrent
Major transport (eg rail, motorways, arterials)	NSW Government	Can be anytime. For example, some major rail is leading. Most major transport is lagging.
Minor transport (local roads)	Local councils/developers	Concurrent
Local open space	Local councils	Lagging
Regional open space	NSW Government	Generally lagging
Schools	NSW Government	Lagging
Hospitals	NSW Government	Lagging
Other utility augmentation	Utilities	Concurrent or lagging
Other utility connection to network	Utilities	Concurrent

Source: The CIE.

It is also useful to characterise infrastructure according to how specific it is to a development, versus whether it is driven by population growth in general. Costs related to population growth are not avoidable in the same way as costs that are development specific. Table 3.3 categorises various costs typically considered in infrastructure contributions discussions and the extent to which costs are development-related versus population related.

3.3 Categorisation of costs

Type of infrastructure	Development-related costs	Population-related costs
Local infrastructure	▪ Local roads within the development and connecting to the existing network ▪ Traffic facilities (including additional intersections to connect the development area to the road network) ▪ Bicycle and pedestrian facilities that connect the development to the broader transport network ▪ Drainage (including land and works) ▪ Local parks (including land and embellishments) ▪ Plan administration	▪ Community facilities linked to population growth (including childcare, community centres, library, arts centres, sports grounds) ▪ Regional open space (including land and embellishments)

Type of infrastructure	Development-related costs	Population-related costs
State infrastructure	▪ Connections to water supply and sewerage systems ▪ Bus infrastructure ▪ Potentially train stations and tracks to connect to the existing train network.	▪ Hospitals ▪ Schools ▪ Upgrades to the state road network to address any congestion impacts ▪ Upgrades to the broader water supply and sewerage systems ▪ Upgrades to the train network
Other	▪ Biodiversity offsets ▪ Connections to the telecommunications network (including network extensions specifically to service the development area) ▪ Connections to the electricity network (including network extensions specifically to service the development area)	▪ Augmentation of the telecommunications network ▪ Augmentation of the electricity network

Source: The CIE.

Current approach to infrastructure contributions

Contributions to infrastructure occur at two broad levels, which include contributions for local infrastructure as well as state infrastructure.

Local infrastructure contributions

Under section 7.11 of the Environmental Planning and Assessment Act, councils can obtain local infrastructure contributions as a means of funding local infrastructure required as a result of the new development. The type of infrastructure that can be funded can range from range from local roads, footpaths, stormwater drainage as well as community facilities and open space[12].

There are two forms of local infrastructure contributions:

1 Section 7.11 contributions — these are charged when there is a demonstrated link between the development and the infrastructure to be funded. Councils prepare contributions plans which specify the infrastructure to be provided and its estimated cost. From this, a contribution rate is determined (such as on a per dwelling or square meter basis)

   In order for councils to seek infrastructure contributions, they must prepare a contributions plan which establishes a nexus between the expected types of development in the area and the demand for public amenities and services to meet the development related demand.

12 NSW Department of Planning, Industry and Environment: https://www.planning.nsw.gov.au/local-infrastructure-contributions-policy#:~:text=Contributions%20for%20local%20infrastructure%2C%20also,stormwater%20drainage%20and%20traffic%20management.

There is a regulated threshold on the monetary value of infrastructure contribution on a per dwelling basis, above which review is required. These are[13]:

- a capped amount of $30 000 per dwelling or residential lot in greenfield areas
- a capped amount of $20 000 per dwelling or per residential lot in all other areas.

Councils can only levy contributions above these levels if the contribution plan has been reviewed by IPART and the council has implemented any advice given by the Minister. An essential works list will apply when councils seek contributions above the cap.

2 Section 7.12 levies — alternatively, contributions may be charged as a percentage of the estimated cost of the development (typically not exceeding 1 per cent of the value of the development)

The planning authority, to which the funds are paid, must hold these funds and apply them towards the purpose within a reasonable time (although funds may also be pooled and applied progressively)[14].

Planning agreements

Planning agreements are agreements made between developers and government agencies (including councils) for the provision of funds or works by the developer for infrastructure. Unlike Section 7.11 contributions, provisions made under planning agreements need not have nexus to the proposed development. Planning agreements can be used to fund the provision (or recoupment of cost in some circumstances) of[15]:

- public amenities or services
- affordable housing
- transport or other infrastructure relating to land
- recurrent expenditure related to the above items
- monitoring the planning impacts of the development
- conservation or enhancement of the natural environment.

Table 3.4 presents the number of different local contribution plans currently active across NSW, including section 7.11 plans and section 7.12 levies. A small number of hybrid plans also exist. There is currently an information gap relating to availability and quality of data for planning agreements, such as limited reporting of non-cash contributions and the type of activities covered. The following analysis is based on the best available data – obtained from a compilation of council annual financial statements.

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13 Practice Note: Local infrastructure contributions, January 2019, available at https://www.planning.nsw.gov.au/-/media/Files/DPE/Practice-notes/practice-note-local-infrastructure-contributions-january-2019-01-21.pdf?la=en

14 Environmental Planning and Assessment Act 1979, s7.3

15 Environmental Planning and Assessment Act 1979, s7.4

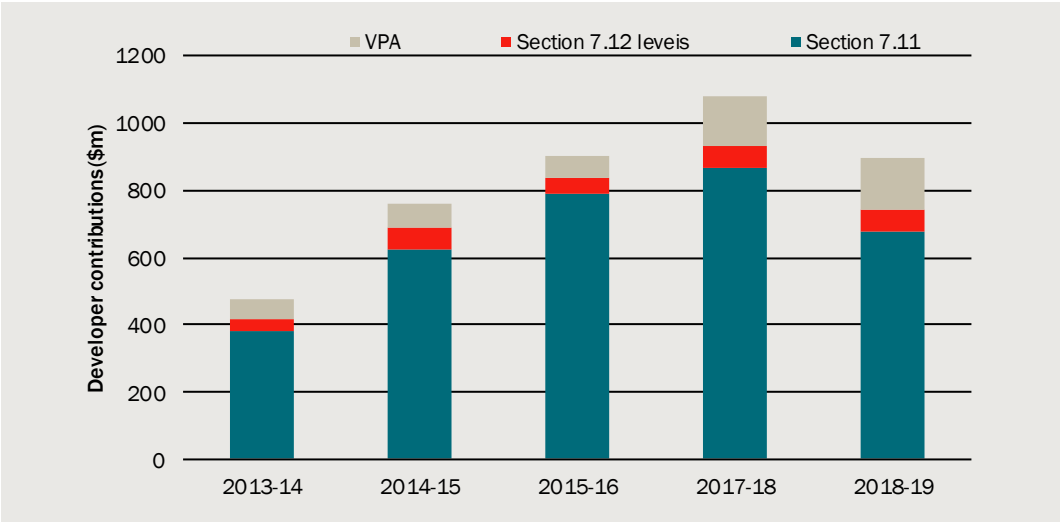
3.4 Number of local contribution plans in place NSW 2018-19

Council type	Section 7.11 plans	Section 7.12 plans	Hybrid plans
	No.	No.	No.
Metropolitan councils	100	33	4
Non-metropolitan councils	305	46	4
Voluntary planning agreements	unknown	unknown	na

Source: DPIE dataset provided to CIE.

The value of local infrastructure contributions collected has increased over time, peaking at over $1b in 2017-18. The vast majority of contributions are in the form of Section 7.11 contributions and this share has been relatively stable over time at around 80 per cent (chart 3.5).

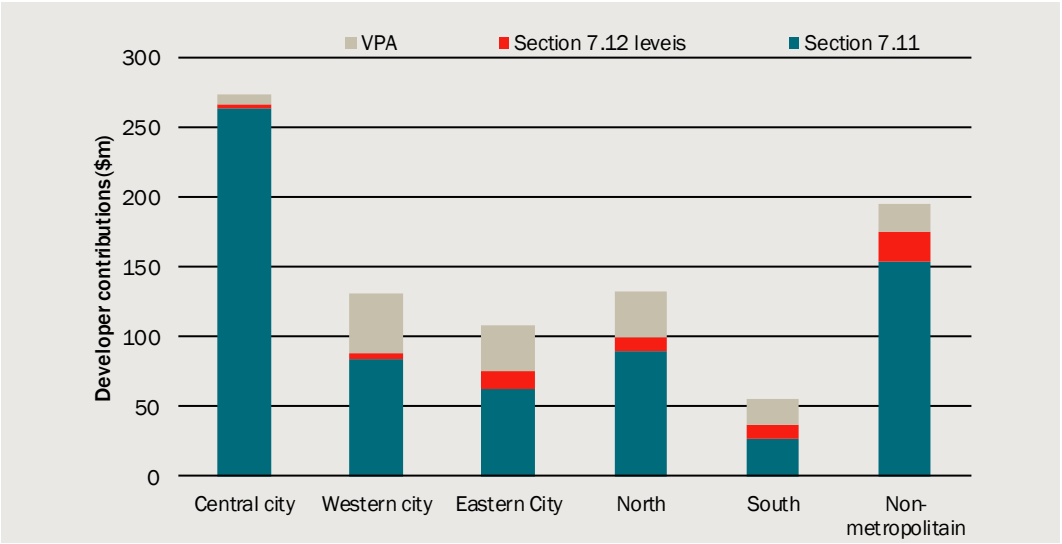
3.5 Local infrastructure contributions by type over time



Data source: CIE analysis based on data provided by DPIE

Infrastructure contributions vary by region, with around 78 per cent of the value of all local infrastructure contributions collected in metropolitan areas. Across Greater Sydney, there is variation in both the levels of contributions as well as proportion of different contribution types. In 2018-19, the Central city collected ~$273 million in contributions for local infrastructure, 96 per cent of which was through section 7.11. In contrast, the South region collected around $50 million and less than half of this was through section 7.11, meaning section 7.12 levies and voluntary planning agreements fund a larger share of infrastructure in this part of Sydney (chart 3.6).

3.6 Infrastructure contributions by source and district — 2018-19



Data source: Data source: CIE analysis based on data provided by DPIE

Infrastructure contributions can be made as cash payments or non-cash payments. Non-cash payments include undertaking works-in-kind as well as providing land for infrastructure. For section 7.11 contributions, 92 per cent of contributions are in the form of cash payments while 8 per cent are non-cash. In contrast, a much higher proportion (38 per cent) of contributions are in the form of non-cash for planning agreements. The extent to which VPA data reflects the full costs attributable to developers of these agreements is not clear. The higher non-cash proportion of planning agreements reflects the more flexible nature of negotiating a contribution compared to paying a fixed per dwelling rate under a S7.11.

Contributions to state infrastructure

Special infrastructure contributions (SICs) are levied by the NSW Government to cover some of the cost of infrastructure. A SIC is paid by developers in Special Contribution Areas and only on new development such as residential subdivisions and industrial estates.[16]

The contributions rate for SICs is based on the share of infrastructure used by the development. This means that the rate varies by development and by special contribution area. SIC rates can be calculated on a per hectare of net developable area (NDA) or by residential lot or dwelling.

Current SICS include:

- Western Sydney Growth Areas
- Warnervale Town Centre, Wyong Employment Zone (Central coast)
- Gosford City Centre

16 Planning NSW website – Special Infrastructure Contributions , https://www.planning.nsw.gov.au/Plans-for-your-area/Infrastructure-funding/Special-Infrastructure-Contributions

- St Leonards and Crows Nest
- Bayside West (Bayside)
- There are also draft SICS that have been exhibited in the following areas:
- Western Sydney Employment Area
- Greater Macarthur
- Lower Hunter
- West Lake Illawarra
- Hunter Region
- North West Growth Area
- Rhodes East
- Wilton.

The types of infrastructure that can be funded by SICs is broader than local contributions collected under section 7.11 and can include major infrastructure such as health facilities, state and regional roads, schools, emergency services, open space improvements and public transport.

The arrangements for SICs have changed over time, and currently the levy charged to developers is based on 50 per cent of the anticipated costs.

Water and wastewater utilities

- Water and wastewater services in regional NSW are provided by local councils and, in metropolitan areas, by Sydney Water and Hunter Water. Local water utilities generally do charge for connection to water and to wastewater services under section 64 of the Local Government Act 1993, which in turn refers to the Water Management Act 2000 (Division 5 of Part 2 of Chapter 6). Contributions arrangements typically involve a developer paying for the costs of connecting to the existing water network, but these may be subsidised by council.
- Metropolitan connection charges are different, however, for Sydney/Illawarra (serviced by Sydney Water) and the Hunter (serviced by Hunter Water)17. Sydney Water notes that its two principles for funding are:
  - Developers **are** required to pay for minimum reticulation servicing their land.
  - Developers **are not** required to pay for infrastructure that:
    - provides capacity for other developers
    - provides frontage or a point of connection to either another developer's land or a potential developer's land.[18]
- The specific funding arrangements for infrastructure depends on the planning status of the proposed development as well as the timing of the proposed development. The various funding arrangements are presented in table 3.12.

17 The Central Coast is serviced by the council, and is able to charge developer contributions.

18 Sydney Water 2020, *Funding infrastructure to service growth,* Policy.

3.7 Sydney Water funding arrangements

Planning status	Timing of proposed development	Funding arrangements
On NSW Government's land release program, including infill areas or in Sydney Water's Growth Servicing Plan	Aligns with specific delivery date presented in GSP	Sydney Water funds and builds infrastructure as shown in the GSP.
	Earlier than GSP timing or where no specific delivery date has been determined by Sydney water	A commercial agreement may be required where the developer funds and builds infrastructure, then transfers it to Sydney Water to own and operate.
Accelerated greenfield development or other land release that is to be at 'no cost to the Government'.	Anytime	Developer funds and builds infrastructure, then transfers it to Sydney Water. A reimbursement schedule is set up as new dwellings are connected to the infrastructure. Once half of the dwellings are connected and all infrastructure has been constructed, the developer is reimbursed the full amount.
Not on NSW Government's program or in an area where no planning has begun.	Anytime	Developer funds and builds infrastructure and then transfers it to Sydney Water. Commercial agreement is required for transfer and operation of assets. It is likely there will be no repayment or reimbursement schedule for this infrastructure.

Source: Sydney Water Growth Servicing Plan 2019-2024.

- These are similar to arrangements in place for Hunter Water.[19]

Comparison to other states

A summary of activities for which development contributions are levied in each state and territory are set out in table 1. Note that even where two jurisdictions allow for charges in a particular activity, there can be differences about how much activity charges extend to — for example, to only extension or also to augmentation.

This table includes infrastructure levies that are outside of government, such as the potential for electricity and telecommunication providers, which are often private, to levy infrastructure contributions.

19 Hunter Water 2019, *Funding and delivery of growth infrastructure, guidelines for funding and procuring assets,*

3.8 Infrastructure contributions across distributions

Asset	NSW	Vic	Tas	SA	WA	NT	Qld	ACT
On-site infrastructure								
Local roads, transport	✓	✓	✓	✓	✓	✓	✓	×
Drainage	✓							
Sewerage	✓×	✓	✓	✓	✓	✓	✓	×
Water	✓×	✓	✓	✓	✓	✓	✓	×
Local open space	✓	✓	✓	✓	✓	×	✓	×
Electricity	✓	✓	✓	✓	✓	✓	✓	✓
Biodiversity offsets	✓	✓	✓	×	×	×	×	×
Telecommunications	✓	✓	✓	✓	✓	✓	✓	✓
Extension/augmentation								
Trunk roads (local and state)	✓	✓	✓	✓	✓	✓	✓	×
Education	✓ [d]	×	×	×	✓	×	×	×
Hospitals/health	✓ [d]	×	×	×	×	×	×	×
Public transport	✓ [e]	✓	×	×	×	×	✓	×
Community facilities[a]	✓	✓	×	×	✓	×	×	×
Regional open space	✓ [d]	✓	?	✓	✓	×	?	×
Water and sewerage[b]	✓ [c]	✓	✓	✓	✓	✓	✓	×
Electricity[f]	✓	✓	✓	✓	✓	✓	✓	✓
Telecommunications[g]	✓	✓	✓	✓	✓	✓	✓	✓

[a] Community facilities includes such things as childcare centres and libraries. [b] Headworks relate to the provision of sewerage and water infrastructure not occurring within the development but benefiting land owners. c Water and sewerage lead-in or augmentation is not charged to developers in Sydney and Hunter, but is elsewhere. [d] Land for social infrastructure such as education and health is partly funded by developers in areas where there is a Special Infrastructure Contribution. [e] Public transport facilities such as bus depots are charged for in areas where there is a Special Infrastructure Contribution. [f] Electricity extension and augmentation costs can be charged under AER guidelines, although different utilities have made different arrangements for this. [g] NBN Co can charge for provision of backhaul to new developments where this is not currently available. The charge is less than the full costs of providing backhaul.

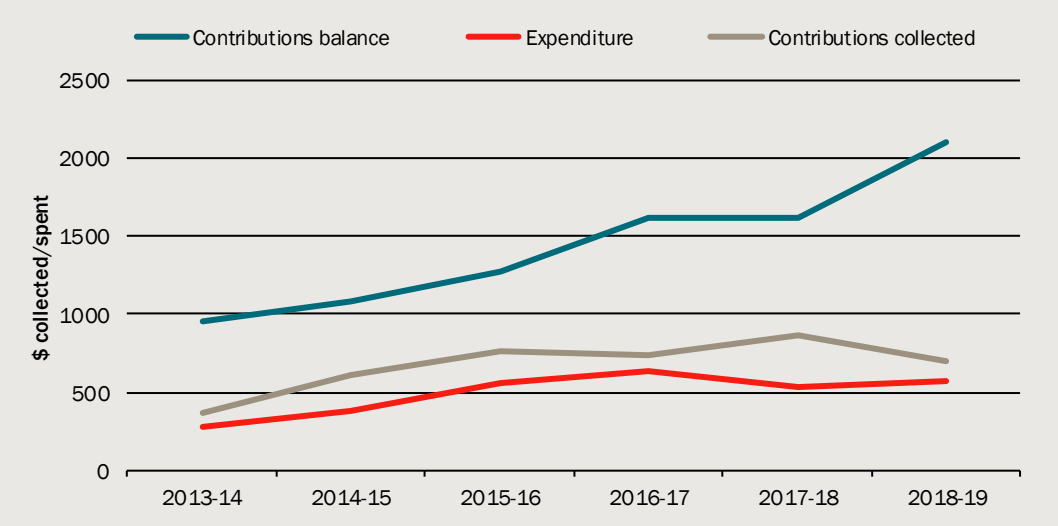
Source: The CIE based on Productivity Commission 2011, *Performance benchmarking of Australian business regulation: planning, zoning and development assessments,* Table 6.9, and updated based on discussions with state and local planning authorities and recent publications.

Trends in infrastructure contributions

Trends in local infrastructure contributions

Over time, councils across New South Wales have spent less than they collect from infrastructure contributions. This has resulted in a growing balance of funds which now exceeds $3 billion ($2 billion for metropolitan councils and $1.2 billion for non-metropolitan councils) as at 2018-19 (charts 3.9 and 3.10). This suggests that councils are not currently either able to use contributions easily to fund infrastructure, are waiting until contribution balances are sufficient to fund larger projects, or are not providing infrastructure in line with development timing.

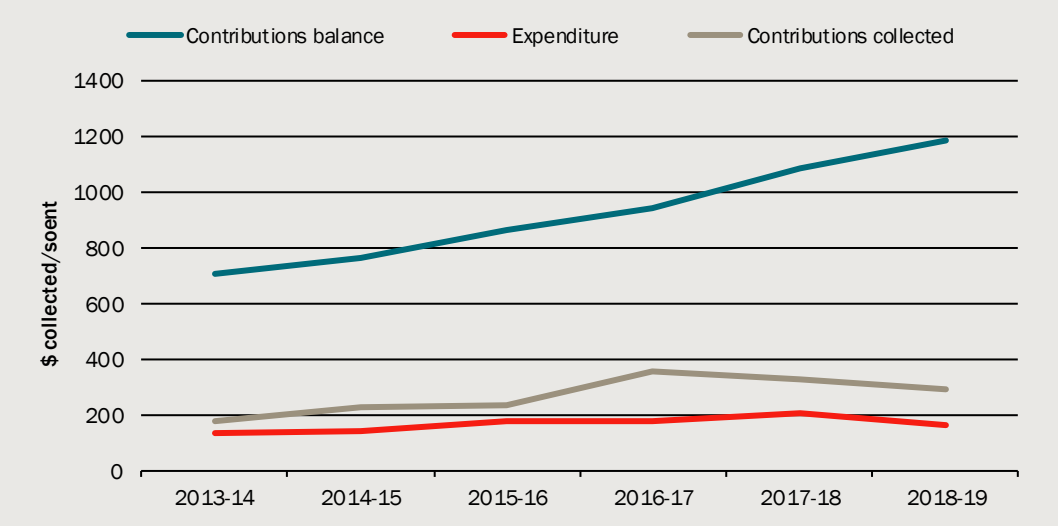
3.9 Local contributions and expenditure over time — metropolitan councils



Note: Includes value of section 64 contributions

Data source: CIE analysis based on data provided by NSW Treasury & DPIE

3.10 Local contributions and expenditure over time — non-metropolitan councils



Note: Includes value of section 64 contributions

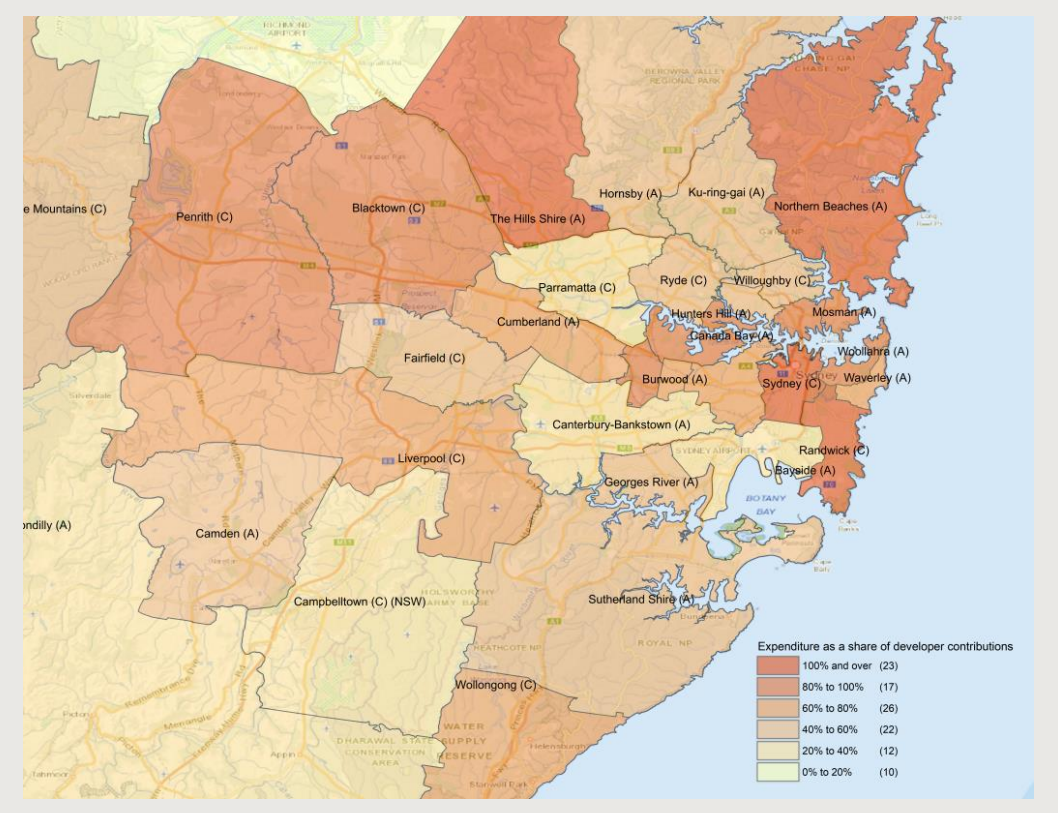
Data source: CIE analysis based on data provided by NSW Treasury & DPIE

While infrastructure contributions generally exceed the level of infrastructure expenditure of local councils in total, there is variation by local government area. Across Greater Sydney, there are some council areas which spend a higher proportion of the infrastructure contributions received over the five year period 2013-14 to 2018-19 than the broader time series average would suggest (chart 3.11)

For instance, Northern Beaches council collected $68 million in infrastructure contributions over 2013-14 to 2018-19 and spent $87 million over the same period. Consequently, the account balance of infrastructure contributions has not increased over time but instead decreased over the period from $45 million in 2013 to around $36

million in 2018-19. Other councils with higher shares include inner city council areas such as Sydney, Randwick, Blacktown and Woollahra.

3.11 Council expenditure as a share of infrastructure contributions — 2013-14 – 2018-19



Source: The CIE, based on data from NSW Treasury and DPIE.

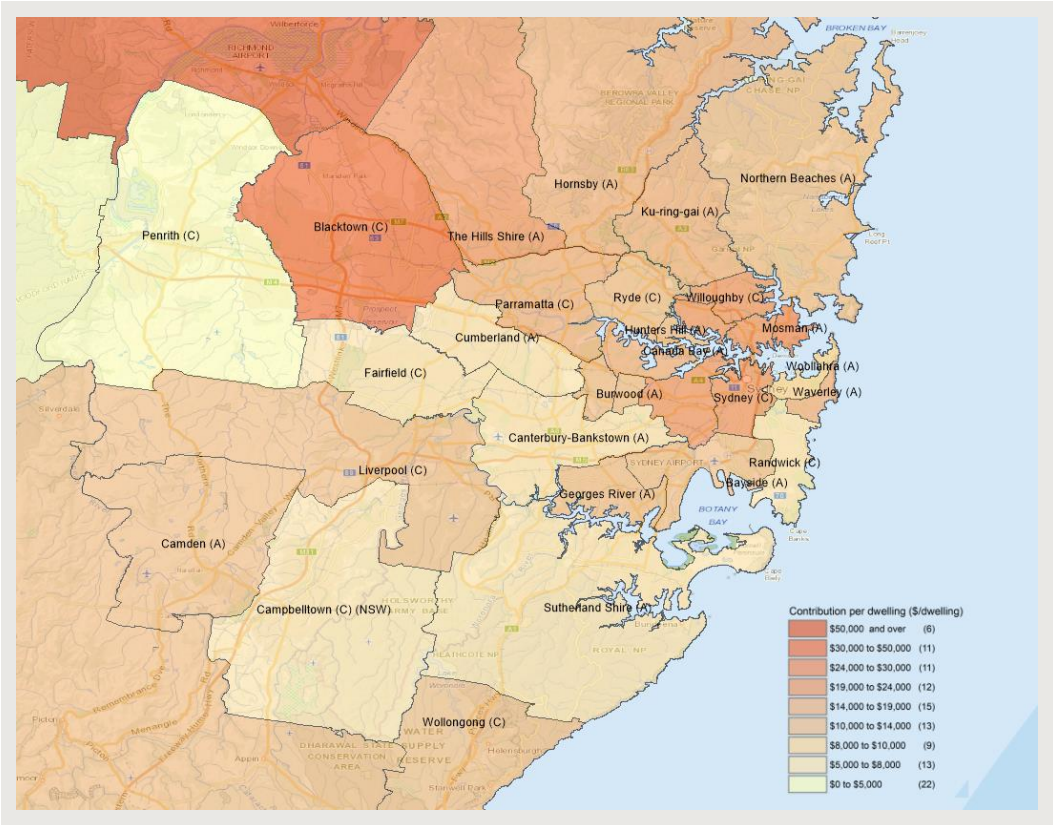
We can also calculate an average per dwelling contributions rate across local areas. This is based on:

- the total collection of infrastructure contributions in each council area over a five-year period to 2018/19
- the total number of dwelling approvals over the same five-year period.

The contribution rate in terms of dollars per dwelling varies across local government area. The council area with the highest contribution rate is Blacktown, which has a contribution rate of $32 000 per dwelling. There is also a cluster of councils in the eastern part of the city which have relatively higher rates, including Mosman ($ 26 000), Willoughby ($23 000) and Sydney ($22 000). This likely reflects the application of percentage rates to much higher construction costs, and contributions also being collected on activities such as house renovations. Regions further south and to the west have much lower contribution rates. For example, Sutherland has a contributions rate of $8 000, while Penrith has a rate of $4 000 (chart 3.12).

The pattern of contribution rates does not align closely to where infrastructure costs are higher. Typically, local councils have much higher infrastructure costs for greenfield areas, related to new roads, open space and drainage.

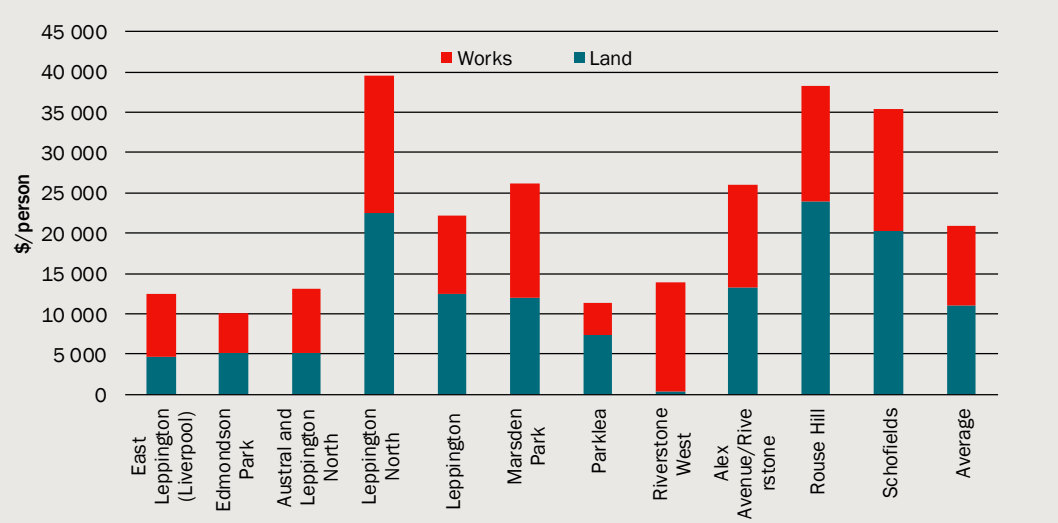
3.12 Infrastructure contribution rates across Sydney ($ per dwelling) — 2013-14 to 2018-19



Source: The CIE, based on data from NSW Treasury and DPIE.

The CIE has also collated data for some specific S7.11 plans related to greenfield development areas. In terms of costs per person accommodated, there is a reasonable difference , with costs ranging from $10 000 per person to $40 000 per person (chart 3.13). The importance of land as a driver of cost differences is also clear from the split between land and works.

3.13 Local development contributions in greenfield areas

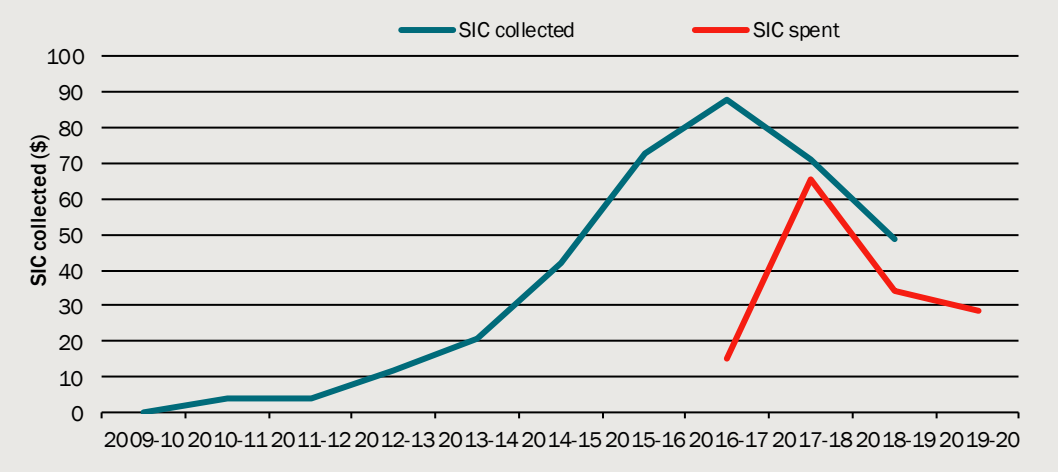


Data source: Contributions plans for each of the stated areas, inflated to 2019 dollars.

Trends in state level infrastructure contributions

Infrastructure contributions collected as SICs has increased over time, peaking 2016-17 at almost $90 million (chart 4.16). There are less datapoints on SIC expenditure, however the peak in SIC spending occurs in 2017-18, which is one year after the peak in SIC collected. This indicates that there is a lag between infrastructure contributions being paid and used to fund infrastructure.

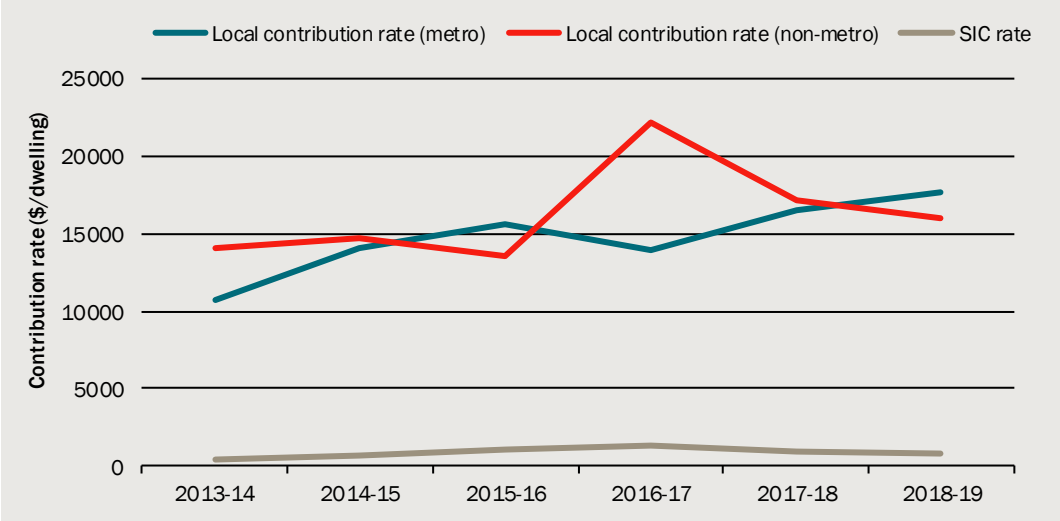
3.14 Special Infrastructure Contributions over time



Data source: The CIE, based on data provided by NSW Productivity Commission

On a per dwelling basis, SIC rates are much lower than the per dwelling contribution rates for local infrastructure (chart 3.15). Historically, the average local contribution rate is around $15 000 per dwelling across NSW. The average contribution for the State Infrastructure Contribution is much lower across NSW, because there are many areas for which there is no contribution. Averaging across all dwellings (those with and without a SIC), the average SIC is $900 per dwelling across NSW.

3.15 Local and SIC contribution rates over time ($2019)



Note: The SIC average is across the whole of NSW and reflects a small set of dwellings that pay a SIC and most dwellings that do not.
Data source: CIE analysis based on data provided by DPIE and NSW Productivity Commission.

Overall, infrastructure contributions form a small part of the overall construction value of residential buildings in NSW. In 2018-19:

- Around $990 million was collected by councils as part of local infrastructure contributions
- $49 million was collected by the NSW Government as part of SIC contributions
- $25 billion in residential construction work was completed
- Total infrastructure contributions comprise around 4 per cent of the total value of residential building costs incurred during 2018-19 (table 3.16).

3.16 Comparing infrastructure contribution rates to construction value 2018-19

	Value	Dwellings approved	Per dwelling value
	$m	No.	$/dwelling
Total contributions collected by councils	990	57 597	17 185
Total SIC contributions	49	57 597	848 (all dwellings)
Total residential construction cost	25 000	57 597	434 050

Source: CIE analysis based on ABS Building activity, Australia Mar 2020 cat8752.0, data provided by DPIE and Productivity commission

Administrative costs of infrastructure contribution systems

Administrative costs of a infrastructure contribution system refer to the costs of implementing and maintaining a contributions plan by all relevant parties. These include:

- Councils, which incur costs as a result of developing and maintaining a contributions plan
- Government, specifically the Independent Pricing and Regulatory Tribunal (IPART), which incur costs due to regulating contribution charges

- Developers, which aside from the contribution charges themselves, incur administrative costs of complying with the process
- Through consultation, IPART have advised that it incurs administrative costs of around $200 000 (excluding GST) to assess a contributions plan. This figure includes the costs of salaries, on-costs, an allowance for overheads as well as disbursements associated with an average assessment.
- The administrative costs that occur at the council level are more varied and are influenced by a range of factors that are specific to the nature of the council, the complexity of the plan and other features of the local government area. Box 3.17 and 3.18 present some examples of the costs borne by Fairfield Council and Shellharbour Council to administer past contributions plans.

3.17 Fairfield contribution plan (2011)

Fairfield City Council reported administrative the itemised administrative costs associated with its 2011 contribution plan. These include

- Salary and costs relating to contributions program management and studies at ~$1 800 000
- Legal advice at ~$23 000
- Review of population forecasts at $490 000
- Preparation of community facilities strategy at $57 000
- Review of community facilities strategy at $68 000
- Review of open space strategy at $68 000
- Some costs such as reviews and preparations of strategies are not fully incurred as a result of the development and are therefore shared between other projects. Once apportioning specific costs associated with development contributions plan, the total administrative cost of the plan is estimated to be around $1.9 million.

Note: values have been priced updated to $2020

3.18 Shellharbour contributions plan 2016

In 2016 Shellharbour Council estimated the total cost of its contribution plan to be ~$5.8 million, which is around 3 per cent of the value of works in the plan.

Itemised costs include reported past expenditure plus staffing costs, studies and consultancy fees:

- Past expenditure of $2.9 million
- Development contributions officers — $1 million
- Development contributions accountants — $641 000
- Development contributions assistants — $369 000
- Studies and consultants — $266 000

On a per dwelling basis these costs equate to $874 per dwelling.

Note: values have been priced updated to $2020

- It is possible to calculate the annual costs of the system to the relevant parties based on costing information provided (table 3.19).
- For council costs for contribution plans, we use per annum cost estimates provided by Fairfield City council, which is around $107 400. Extrapolating this figure to the number of current contribution plans across NSW yields an annual cost of $52 million in administering contribution plans
- We estimate $680 000 in costs associated with regulating contribution plans, based on the $200 000 cost incurred by IPART to assess plans, of which it assesses around 3.4 plans on average each year[20]
- Data provided by the Productivity Commission establishes annual costs of around $1.6 million for administering state planning agreements and $1.9 million for SICS
- At this stage, there are still unknowns related to the specific costs incurred by councils for planning agreements, as well as the administrative costs incurred by developers
- Based on the current known costs, we estimate the infrastructure contributions system currently costs around $56 million per year, which is around 5.3 per cent of the value of total contributions collected in 2018-19[21].

20 Based on the average number of contributions plans assessed from 2016 to 2020. See, https://www.ipart.nsw.gov.au/Home/Industries/Local-Government/Local-Infrastructure-Contributions-Plans/Current-and-completed-assessment-of-plans

21 There was $989 million collected by councils and a further $49 million collected as part of SICS.

3.19 Annual administrative costs ($2018-19)

	Contributions plans	Planning agreements	SIC
	$/year	$/year	$/year
Council costs	52 000 000	unknown	NA
NSW Government costs	680 000	1 500 000	1 900 000
Developer costs	unknown	unknown	unknown

Source: DPIE dataset provided to CIE, Productivity Commission dataset provided to CIE

Are infrastructure contributions reflective of costs?

The pattern of local infrastructure contributions indicates that in total, these are unlikely to be reflective of infrastructure costs. This is because the infrastructure costs related to greenfield locations are substantially higher for development specific infrastructure such as connecting local roads, drainage and new open space. Yet we see high costs for some greenfield locations (Blacktown) but much lower costs in other greenfield areas. We also see relatively high costs in some infill areas.

The extent to which charges are reflective of a broader definition of costs, such as accounting for congestion and crowding costs, is difficult to determine, although the lack of any clear pattern suggests it is more a function of the council process than of the costs of development.

The other key consideration in terms of cost reflectivity is that estimates of contributions are based on cost estimates and projects may not proceed for many years. This leads to large cost variances related to escalation. For example:

- escalation of land cost has been enormous in Sydney metropolitan areas, and the costs of land estimated at the time of making contributions plans will not reflect cost when land is actually purchased
- there has also been escalation of construction costs.

There is no systematic data on the extent of cost variances to expectations.

4 Impacts of the current infrastructure funding system

The types of impacts that an infrastructure contributions system can have were set out in chapter 2. In this chapter, we evaluate the strength of these impacts. The key findings are that:

- There is substantial evidence that the planning system in NSW has been too restrictive of development, leading to high prices for land and high costs for residential, commercial and industrial property
- the evidence specifically linking infrastructure contributions to this in their own right is much weaker
- there is stronger evidence that broader financial arrangements for local councils lead to a financial disincentive for councils to have more development.
- there is also strong evidence that the outcomes from a lack of infrastructure provision are important in community views about development
- There have been many previous papers that assess the efficiency of different taxation mechanisms
- council rates and land taxes are amongst the most efficient mechanisms
- stamp duties and other transaction taxes are amongst the least efficient
- infrastructure contributions that are directly linked to avoidable costs are highly efficient. Infrastructure contributions beyond this would generally be a fairly inefficient funding mechanism, because they are levied on a narrow sector of economic activity. However, because of considerable premiums related to land use regulations, currently infrastructure contributions are likely to be highly efficient, as long as their impacts are passed back to existing landholders, rather than deterring commercial feasibility
- There is evidence that infrastructure delivery can delay development
- to the extent that contributions can improve this, then this is a reason to have contributions and hypothecate funding towards infrastructure. It is also a reason to change the arrangements for water and wastewater infrastructure contributions in metropolitan areas.

Development outcomes

There is a body of evidence suggesting that the planning system in NSW is failing to meet the needs of the community. This includes the following inter-related points.

- Housing supply has failed to keep up with population growth, with Sydney having the lowest dwelling to population ratio of major Australian cities and this ratio having declines from 2006 to 2016 more in Sydney than any of the other cities 22
- House prices are higher in Sydney than anywhere else in the country — Sydney has the worst housing affordability (i.e. house prices as a share of income) of any major city in the country
- The major difference to costs of housing between NSW and other states is the cost of land, and there is substantial evidence that land costs include large premiums related to the zoning of the land.
- Similar poor outcomes are evident outside of housing, such as for industrial and commercial property.

Note that these issues are predominantly issues related to the Sydney metropolitan area.

The CIE has previously documented the considerable evidence of problems with the current NSW planning system, covering a range of different elements as shown in Box 4.1.[23] Updated evidence on issues related to the planning system is set out below.

The NSW Government has undertaken a range of reforms to seek to address these problems, ranging from expansion of complying development pathways to better coordinating infrastructure and land use changes.

22 Daley, J. Coates, B. and Wiltshire, T. (2018), Housing affordability: re-imagining the Australian dream, Grattan Institute (based on OECD data).

23 The CIE 2014, *Better regulation statement for the NSW Planning Reforms*, prepared for NSW Planning.

4.1 Evidence of problems with the NSW planning system

The planning system is not delivering good outcomes for NSW

- Housing completions in NSW have not kept pace with population growth, or levels achieved in other states and particularly Victoria over the longer term. More recent increases in housing approvals and completions since 2014 reflect that prices are sufficiently high to encourage additional supply, and the impact of some improvements the NSW Government has made to the planning system.
- Housing is least affordable in Sydney of all Australian capital cities and commercial rents are the second most expensive.[24] This increases the cost of living for people in NSW and the cost of doing business.
- Businesses and residents do not trust the current NSW planning system
  - Residents of Sydney have the lowest agreement that the state is effective at planning of any city surveyed (at 14 per cent) and the second lowest that local government is effective at planning (15 per cent).[25]
  - NSW businesses have a more negative view of planning competence and the ease of doing business than those in Victoria and Queensland. [26]
- The planning system is overly complex and costly
  - NSW is noted for the complexity of its planning system, both legislative complexity and complexity for users, which increases time and financial costs for users.[27]
  - Even minor developments have historically gone through merit assessment processes unlike in other states, leading to higher costs for new development.[28] The expansion of exempt and complying development codes is starting to address this issue.
- The planning system has not allowed NSW to respond to economic and demographic change. [29]
- The planning system has limited the response to changing preferences for higher density development, leading to lower supply of new housing and inefficient use of land.
- The planning system has responded slowly to changes in the industrial structure of the NSW economy, leading to an inefficient use of land.

In 2014, the CIE quantified the overall costs of the problems with the NSW planning system at in the order of $1-$2 billion per year.[30]

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24 ABS Residential Property Price indices; Domain Group, Domain House Price Report, June 2016; NSW Treasury 2012, Submission to NSW Planning system review.

25 Productivity Commission 2011, *Performance benchmarking of Australian business regulation: Planning, zoning and development assessment*, Research Report, p. XXXVIII.

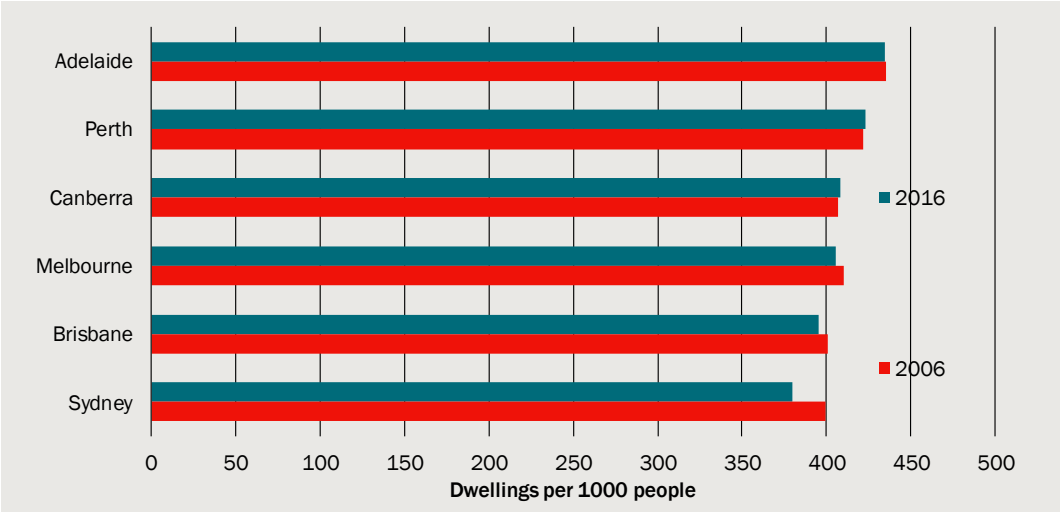
26 Productivity Commission 2011, *Performance benchmarking of Australian business regulation: Planning, zoning and development assessment*, Research Report, p. 385.

Shortage of housing in Sydney

Sydney has a shortage of dwellings relative to national and international benchmarks.

- Sydney has the lowest dwellings to population ratio of the major Australian cities (chart 4.2).31 Over the period from 2006 to 2016, the dwelling to population ratio also declined more in Sydney than in any of the other major Australian cities.
- According to evidence presented by the Grattan Institute (2018), Australia has a low dwellings-to-population ratio, relative to other developed countries. Furthermore, Australia was one of the few countries where the dwelling to population ratio declined over the period from 2000 to 2015.

4.2 Dwellings to population ratio – major Australian cities



Data source: Daley, J. Coates, B. and Wiltshire, T. (2018), Housing affordability: re-imagining the Australian dream, Grattan Institute (based on OECD data).

27 Property Council 2013, *Planning gone mad: a story about the NSW planning system and how it drives applicants crazy;* Productivity Commission 2011, *Performance benchmarking of Australian business regulation: Planning, zoning and development assessment*, Research Report, p. 379.

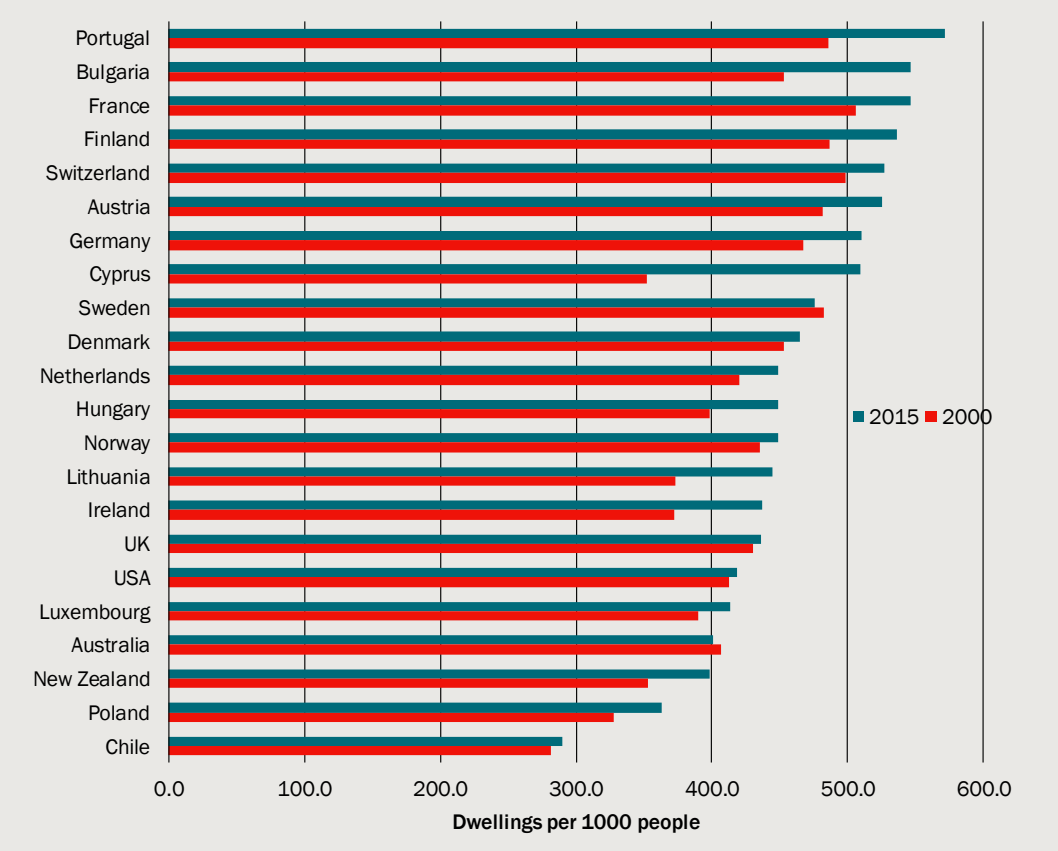
28 NSW planning development assessment statistics; NSW Planning 2013, *A new planning system for NSW,* White Paper, p. 123.

29 The CIE and ARUP 2012, *Costs and benefits of alternative growth scenarios for Sydney focusing on existing urban areas,* prepared for NSW Planning, p. 55

30 The CIE 2014, *Better regulation statement for the NSW planning reforms*, prepared for NSW Planning.

31 Daley, J. Coates, B. and Wiltshire, T. (2018), Housing affordability: re-imagining the Australian dream, Grattan Institute (based on OECD data).

4.3 Dwelling to population ratios – developed countries



Data source: Daley, J. Coates, B. and Wiltshire, T. (2018), Housing affordability: re-imagining the Australian dream, Grattan Institute (based on OECD data).

Zoning premiums are high in Sydney

Residential property prices are substantially higher in Sydney than in other comparable cities such as Melbourne (table 4.4). At the end of 2019, an established house in Sydney had a median cost of $977 000 compared to $750 000 in Melbourne. An attached dwelling (eg. apartment) had a median price of $725 000 in Sydney compared to $587 000 in Melbourne. Interestingly, even in regional areas NSW prices are above Victorian prices.

4.4 Median price of residential property Q4 2019

Region	Established House	Attached Dwelling
	$000	$000
Sydney	977	725
Rest of NSW	505	425
Melbourne	750	587
Rest of Vic.	390	305
Brisbane	550	397
Rest of Qld.	450	390
Adelaide	485	375

Region	Established House	Attached Dwelling
Rest of SA	285	185
Perth	502	380
Rest of WA	335	235
Hobart	520	399
Rest of Tas.	340	300
Darwin	470	303
Canberra	741	465

Note: Unstratified.

Source: ABS residential property price indices, https://www.abs.gov.au/AUSSTATS/abs@.nsf/mf/6416.0.

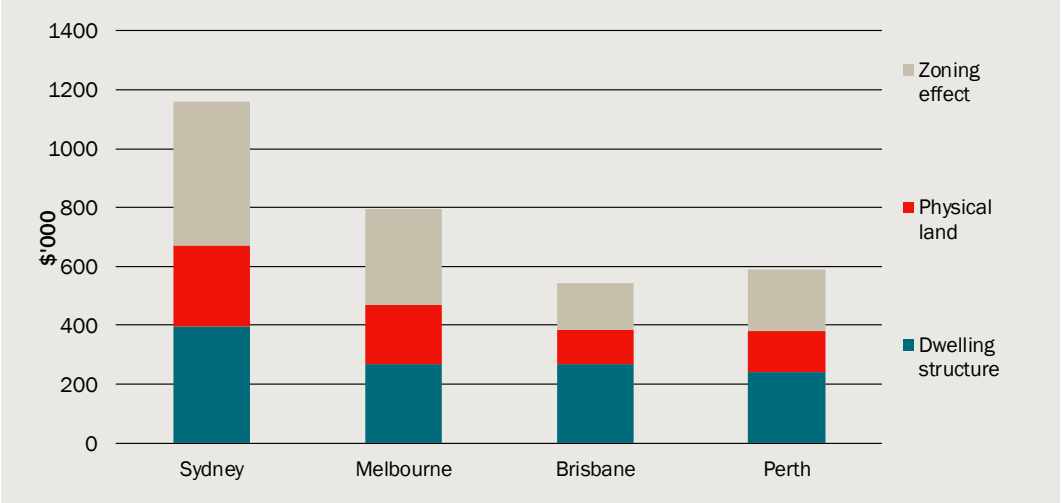
A study by Kendall and Tulip from the Reserve Bank of Australia (RBA) decomposed average house prices across 4 Australian cities into:[32]

- the value of the dwelling structure
- the value of physical land
- the impact of policies that restrict the supply of houses, such as minimum lot sizes, maximum building heights and planning approval process (referred to as the 'zoning effect').

The study found that:

- average house prices were significantly higher in Sydney than in the other Australian cities (Melbourne, Brisbane and Perth) (chart 4.5), and
- the zoning effect was the largest contributor to the price differences between Sydney and the other cities (in Sydney the 'zoning effect' was estimated to increase the average house price by 73 per cent).

4.5 Impact of policies that restrict housing supply on average house prices

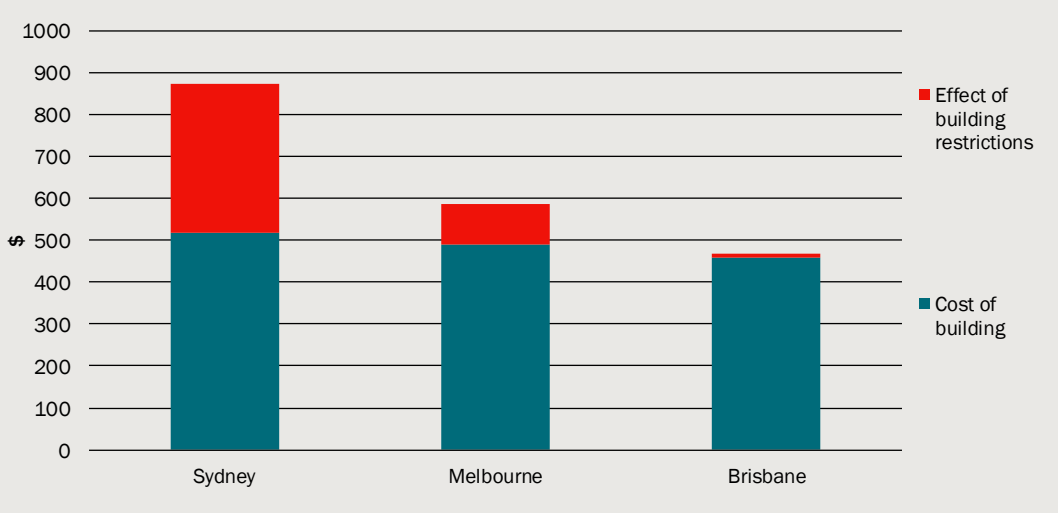


Data source: Kendall, R. and Tulip, P. The Effect of Zoning on Housing Prices, Reserve Bank of Australia Research Discussion Paper, RDP 2018-03, p. 10.

32 Kendall, R. and Tulip, P. The Effect of Zoning on Housing Prices, Reserve Bank of Australia Research Discussion Paper, RDP 2018-03, p. 10.

A subsequent report by Jenner and Tulip focusing on apartments found that around 40 per cent of the average apartment price in Sydney was due to the effect of building restrictions (chart 4.6).[33] This was substantially higher than Melbourne (16 per cent) and Brisbane (2 per cent).

4.6 Composition of average apartment prices

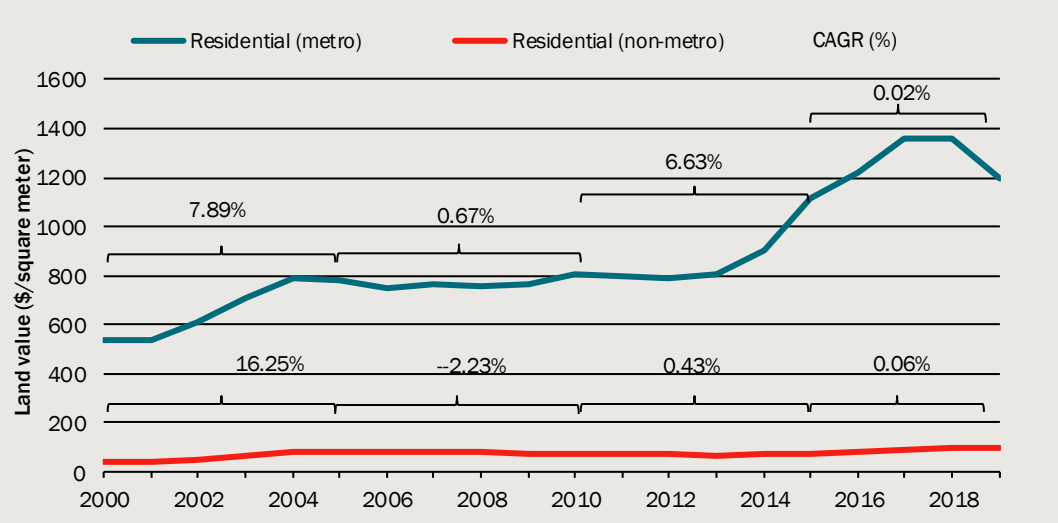


Data source: Jenner, K. and Tulip, P. 2020, The Apartment Shortage, Reserve Bank of Australia Research Discussion Paper RDP 2020-04, p. 6.

Historically, residential land values in metropolitan areas have been significantly higher than non-metropolitan areas. In more recent years, land values have grown strongly in metropolitan NSW, increasing by nearly 70 per cent over 2013 to 2018 from around $800 per square meter to around $1 360 per square meter before declining thereafter. Non-metropolitan regions have seen similar growth rates, although off a much smaller base (chart 4.7). These changes reflect higher demand for property, combined with less of an increase in supply.

[33] Jenner, K. and Tulip, P. 2020, The Apartment Shortage, Reserve Bank of Australia Research Discussion Paper RDP 2020-04, p. 6.

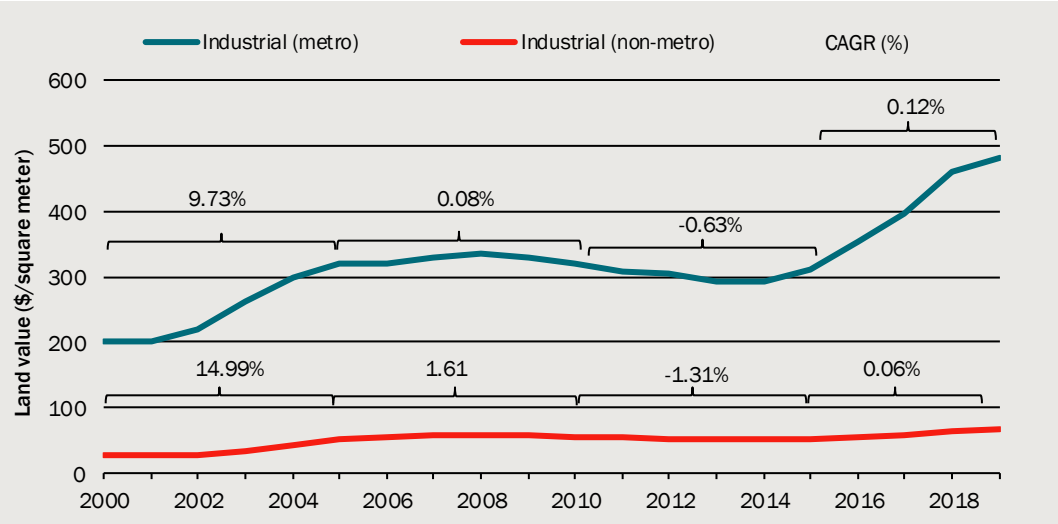
4.7 Residential land value per square meter over time ($2020)



Data source: The CIE, using land value data from LPI.

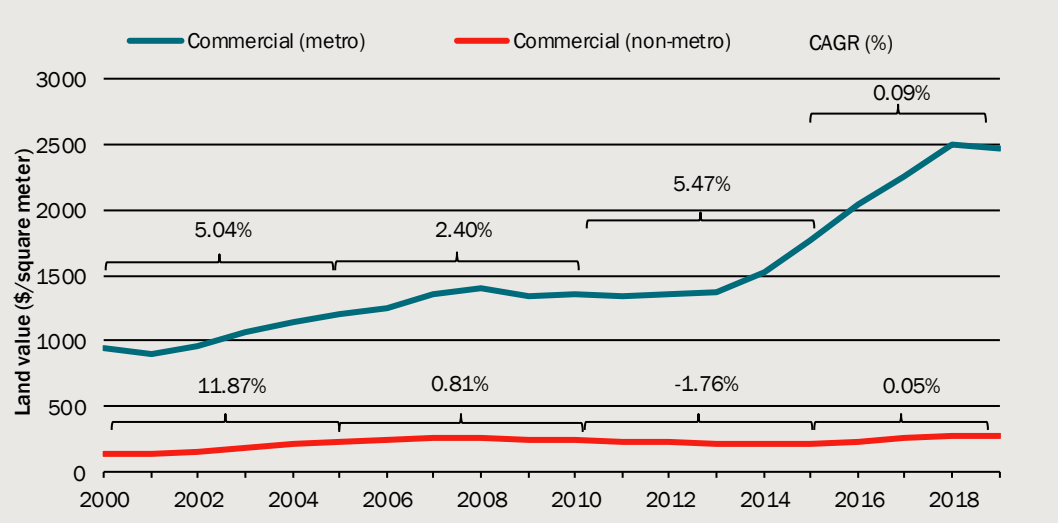
A similar trend in the land value of industrial and commercial land can be seen (charts 4.8 and 4.9). The value of industrial land, however, has not experienced the same decline from 2018 onwards as residential land.

4.8 Industrial land value per square meter over time ($2020)



Data source: Data source: The CIE, using land value data from LPI.

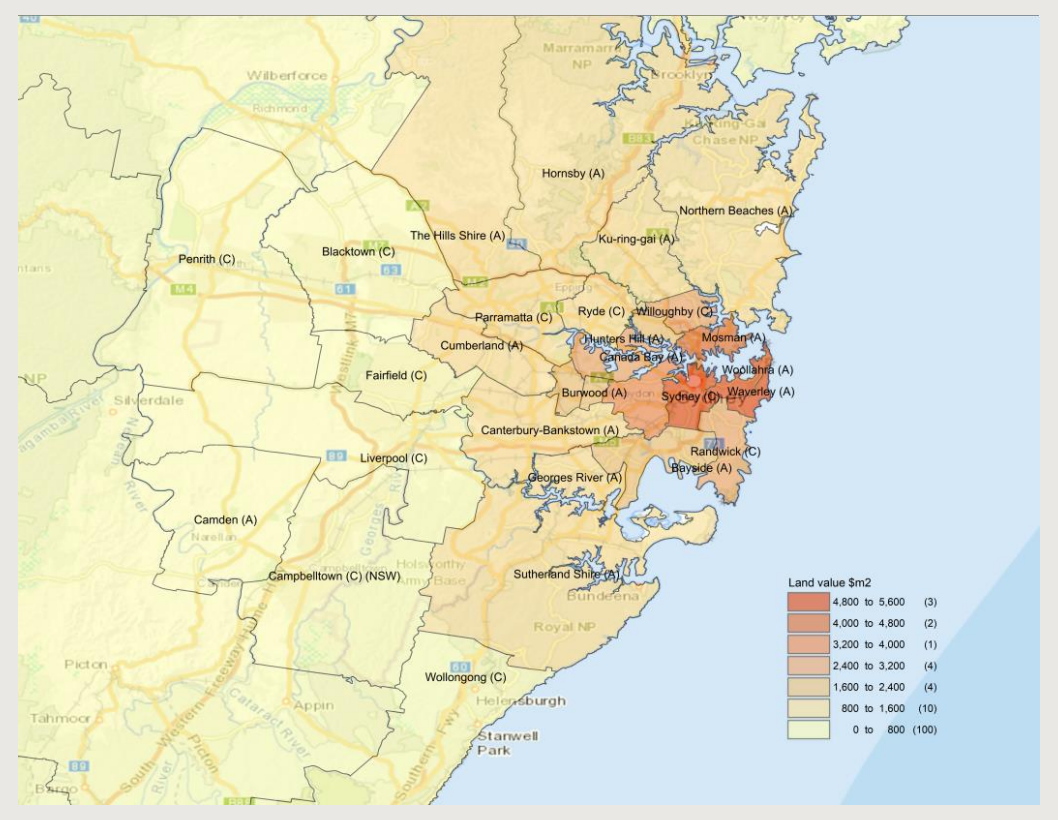
4.9 Commercial land value per square meter over time ($2020)



Data source: Data source: The CIE, using land value data from LPI.

If land prices have similar flexibility downwards, then an infrastructure contribution is likely to be reflected in land values rather than compromising feasibility of development.

4.10 Land prices across Sydney ($ per square metre)



Data source: Data source: The CIE, using land value data from LPI.

Commercial and industrial property prices

Sydney has substantially higher office, retail and industrial rents as compared to other Australian cities (table 4.11). This is also suggestive of broader issues impacting on affordability of land for non-residential uses.

4.11 Office, retail and industrial property prices from CBRE (Q2 2020)

Property category	Metric	Sydney	Melbourne	Brisbane	Adelaide	Perth	Canberra
		$/sqm	$/sqm	$/sqm	$/sqm	$/sqm	$/sqm
Office	Prime net face rent CBD	1264	648	667	432	607	441
Retail	Super Prime CBD rent	14 975	10 000	3 755	3 125	3 434	692
Industrial	Super Prime Warehouse average net rent	138	93	117	101	90	125

Source: Office:
http://cbre.vo.llnwd.net/grgservices/secure/Australia_Office_MarketView_Q2%202020.pdf?e=1598917453&h=3bff07d8dc63bd0511602fe9ba9f1cbe

Retail:
http://cbre.vo.llnwd.net/grgservices/secure/Australian%20Retail%20MarketView%20Q2%202020.pdf?e=1598917455&h=1144ce10229da297bf4c98b1e3f86d7a

Industrial:
http://cbre.vo.llnwd.net/grgservices/secure/Australia_Industrial_MarketView_Q2_2020%20.pdf?e=1598917323&h=b48594d20e9da6848b75d992e309b081.

Can infrastructure contributions impact on planning system performance?

It is possible that infrastructure contributions are a mechanism to gain community support for new development. If this were the case, areas with higher contributions would have less community issues related to new development. One way to measure this is through lower rejection rates and faster approval times for development. However, it could also be the case that infrastructure contributions are being used by councils that do not support new development to deter new development. This makes it difficult to interpret any relationships.

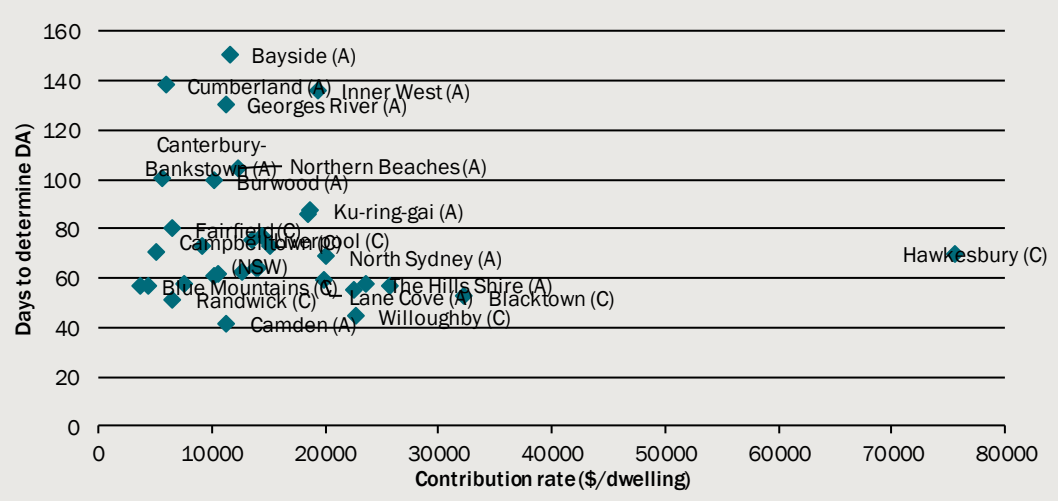
There does not appear to be a consistent relationship between contribution rate and the proportion of development applications that are rejected (chart 4.12).

4.12 Relationship between contribution rate and DA rejection rate — 2014 to 2019

Data source: CIE analysis using Local Development Performance Monitoring (2016-17) data and data supplied by NSW Treasury and DPIE.

Similarly, there does not appear to be a relationship between the time it takes to process a development application and the infrastructure contribution rate. This means that there are many different contribution rates associated with a given processing time (chart 4.13).

4.13 Relationship between contribution rate and determination times — 2014 to 2019



Data source: CIE analysis using Local Development Performance Monitoring (2016-17) data and data supplied by NSW Treasury and DPIE.

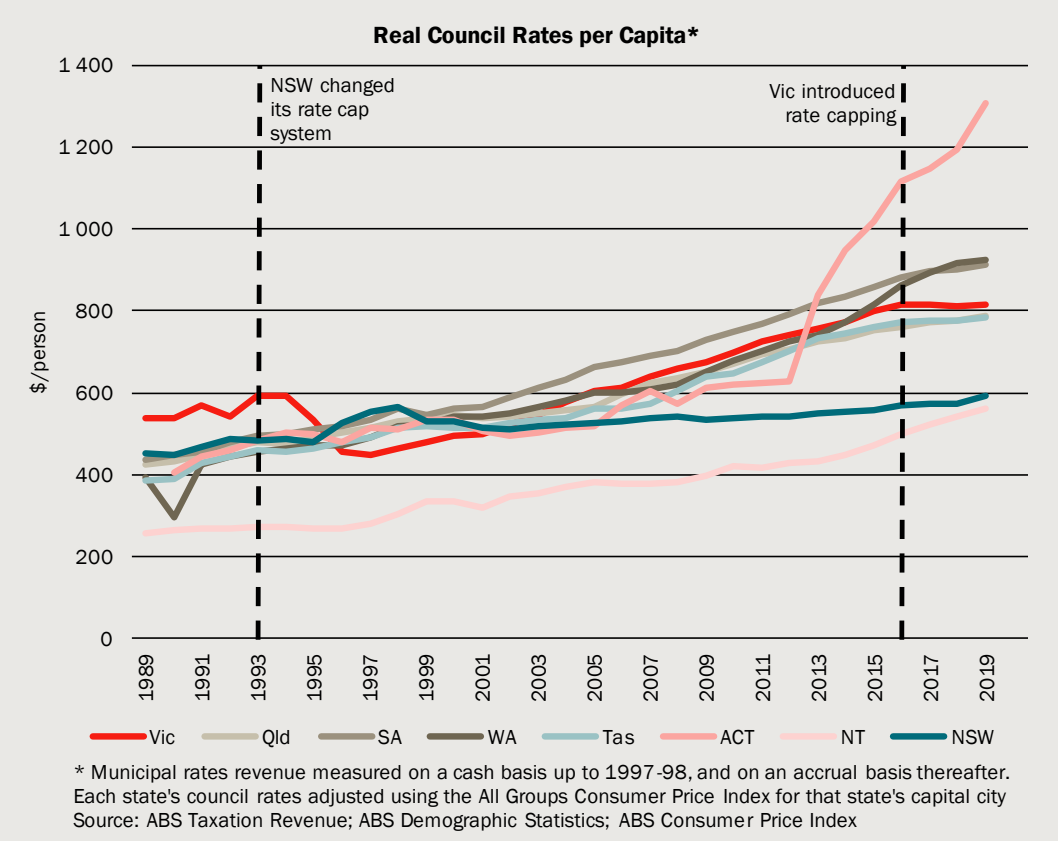
- **The evidence about the impacts of infrastructure contributions on the operation of the planning system is not clear**
  - **the data on planning system performance is very noisy and there may be impacts that have not yet been understood**
  - **any impact on planning system performance would be expected to be strongest if infrastructure contributions changes occur alongside other planning policy changes. That is, changes to the planning system to make it less restrictive**

because there is a price-based mechanism in place for development to pay for its impact on infrastructure costs.

Role of infrastructure contributions in local government finances

A cap on the rates that local councils can collect is a unique feature of local government funding arrangements in NSW. The rate cap restricts the capacity of local government in NSW to raise revenue. The impact of the rate cap on local government revenues in NSW can be seen in chart 4.14. The rates revenue received by local government in NSW has grown at a significantly slower pace compared to other states and territories, where rate pegs do not apply.

4.14 NSW and other state rates revenue per capita



Data source: The CIE based on ABS data.

The key findings from analysing NSW local government finances are as follows.

- **The overall budget situation**: Councils tend to have more revenue than expenses, which means they have a net operating surplus. Revenue has grown faster than expenses over the past two decades, so these surpluses have become larger over time. This suggests that councils inability to increase rates revenue has led to reduced expenditure and service levels, rather than financial hardship for councils in total.
- **Revenue components**: In most states, taxation revenue (which includes council rates) have risen just as fast as total revenue, so their reliance on taxation revenue has been

stable over time. In contrast, NSW local councils have not been able to increase their taxation revenues as fast as other components of total revenue, so their reliance on taxation revenue has fallen over time. This is evidence that rate capping has changed the composition of revenue.

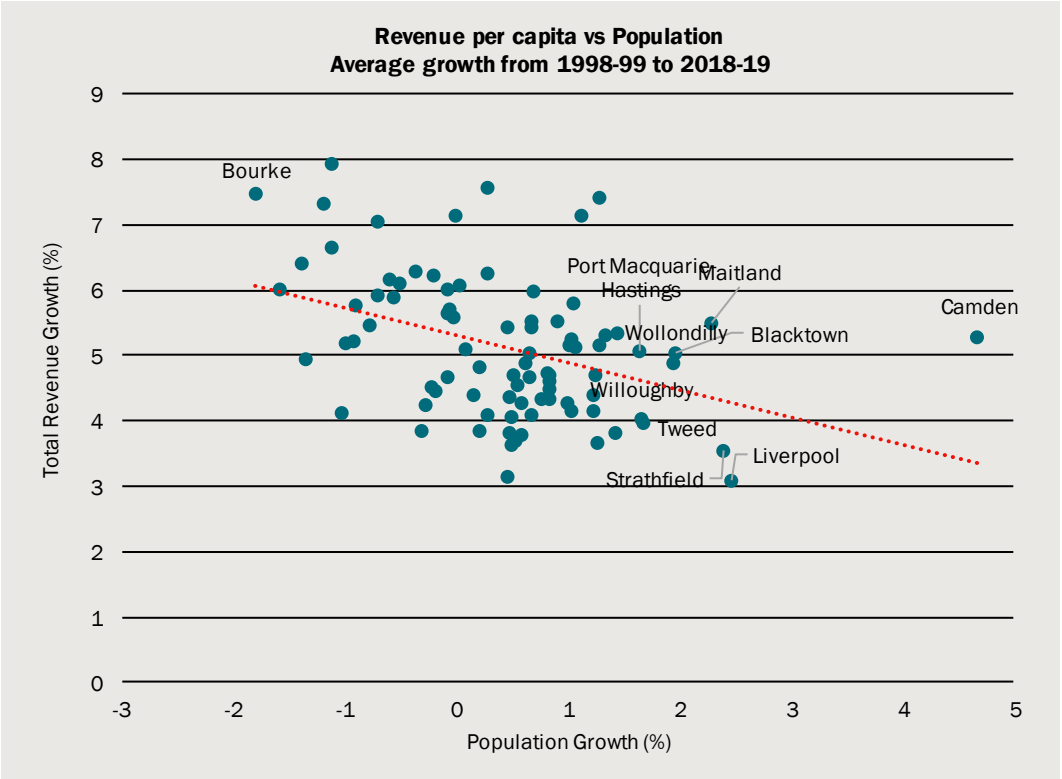
- **Council rates**: Council rates per capita have been stable in real terms in NSW, but increasing in other states. This suggests that, if rate capping had been absent in NSW, rates would likely have risen in real terms.

Taken together, this suggests that rate caps have reduced NSW council rates, revenues and expenditure relative to what would otherwise have occurred. However, NSW councils have increased revenue from other sources — the level of detail of this data indicates growing revenue from grants and other sources, but cannot indicate more beyond those general categorisations.

At an individual council level, we can see that rate capping has systematically impacted on the incentives for local councils. Councils with fast growing populations have had:

- slower growth in revenue per capita (chart 4.15)
- slower growth in expenses per capita
- less improvement in their net operating balance.

4.15 Revenue per capita growth and population growth



Note: Excludes LGAs that did not exist for the entire sample period. Excludes Albury, Lithgow & Oberon, whose borders changed in 2004. Excludes Hills & Hornsby, whose borders changed in 2016.

Data source: The CIE, based on data from https://www.olg.nsw.gov.au/public/about-councils/comparative-council-information/your-council-report/.

Details of these findings are set out in Appendix B.

Current infrastructure funding arrangements in NSW mean that councils have a financial disincentive to encourage development in their LGA. The extent to which they are acting on this disincentive is not clear — however, NSW does have more restrictive attitudes and more evidence of issues from development restrictions as opposed to other states with better local council financial incentives. Changes that better link revenue to population growth would improve the financial incentives for councils related to development.

Efficiency of alternative funding mechanisms

The efficiency of infrastructure contributions as a funding mechanism will reflect:

- the extent to which it reflects avoidable costs — any component of contributions that reflects avoidable costs has a positive efficiency impact
- the extent to which any additional component compares to other ways of funding infrastructure.

The efficiency implications of a contribution as a funding mechanism will reflect whether this stops development from being feasible or changes the type of development that occurs. As discussed above, the high zoning premiums suggest that other parts of the planning system are more determinative of prices, and infrastructure contributions will likely not impact on commercial feasibility. In this sense, given other policies, they are highly efficient.

Other mechanisms for paying for infrastructure will have some efficiency distortions. A number of studies have been conducted measuring the efficiency of taxation instruments. The main measure reported is the marginal excess burden of taxation per dollar of revenue raised. Results from selected published studies are shown in table 4.16. Chart 4.17 shows the efficiency for only actual taxes, rather than hypothetical taxes, and includes results using the CIE Regions computable general equilibrium model.

- NSW Government taxes are relatively inefficient, with payroll tax at ~30 cents of cost per dollar of revenue raised and stamp duties 60-70 cents. The most efficient state tax is the GST, which is not directly able to be set by an individual state government.
- Municipal rates are considered to be the most efficient taxation instrument, largely because they are levied on land, which is a fixed resource.

These inefficiency costs of taxes are part of the consideration of the appropriate infrastructure contribution.

4.16 Relative efficiency of selected taxes (descending order), by study

KPMG Econtech [a]		KMPG Econtech		Commonwealth Treasury	
2010	MEB [b]	2011	MEB [b]	2015	MEB [b]
Municipal rates	0.02	Land tax	0.09	Broad based land tax	-0.1
GST	0.08	GST	0.12	Personal income tax (labour & capital)	0.16

KPMG Econtech [a]		KMPG Econtech		Commonwealth Treasury	
2010	MEB [b]	2011	MEB [b]	2015	MEB [b]
Land taxes	0.08	Personal income tax	0.24	Broad based GST	0.17
Labour income tax	0.24	Motor vehicle stamp duty	0.33	Current GST	0.19
Conveyancing stamp duties	0.34	Payroll tax	0.35	Labour income tax	0.21
Motor vehicle stamp duties	0.38	Company tax	0.37	Company tax	0.50
Corporate income tax	0.40	Commercial transfer duty	0.74	Stamp duty on conveyances	0.72
Payroll tax	0.41	Residential transfer duty	0.85		

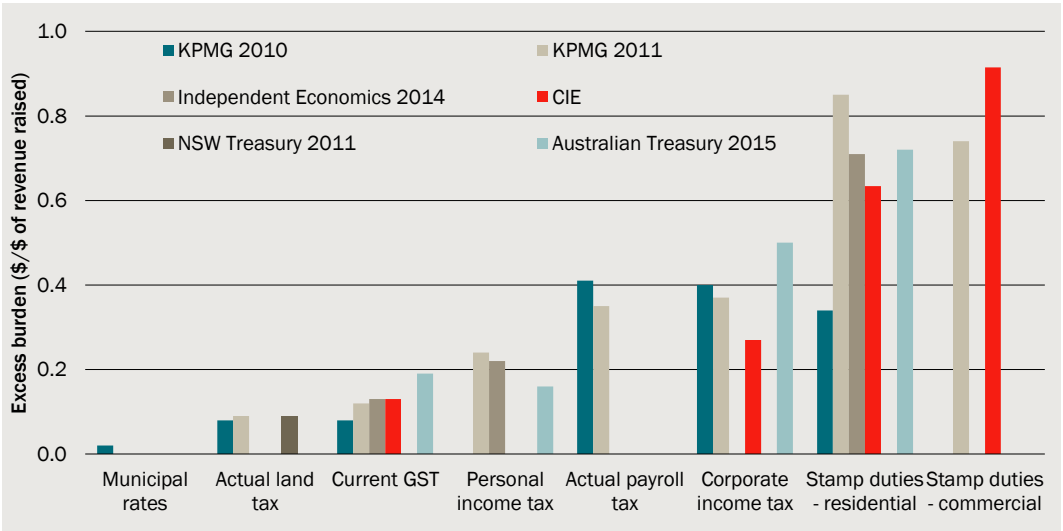
[a] Modelling and results were prepared for and incorporated into the Henry Tax Review

[b] Marginal excess burden is the cost of the tax due to changing it by a small amount (usually such that total government revenue increases by $1).

Note: In all studies, all taxes are imposed at the Federal level. That is, no taxes create a distortion that sees economic resources move across state borders within Australia.

Sources: KPMG Econtech 2010, CGE analysis of the current Australian tax system, prepared for Department of Treasury, 26 March; KPMG Econtech 2011, Economic analysis of the impacts of using GST to reform taxes; Australian Treasury 2015, Understanding the economy-wide efficiency and incidence of major Australian taxes.

4.17 Excess burden of selected taxes



Note: NSW Treasury 2011 and Independent Economics 2014 are as reported in Australian Treasury 2015. The chart does not include modelling of hypothetical taxes, such as a broad-based payroll tax or broad-based land tax. These are shown in the body of the report.

Data source: The CIE; KPMG Econtech 2010, CGE analysis of the current Australian tax system, prepared for Department of Treasury, 26 March; KPMG Econtech 2011, Economic analysis of the impacts of using GST to reform taxes; Australian Treasury 2015, Understanding the economy-wide efficiency and incidence of major Australian taxes.

Infrastructure contributions to ensure timely infrastructure delivery

Historically, there have been examples where a lack of infrastructure provision has been noted as a barrier to development by developer groups.[34] The infrastructure noted as critical constraint to development is electricity substations, water and wastewater infrastructure and road infrastructure.

Potentially, infrastructure contributions can provide funding that enables critical infrastructure to be delivered and speeds up the development process. The major gaps in infrastructure delivery are for Government business enterprises (eg Sydney Water) and private utilities (eg electricity distributors). The arrangements for infrastructure contributions for these are set out in the previous chapter and Appendix A.

Costs of water and wastewater connections are not charged to developers in Sydney Water and Hunter Water's areas. This tends to lead to developers having to wait until projects are on Sydney Water's Growth Servicing Plan, putting up large amounts of money up-front that Sydney Water pays back over time as development occurs or putting in infrastructure themselves. Sydney Water is incentivised to keep capital expenditure low, as it will not be able to recover capital expenditure until its next regulatory review by IPART, and potentially faces a risk of only part of the expenditure being included.

An infrastructure contribution arrangement could assist in ensuring infrastructure is delivered by water utilities when required and can speed up development.

There has previously been a contribution arrangement in place for water and wastewater and IPART has a methodology for developer charges.[35] This methodology is currently applied to Central Coast Council only. This methodology has been noted as being relatively complicated, costing $2.5 million per year for Sydney Water when it used to use the methodology.[36]

Anecdotal evidence also suggests that contributions plans themselves can slow the delivery of development, because it takes time to develop a plan. Councils may seek to slow development to ensure contributions are in place when development occurs.

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34 https://63lh534dvlp1yhlsm1o3ds2k-wpengine.netdna-ssl.com/wp-content/uploads/2019/11/Building-Blocks-II.pdf

35 https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/pricing-reviews-water-services-metro-water-developer-charges-and-backlog-sewerage-charges-for-metropolitan-water-agencies-2018/legislative-requirements-developer-charges-and-backlog-sewerage-charges-for-metropolitan-water-agencies-2018/final-report-maximum-prices-to-connect-extend-or-upgrade-a-service-for-metropolitan-water-agencies-october-2018.pdf

36 https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/pricing-reviews-water-services-metro-water-developer-charges-and-backlog-sewerage-charges-for-metropolitan-water-agencies-2017/submissions-issues-paper/online-submission-sydney-water-k.-beatty-11-dec-2017-171452398.pdf

Assessment of current infrastructure contribution arrangements

Assessment of local infrastructure contributions against principles

As discussed above, there are effectively three mechanisms through which councils can require developers to contribute to the cost of infrastructure:

- Contributions (under Section 7.11)
- Fixed development consent levies (under Section 7.12)
- Local Planning Agreements (under Section 7.24)

Section 7.11 infrastructure contributions plans

The infrastructure contribution system is designed to be cost reflective (although the extent that the cost of infrastructure provision is estimated accurately in contributions plans is not clear). In principle, infrastructure contributions should provide a price signal to encourage efficient development.

That said, the process for setting infrastructure contributions is relatively complex, involving the preparation of a contributions plan and in some cases, review by IPART. The following factors may limit the efficiency of infrastructure contributions as a source of funding extent to which infrastructure contributions encourage effective land use decisions.

- Infrastructure contributions may not be known at the time that development decisions are made.
- Infrastructure contributions can vary considerably across different developments. Due to the complexity of the process, it is unclear whether developers to be able to estimate contribution rates with sufficient accuracy to affect development decisions.
- Where contribution rates are not known and are not predictable, this could increase risk for developers.

Furthermore, there are relatively high administrative costs associated with the development of a contributions plan, which may offset some of the efficiency benefits. That said, the administrative costs estimated previously do not appear to be excessive.

Section 7.12 fixed development consent levies

- **Development levies (under Section 7.12) do not provide a price signal that encourages efficient land use decisions.**

Development levies are unlikely to provide an efficient price signal to encourage efficient land use decisions. Development levies:

- are not linked to the avoidable cost of infrastructure provision related specifically to the development
- are applied to all development, including renovations of existing housing that does not necessarily add to the dwelling stock.

Given the significant zoning premiums in most areas of Sydney, it is unlikely that development levies have significantly reduced the viability of development that has expanded the dwelling stock (although development levies may have discouraged some households from renovating existing dwellings).

That said, development levies are also unlikely to be an efficient mechanism to fund council expenditure associated with population growth, relative to alternative funding sources available. In particular, rates are a highly efficient as a source of funding.

Section 7.24 planning agreements

As planning agreements are negotiated between developers and councils, there is likely to be more variation in the way they are applied than other mechanisms (note that flexibility was one of the underlying reasons for introducing planning agreements).

Although the extent to which planning agreements are an effective price signal depends on how they are applied, local planning agreements are unlikely to provide an effective price signal to encourage efficient land use decisions. There is no requirement for a nexus with the development (although it should be related). As such, it is likely that planning agreements are used to fund infrastructure that is not directly related to the development. As such, infrastructure contributions under planning agreements are unlikely to reflect the cost of avoidable infrastructure.

As noted in the previous chapter, a higher proportion of infrastructure contributions under planning agreements are provided in-kind (i.e. where the developer directly provides the infrastructure). In-kind infrastructure provision may have several advantages.

- The contribution made by the developer is more likely reflect the efficient cost of providing the infrastructure (although it is not necessarily the case that the infrastructure provided is efficient).
- The infrastructure is more likely to be provided in a timely way.

Local planning agreements are potentially an efficient funding source. The Planning Institute of Australia policy position notes that planning agreements provide an opportunity for the community to share in part of the uplift in land value accruing to a developer from infrastructure investment, rezoning or development approval which allows a more intense and higher value use of the land.[37] Depending on the outcome of negotiations, it is therefore possible that planning agreements enable councils to share in the benefits of infrastructure provision or re-zoning decisions, without affecting the viability of the development.

However, the potential efficiency gains are likely to be offset by increasing developers (and councils) cost and risk.

- The costs of negotiating a VPA are likely to be high
- planning agreements are likely to add risk to developers because the contribution made by developers is not constrained by the cost of the infrastructure.

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37 PIA Policy Paper: Voluntary Planning Agreements (VPAs), p. 2.

- planning agreements also lack transparency.

Given these factors, planning agreements generally are likely to be a less efficient source of funding for infrastructure relative to alternatives available to councils (i.e. rates), notwithstanding that some planning agreements could be linked to costs.

Assessment of NSW Government arrangements against principles

The NSW Government currently has two mechanisms for applying infrastructure contributions:

- Special infrastructure contributions (SICs)
- Planning Agreements (VPAs)

Section 7.24 Special Infrastructure Contributions

Under current arrangements, SICs are unlikely to provide a strong price signal to encourage efficient development decisions.

- SICs are inconsistently applied across areas — as SICs are applied inconsistently across different areas, SICs distort development incentives by discouraging development in areas where the SICs are applied in favour of other locations. Furthermore, as SICs generally apply to strategically planned developments, this increases the incentive for 'developer led' developments, which avoid paying SICs. Although developer-led developments are not necessarily a bad outcome, there are likely to be significant advantages from having developments occur under a strategic planning. These benefits are likely to include:
  - better co-ordinated infrastructure provision
  - reduced costs associated with obtaining approvals
  - reduced delays, including delays relating to:
  - planning approvals
  - infrastructure delivery.
- Most state infrastructure cannot be directly linked to a particular development and therefore SICs with not reflect the cost of avoidable infrastructure.
- The application of SICs is ad hoc — as noted in the Issues Paper notes there is a lack of guiding principle. SICs are therefore unlikely to reflect cost.
  - Discounts applied during the Global Financial Crisis remain in place
  - It is applied differently in different areas (percentage of construction costs, per net developable hectare and rate per dwelling)
- There are restrictions on the infrastructure that is funded by SICs:
  - Land acquisition costs for schools and hospitals are funded through SICS, but not the cost of construction
  - Transport interchanges, but not rail lines in between.[38]

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38 NSW Productivity Commission, Review of Infrastructure Contributions in New South Wales, Issues Paper, July 2020, pp. 41-42.

- Unlike other infrastructure contribution mechanisms, there is a 'capacity to pay' assessment. This introduces an element of interpretation and variability and means different rates are set across different SIC areas.

Rather than addressing distorted incentives, SICs as they are currently applied are more likely to be adding an additional distortion.

Section 7.4 planning agreements

As for local planning agreements, state government planning agreements are unlikely to provide an effective price signal that encourages efficient development. However, it is possible that planning agreements are a relatively efficient source of funding, depending on the outcome of negotiations.

Planning agreements potentially allow the state government to share in the value uplift from zoning decisions or infrastructure provision, without affecting the viability of development.

However, as for local planning agreements, the potential efficiency gains from state planning agreements are likely to be offset by higher cost and risk for developers, which potentially stifles development.

- The costs of negotiating a planning agreement are likely to be high
- Planning agreements are likely to add risk to developers because the contribution made by developers is not constrained by the cost of the infrastructure.
- Planning agreements also lack transparency.

Summary of different perspectives on current infrastructure contributions

Table 4.18 summarises the different perspectives on current infrastructure contribution arrangements and provides some directions for reform. The teal boxes are arguments that are relatively strong based on the evidence reviewed to date, and the pink boxes are not.

4.18 Different directions for infrastructure contributions

Perspective	Implications for local charges	Implications for state charges	Implications for other charges
Infrastructure contributions should signal avoidable costs to encourage efficient development	Local council infrastructure is highly development specific, so a contribution can signal costs and lead to efficiency gains. S7.12 are not cost reflective, however are simple and administratively efficient. Difficult to signal marginal social cost in infill areas (e.g. traffic) Trade-off between admin costs and accuracy of cost signal	State infrastructure is often too lumpy to send effective cost signals, and some major projects proceed ahead of development or without reference to efficient costs. SICs are applied inconsistently and only recoup a very small portion of infrastructure costs. Strategic planning is aimed at determining where to develop, and should ideally account for costs as part of decision-making.	Charges should be levied for development-specific water infrastructure, for similar reasons as local council, but not for larger water augmentations
Infrastructure contributions should efficiently raise revenue required for infrastructure delivery	Local councils have a highly efficient instrument in rates, and rate pegs should be loosened to reflect growth, rather than seeing contributions as a local taxation instrument. Local infrastructure contributions will be more efficient than rates where they are linked to avoidable costs, but otherwise will be less efficient.	State has poor taxation options from an efficiency perspective, so infrastructure contributions likely to be a relatively efficient funding mechanism. Options include: ▪ an administratively complex system to charge individual developments without impacting commercial viability (similar to current affordable housing contributions, betterment levies, value capture charges) ▪ a simple broad charge with weak association with costs, such as $/dwelling or per cent of land value, applied differently to greater Sydney and elsewhere, or in other simple ways. The latter is likely to be preferable given high development feasibility across the board in greater Sydney.	NA
Infrastructure contributions should ensure efficient infrastructure is delivered in a timely manner	Continue to allow developers to do works-in-kind to increase delivery efficiency Improve ability of councils to fund against future contributions and undertake early land acquisition	Hypothecate revenue to growth-related infrastructure to ensure access to funding for this infrastructure. Allocate infrastructure spending to where development occurs	Charges should be levied for development-specific water infrastructure, to ensure this is in place for development to occur
Infrastructure contributions should build council and community support for approving new development	Ensure combination of rates, grants and infrastructure contribution system does not financially penalise councils/community for growth	No real concerns from a NSW Government level about development Allocating state infrastructure expenditure towards areas of growth would help build community support	NA

Source: The CIE.

5 Potential changes to the infrastructure contributions system

The Infrastructure Contributions Review is investigating the following changes to the infrastructure contributions system, which are modelled in this study.

Local Contributions (General)

1 Require draft contributions plans to be publicly exhibited concurrently with the rezoning proposal.

Section 7.11 contributions plans

1 Reform to local government rating ('rate peg') to allow rates revenue to increase in line with population growth.

2 Apply the essential works list to all section 7.11 plans and review the list, in light of the rate peg reforms, such that it only includes development-contingent costs.

3 IPART to develop and maintain benchmark costs. If plans are not in accordance with benchmarks, affected party may apply for an IPART review.

4 Removal of the monetary trigger for IPART Review to be by exception and based on efficient costs.

5 Introduction of a direct land contribution model for land:
   a) Required public purpose land is identified and converted into a land contribution percentage, to be exhibited with the contribution plan
   b) Each landowner is required to contribute a % of land with an option to either directly contribute relevant land, or make a monetary contribution
   c) Contribution is enforced by statutory charge on the land, and payable on the first of subdivision development application or sale of the land.

6 Prescription of a consistent and appropriate method of indexation of land contributions, with a land index to be developed by the Valuer General.

Section 7.12 fixed development consent levies

1 Increase maximum rate, but not so much as to discourage the use of S7.11 contributions for high growth areas:
   a) Flat percentage for residential (examining 3 per cent to 5 per cent) and
   b) Flat 1 per cent for non-residential
   c) Conversion to a flat rate per dwelling (residential) and flat $/sqm (non-residential).

Planning Agreements

1 Retained for both State and local with their use to circumscribed:
   a) for direct delivery of infrastructure
2 to support 'out of sequence' development.
3 Mining and energy projects – guidance for appropriate use of Planning Agreements (i.e. primarily related to direct delivery of development-contingent infrastructure)

State contributions

1 Regional contributions to be applied across a "region" (Greater Sydney, Hunter, Illawarra, Central Coast)
   a) for residential, imposed as a rate per dwelling on net additional dwellings, with differential rates for metropolitan and regional areas
   b) for commercial and industrial, imposed at a rate per square metre
   c) prioritisation by INSW in consultation with NSW Treasury and DPIE
   d) funds allocated to growth infrastructure within the region from which it's raised
   e) process to better leverage the State's capital program through part funding (say 50 per cent) to encourage agencies to reprioritise their capital programs.
2 Transport contributions to be applied for specific major transport projects:
   a) imposed on land within a defined catchment (eg station) where planning controls are providing for additional density
   b) funds allocated to delivery of transport project.
3 Prepare and implement a biodiversity contribution for areas subject to biodiversity certification.

Incremental phase in of developer charges for water between July 2022 to July 2024

Digital tools

1 Suite of digital tools to support:
   a) preparation of contribution plans including mapping of infrastructure
   b) online calculation of contributions
   c) integrate contributions into the Development Consent
   d) online payment
   e) tracking/reporting on contributions received and expended
   f) information on infrastructure planning and delivery.

Other

1 Affordable housing contributions – improved reporting to inform a future evaluation.

What will these changes do?

These changes will broadly be expected to:

- increase local government revenue and shift this towards councils that are growing the most in terms of their population
- shift the local contributions system to collect more money through S7.12 charges and less from S7.11 charges and planning agreements
- some councils may decide not to develop S7.11 plans and planning agreements as a result
- increase the revenue collected for the state government from state contributions and levies and increase the expenditure on infrastructure to support new development
- shift Sydney Water and Hunter Water's revenue to obtain more revenue from developer charges and less revenue from general user charges
- improve certainty for everyone about what infrastructure contribution will be applied and make it simpler to access infrastructure contributions information.
- The indirect impacts that are sought as a result of these changes are that housing supply and non-residential land supply is increased because:
- councils have better financial incentives to accept growth
- the community has a better incentive to support growth, because there is a greater likelihood that infrastructure will be provided alongside growth
- Sydney Water and Hunter Water have less incentive to ration connections of new development areas because they receive revenue from developers.

How we have modelled these changes?

The chapters below model the impacts and costs and benefits of these changes. This includes:

- identifying revenue impacts for councils and the NSW Government
- setting out the costs and benefits at a strategic level — note that the overall rationale for the changes is to indirectly improve the incentives that operate within the planning system, and modelling of these impacts is substantially more uncertain than modelling of direct impacts. The realisation of some benefits will also be heavily dependent on yet-to-be developed governance arrangements, such as how infrastructure contributions will be spent
- setting out the economywide impacts of the changes.

6 Impacts of potential changes on revenue

Impact on local council revenue

We have modelled the impacts of the following reforms on local council revenue:

- increasing the rate cap by population growth
- applying the essential works list to all S7.11 contribution plans (rather than just those that go through the IPART approval process) and revisions so the list includes only development-contingent costs
- adjusting the escalation rates applied to local contributions over time
- increasing the maximum S7.12 contribution to the equivalent of 3 per cent of construction value, and
- restricting the use of planning agreements to direct delivery and 'out of sequence' development, and

We have not made any adjustment to infrastructure contributions from implementing benchmarks through IPART. This may have the effect of reducing infrastructure contributions revenue below that modelled.

We have also not explicitly modelled changes to put in place a direct contribution for land. If developers contribute land then this will reduce council financial revenue and financial expenditure. If developers continue to pay a financial contribution for their land component, then this would not have a specific revenue impact. Note that we have allowed for local contributions to adjust in line with a combined index of land prices and construction prices, to reflect this change.

We estimate that the proposed changes would result in a modest net increase in aggregate council revenue over a 20-year period from 2023-24 to 2042-43 (table 6.1).

- Over this period, we estimate that rates revenue would be around $18.5 billion higher.
- However, this would be partly offset by lower revenue from contributions (including in-kind contributions). An increase in revenue from S7.12 contributions would be more than offset by reduced revenue from S7.11 contributions and local planning agreements.

6.1 Change in council revenue 2024-2043 (nominal)

	Baseline	Proposal	Change	Change
	$m over 20 years	$m over 20 years	$m over 20 years	Per cent
Total impact				
Rates	207 664	226 155	18 492	8.9
Infrastructure contributions	26 574	24 233	-2 340	-8.8
Total	**234 237**	**250 389**	**16 152**	**6.9**
	$m/year	$m/year	$m/year	Per cent
Annual impact				
Rates	10 383	11 308	925	8.9
Infrastructure contributions	1 329	1 212	- 117	-8.8
Total	**11 712**	**12 519**	**808**	**6.9**

Source: CIE estimates.

Although there is a relatively strong increase in revenue over a 20-year period, the impacts over 10 years are estimated to be more modest. We estimate that aggregate council revenue would be around 2.4 per cent higher. This reflects the following factors.

- As the proposed changes to the rate peg affect the growth rate, the impact on revenue accumulates over time.
- By contrast, we assume that the full impacts on infrastructure contributions would occur immediately from implementation. In practice, some transition arrangements, such as grandfathering arrangements for existing contribution plans may apply. However, these arrangements have not yet been finalised. Under any such arrangements, the transition to the new arrangements are likely to be considerably slower.

While the overall increase in council revenue is relatively modest, the proposed change would disproportionately benefit high growth councils (defined as councils with forecast population growth that exceeds the state average) (table 6.2 and table 6.3).

- For high-growth councils, revenue is estimated to be around 12.7 per cent higher over the 20-year period to 2042-43 in metropolitan areas and 12.2 per cent higher in regional areas (note that there are few regional councils where growth is estimated to exceed the statewide average). This is largely due to significantly higher rates revenue.
- For low-growth councils (defined as councils with forecast population growth below the state average), revenue is estimated to be only around 5.2 per cent higher over the 20-year period in metropolitan areas and 3.1 per cent higher in regional areas.

6.2 Distribution of impacts, total impact from 2024 to 2043 (nominal)

	Baseline	Proposal	Change	Change
	$ million	$ million	$ million	Per cent
Low growth metro councils				

	Baseline	Proposal	Change	Change
	$ million	$ million	$ million	Per cent
Rates	57 684	61 371	3 687	6.4
Contributions	4 843	4 416	- 427	-8.8
Total	**62 528**	**65 787**	**3 260**	**5.2**
High growth metro councils				
Rates	59 700	71 272	11 572	19.4
Contributions	17 406	15 605	-1 801	-10.3
Total	**77 105**	**86 876**	**9 771**	**12.7**
Low growth regional councils				
Rates	88 570	91 577	3 007	3.4
Contributions	4 264	4 163	- 101	-2.4
Total	**92 835**	**95 740**	**2 906**	**3.1**
High growth regional councils				
Rates	1 709	1 936	227	13.3
Contributions	60	49	- 11	-18.5
Total	**1 770**	**1 985**	**215**	**12.2**

Source: CIE estimates.

6.3 Distribution of revenue impacts, average annual impact from 2024-2043 (nominal)

	Baseline	Proposal	Change	Change
	$m/year	$m/year	$m/year	Per cent
Low growth metro councils				
Rates	2 884	3 069	184	6.4
Contributions	242	221	- 21	-8.8
Total	**3 126**	**3 289**	**163**	**5.2**
High growth metro councils				
Rates	2 985	3 564	579	19.4
Contributions	870	780	- 90	-10.3
Total	**3 855**	**4 344**	**489**	**12.7**
Low growth regional councils				
Rates	4 429	4 579	150	3.4
Contributions	213	208	- 5	-2.4
Total	**4 642**	**4 787**	**145**	**3.1**
High growth regional councils				
Rates	85	97	11	13.3
Contributions	3	2	- 1	-18.5
Total	**88**	**99**	**11**	**12.2**

Source: CIE estimates.

Impact on rates revenue

Rates form part of a council's general income and are collected to provide essential infrastructure and services such as roads, playgrounds, parks, swimming pools and other public amenities. Rates are one source of funding for costs incurred by councils.[39]

The Local Government 1993 (LG Act) sets out the two types of rates that can be collected in NSW:

- ordinary rates[40]
- special rates[41]

There are three features to the NSW rate system:

- Rate structure
  - an ad valorem amount set as a proportion of the unimproved land value[42] or a minimum amount,[43] which is a fixed charge, which is typically greater than the ad valorem amount), or
  - a base amount,[44] which is a fixed charge, levied equally against all rateable properties within a given category, which is added to the ad valorem amount.
- Rating categories
  - councils may levy different rates for residential, business, farmland and mining uses, for example, use a different percentage of the unimproved land value to calculate the ad valorem amount. The four rating categories are residential,[45] business, farmland and mining and councils may also establish sub-categories.
  - Treatment of apartments in multi-unit dwellings
    - A single land variation (based on the unimproved value) is divided across apartments depending on each apartment's unit entitlement.
  - Not all land is rateable. Some exceptions include national parks, charities, and education institutions.

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39 In addition to rates, councils fund their costs from charges for specific services, grants from the State and Federal Government, other charges (such as developer charges), fines, as well as funds raised through borrowing.

40 Ordinary rates are calculated and levied on all rateable land in the area. There are four categories of rateable land – residential, business, farmland and mining.

41 Special rates are at the discretion of council and may be levied due to the works or services provided or prosed, or any other special purpose. Special rates can be applied to properties in a specific area, or to a subgroup of ratepayers.

42 The unimproved capital value of the land, as determined by the Valuer-General under the *Valuation of Land Act 1916*, see *Local Government Act, 1993*. It is the value of land subject to its highest and best use as permitted under the current zoning.

43 The minimum amount cannot exceed a statutory limit unless approved by IPART.

44 Revenue generated from the base amount cannot exceed 50 per cent of the total revenue from any particular rating category.

45 Residential rates for all properties within a centre of population area calculated the same way.

- There are three ways to increase councils' general income:
  - **The rate peg** — this is the amount by which councils can increase their general income on an annual basis, based on the Local Government Cost Index calculated by IPART (with an adjusted for improvements in productivity). The Local Government Cost Index is designed to reflect changes in the price of inputs into the services provided by local councils.
  - **Special variations** — councils can apply to IPART to increase general income, for example, to provide additional services, replace ageing assets or improve financial stability.
  - **Supplementary valuation process** — under this process councils can apply to the Valuer-General for a supplementary valuation, where there has been a material change, such as land rezoning, sub-division that creates newly rateable properties. Councils are permitted to increase general income to reflect the increase in rates revenue that would have been achieved by applying the current rate structure to the new land values (including supplementary valuations).

The Office of Local Government is progressing reforms to the rate peg to allow general income to increase based on population growth in addition to costs.[46]

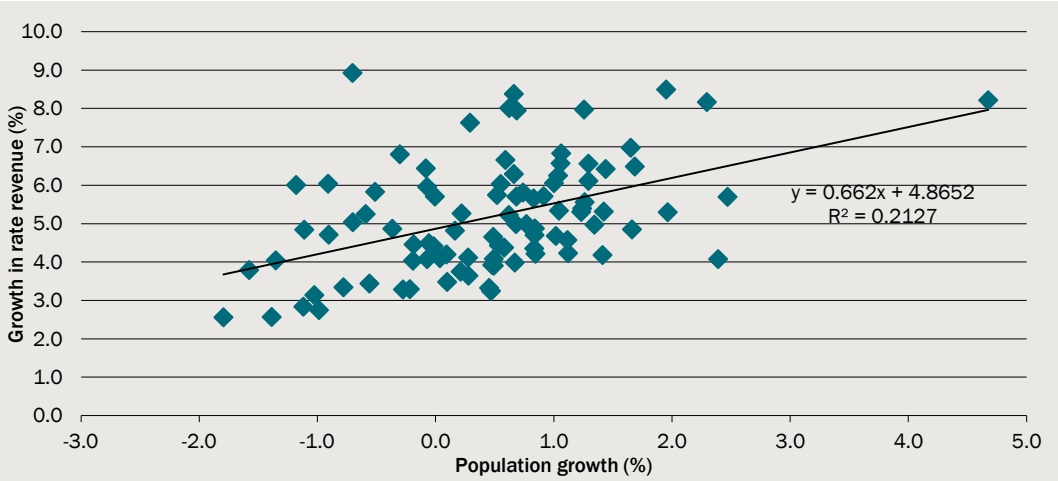
Establishing the baseline

Although the rate peg does not allow faster growing councils to raise more rates revenue, there is some evidence that over time, councils with higher population growth have also tended to experience faster growth in rates revenue. Over the period from 1998-99 to 2018-19, there is a positive statistically significant relationship between population growth and growth in rates revenue (chart 6.4). This relationship implies the following.

- A council with no population growth has on average experienced growth in rates revenue of around 4.9 per cent per year.
- Each percentage point increase in average population growth, was associated with ~2/3 percentage point increase in rates revenue in addition to the 4.9 per cent 'base increase'.

46 We assume that the allowance for rates revenue growth from supplementary valuations would be replaced by the population factor, and that councils could continue to seek Special Variations.

6.4 Relationship between population growth and growth in rates revenue — 1998-99 to 2018-19



Data source: CIE based on data from OLG.

The average increase in the rate peg has been around 2½ to 3 per cent per year, implying that on average, growth outside the rate peg (through supplementary valuations) and special variations are contributing around 2 percentage points to growth in rates revenue, exclusive of population growth. Councils could have been partly compensated (through higher rates revenue) for higher population growth through either (or both):

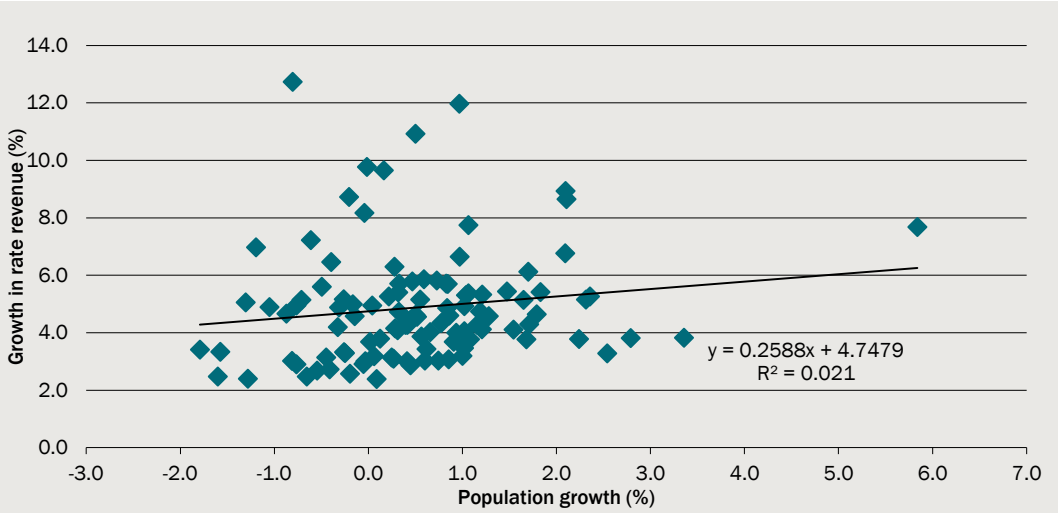
- Supplementary valuations — it is likely that councils with higher population growth may have also had more development to support the growing population. Development may also be associated with more activities that trigger a supplementary valuation (such as land re-zoning, subdivision etc.).
- Special variations — as special variations are approved (or not approved) through an application process, the impact on rates revenue across councils depend on the choices made by councils (i.e. whether to apply for a special variation and the magnitude) and the approval authority (currently IPART). As a result, there would not necessarily be a systematic relationship between variables, such as population growth and development activity in the LGA

However, based on the data readily available, it is difficult to disentangle the impacts of supplementary valuations and special variations.

Interestingly, over a shorter timeframe the relationship between population growth and growth in rates revenue largely disappears. Over the period from 2008-09 to 2018-19, the relationship between population growth and growth in rates revenue is much weaker (chart 6.5). This relationship implies the following.

- A council with no population growth has on average experienced growth in rates revenue of around 4.9 per cent per year.
- For each percentage point increase in population growth, general income increases by ~¼ percentage point increase in growth in rates revenue, although the relationship is not statistically significant.

6.5 Relationship between population growth and growth in rates revenue — 2008-09 to 2018-19



Data source: CIE based on OLG data.

Key assumptions under our baseline projections are as follows.

- As the 10-year time period broadly coincides with the period over which IPART has been responsible for approving special variations (i.e. current regulatory arrangements), our baseline rates revenue estimates for each council is based on the relationship between population growth and growth in rates revenue over the period from 2008-09 to 2018-19 (see above).
- Population growth for each LGA, is based on NSW Government forecasts.

Impact of proposed changes

Under the proposed changes, we assume that a council's rates revenue would increase by:

- the amount determined by IPART's Local Government Cost Index, plus
- the population growth in the local government area

Councils would still be permitted to apply for special variations.

Under our baseline assumption, councils were partially compensated for population growth; based on the historical relationship over the 10-year period from 2008-09 to 2018-19, each percentage point increase in population was associated with a ¼ percentage point increase in rates revenue.

Under the proposal, we assume that councils would be fully compensated for population growth (i.e. for each percentage point of population growth, rates revenue would increase by 1 percentage point, rather than ¼ percentage point under the baseline assumption), in addition to the 'base' rate increase of around 4.75 per cent in councils with no population growth.

Impact on revenue from infrastructure contributions

Local infrastructure contributions include cash contributions and in-kind works under:

- S7.11 contribution plans
- S7.12 consent levies
- S7.24 planning agreements.

Establishing the baseline

Revenue from infrastructure contributions varies significantly by amount and composition (i.e. the instrument through which contributions are generated) across councils. This reflects differences in the approach to infrastructure contributions taken by councils. As such, infrastructure contributions are difficult to model based on the available data.

- Given the various councils approaches to infrastructure contributions is inherently unpredictable, we based our projections on the average infrastructure contributions (including in-kind contributions) per dwelling approval over the 3-year period to 2018-19.
- The average infrastructure contribution per dwelling for each council is then multiplied by the projected average increase in dwellings for each LGA reflected in the NSW Government dwelling forecasts.
- Total infrastructure contributions were then allocated across the different instruments (S7.11 Plans, S7.12 Plans and planning agreements) based on the share of contributions collected through each instrument over the 3-year period to 2018-19.

This approach effectively assumes that:

- as similar proportion of new dwellings would be covered by infrastructure contributions
- councils would continue with the same approach to infrastructure contributions in the future.

Impact on S7.11 contributions

We understand that the proposal would involve:

- Applying the essential works list to all S7.11 contribution plans, thereby removing some items that are currently included in S7.11 contribution plans on the basis that some costs that can currently be recovered through S7.11 contribution plans should be funded through the additional rates revenue;
- changes to indexation arrangements for S7.11 contributions to better reflect costs changes over times.

The total estimated impact on councils' revenue over 20 years from 2024 is shown in table 6.6. From the proposed changes councils would lose around $3.1 billion over 20 years. Around 68 per cent of the revenue would be lost by high-growth metropolitan councils.

6.6 Estimated impact on councils' revenue from S7.11 contributions from 2024 to 2043 (nominal)

	Baseline	Proposal	Change	Change
	$ million	$ million	$ million	Per cent
Metropolitan councils				
Low growth	3 376	2 709	- 668	- 19.8
High growth	15 997	13 886	-2 111	- 13.2
Regional councils				
Low growth	3 391	3 069	- 322	- 9.5
High growth	38	34	- 4	- 9.5
Total	**22 802**	**19 697**	**-3 104**	**- 13.6**

Note: Impact estimated over 20 years.

Source: CIE estimates.

Estimating the impact of excluding some items from S7.11 contribution plans

The impact excluding particular cost items from S7.11 contribution plans depends on the composition of costs in the plans. This could potentially vary significantly across plans.

Based on a sample of plans previously collated by SGS Planning and Economics, the average composition of infill and greenfield contribution plans is shown in table C.2.

6.7 Estimated composition of S7.11 contribution plans

	Infill			Greenfield		
	Land	Works	Total	Land	Works	Total
	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent
Open space	41.7	22.9	64.6	28.2	15.5	43.7
Transport	2.8	8.0	10.8	4.1	11.8	15.9
Drainage and civic works	3.9	3.4	7.3	19.2	17.1	36.3
Plan administration	0.0	0.9	0.9	0.0	0.7	0.7
Community facilities	6.5	9.5	16.0	1.2	1.7	2.9
Other	0.3	0.1	0.4	0.3	0.1	0.5
Total	**55.2**	**44.8**	**100.0**	**53.1**	**46.9**	**100.0**

Source: Data gathered by SGS Planning and Economics.

We understand that the items currently proposed to be excluded from S7.11 contribution plans are as follows.

- Works for community facilities — our estimates assume that this item would be removed from contribution plans completely. Based on the plan composition shown above, this would imply that:
  - contributions from infill S7.11 contribution plans would be reduced by around 9.5 per cent

  - contributions from greenfield S7.11 plans would be reduced by around 1.7 per cent.
- Some works in relation to open space — we understand that councils would be permitted to include basic works (such as the construction of sports fields themselves), but other embellishments (such as seating etc.) would be removed from S7.11 contributions plans. We assume that this would reduce contributions from open space works by around 50 per cent. Based on the plan composition shown above, this would:
  - reduce contributions from infill S7.11 plans by around 11.5 per cent
  - reduce contributions from greenfield S7.11 plans by around 7.8 per cent.

Impact on S7.12 contributions

We understand that S7.12 contribution plans were devised as a mechanism to allow councils to raise some revenue from developers to fund local infrastructure, without the rigour (and costs associated with plan development and administration) of a S7.11 contribution plan.

Under current arrangements, there are limits on the levy that can be applied under a S7.12 contributions plan.

- A S7.12 levy cannot be applied to developments valued at less than $100 000.
- The maximum levy that can be applied to developments valued at more than $100 000, but less than $200 000 is 0.5 per cent.
- The maximum levy that can be applied to developments valued at more than $200 000 is 1 per cent.

We understand that consideration is currently being given to allowing councils to raise more revenue through S7.12 contributions. This could include:

- raising the maximum levy rate for S7.12 contributions
- applying S7.12 contributions as:
  - a fixed charge per new dwelling
  - a fixed charge per square metre of floor space for commercial development, at a lower rate than for residential development.

We have modelled the following scenario.

- The maximum S7.12 levy:
  - increases to 3 per cent for new residential development
  - remains at 1 per cent for commercial and industrial development
  - is reduced to zero for alterations and additions (as no new dwellings are produced, it is less likely that this type of development would increase the demand for local infrastructure).
- The maximum levy for lower value developments change proportionately.

The modelled change in S7.12 contributions are summarised in table 6.8.

6.8 Modelled Section 7.12 contribution rates

	Baseline	Proposal
	Per cent	Per cent
Commercial and industrial (<$100k)	0.0	0.0
Commercial and industrial ($100k-$200k)	0.5	0.5
Commercial and industrial ($200k+)	1.0	1.0
New residential (<$100k)	0.0	0.0
New residential ($100k-$200k)	0.5	1.5
New residential ($200k+)	1.0	3.0
Alterations and additions (<$100k)	0.0	0.0
Alterations and additions ($100k-$200k)	0.5	0.0
Alterations and additions ($200k+)	1.0	0.0

Source: The CIE.

The impact of changing the arrangements for S7.12 contribution plans could include the following.

- Councils that would have raised revenue through S7.12 contribution plans under the baseline (including existing S7.12 plans and future plans under the no reform scenario) are likely to raise more revenue. Over the period from 2013-14 to 2018-19, there were 75 councils that collected some revenue from S7.12 contribution plans.
- S7.12 plans would become relatively more attractive to councils, which could encourage some councils that would have raised revenue through a S7.11 plan could potentially move to a S7.12 plan instead.
- The greater potential revenue could encourage some councils that do not raise revenue through S7.12 contributions could be encouraged to do so.

Increased revenue from S7.12 plans

The change in revenue under the changes to S7.12 contribution rates outlined above would depend on the composition of development in areas covered by S7.12 contribution plans. However, this is unclear based on readily available data.

To estimate the revenue impact, we assume that the type of development that occurs in areas covered by S7.12 contribution plans reflects the composition of approved DAs in each LGA over the 3-year period from 2016-17 to 2018-19. We assume that 'commercial and industrial' development includes all non-residential development (note: for modelling purposes, we include 'mixed development' in residential development).

Based on this assumption, the impact on each council's S7.12 varies depending on: whether the council raises revenue through S7.12 contributions; and the composition of development in the LGA. We estimate that the changes to the maximum S7.12 contribution rates set out above would increase aggregate S7.12 revenue by a factor of around 2.2.

The impact on revenue over a 20 year period of applying various maximum rates for new residential development (3 per cent, 4 per cent, 5 per cent and 8 per cent) is shown in

table 6.9. In these scenarios, the rates for other types of development are as outlined above.

6.9 Estimated impact on S7.12 revenue from 2024 to 2043 (nominal)

	3 per cent	4 per cent	5 per cent	8 per cent
	$ million	$ million	$ million	$ million
Metropolitan councils				
Low growth	653	1 037	1 421	2 573
High growth	746	1 127	1 507	2 649
Regional councils				
Low growth	470	716	962	1 701
High growth	3	4	6	10
Total	**1 873**	**2 885**	**3 897**	**6 933**

Note: Estimates over 20 years from 2024.

Source: CIE estimates.

A key observation is that most (more than 60 per cent) of the additional revenue generated from this reform would go to low growth councils in both metropolitan and regional areas. This reflects the greater propensity of low-growth councils to raise revenue through S7.12 contributions.

Potential for switching from S7.11 contributions

A key consideration for councils deciding whether to collect infrastructure contributions through the S7.11 or S7.12 mechanism is likely to be the amount of revenue that could potentially be collected through each approach (although other consideration, such as the relative administrative costs and the availability of relevant expertise in preparing a S7.11 contributions plan would also factor into the decision).

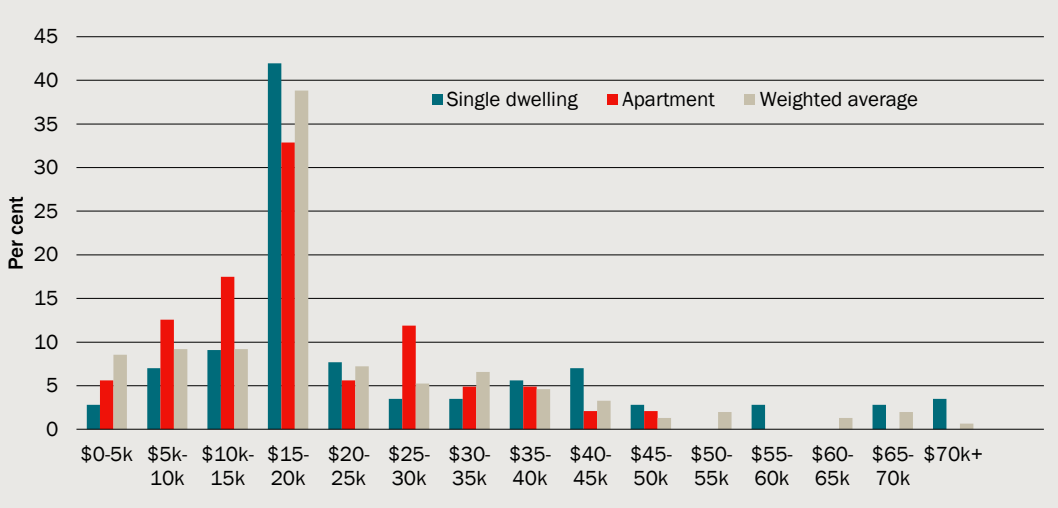
To analyse the potential for higher maximum S7.12 levy rates to encourage shifting from S7.11 contributions to S7.12 contributions, we collected information from most metropolitan S7.11 contribution plans (excluding the main greenfield LGAs, as the S7.11 contributions are high enough to be unlikely to be affected by modest changes to S7.12 contribution rates). As S7.11 contributions plans are not applied in consistent ways, for comparability we convert to an estimated rate per dwelling for:

- single dwellings
- apartments.

The incentive to shift from a S7.11 contribution plan to a S7.12 contributions would depend on total revenue. This, in turn, would depend on the composition of development in the plan area. As the split between single dwelling and apartments within each plan area is not known, we estimate a weighted-average based on the split between single dwelling and multi-unit dwellings dwelling approvals within the whole LGA. The composition of dwellings within the contribution plan area could potentially differ from dwelling approvals across the LGA.

The distribution across the 143 plans in our sample is shown in chart 6.9. Note there are a significant number of plans with contributions in the $15-20 000 range. This reflects the incentive to set contributions below $20 000 to avoid the IPART approval process.

6.10 Distribution of contributions under sample of metro S7.11 contribution plans



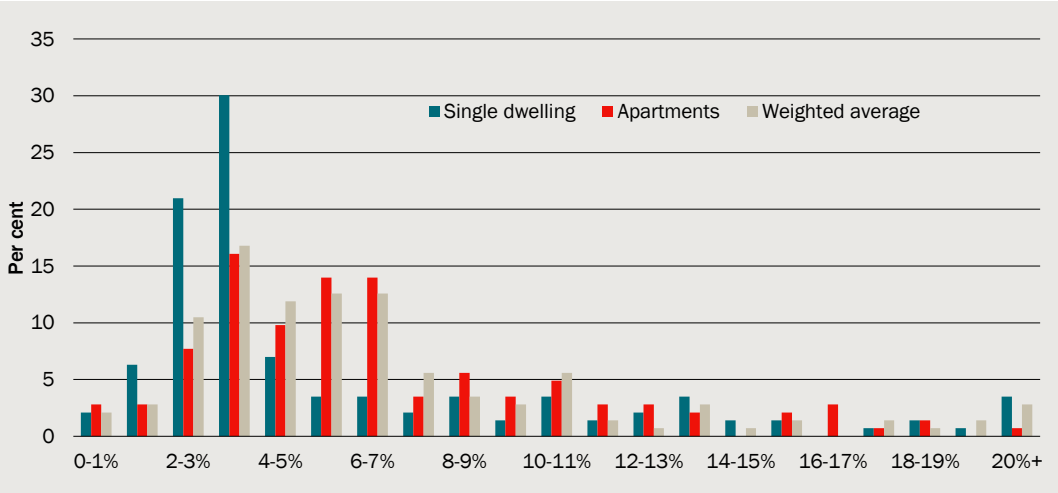
Data source: CIE analysis of metropolitan contributions plans.

As S7.12 contributions are applied as a percentage of the estimated construction value, the revenue raised depends on the average construction value per dwelling. Based on the development approval data, construction value per dwelling varies significantly across LGAs.

Chart 6.11 shows the distribution of contributions under each contribution as a percentage of the average construction value per dwelling for the relevant LGA. Note that the development approval data appears to inconsistently report the number of dwellings for multi-dwelling developments. Where we were unable to estimate the construction cost per dwelling, we relied on the average construction cost per dwelling from a nearby LGA.

The contribution rate for single dwellings was estimated to be less than 4 per cent of the construction value for around 65 per cent of plans. This contrasts with multi-unit dwellings, where the contribution as a share of construction value falls below that threshold in only around 30 per cent of plans. This reflects lower average construction costs per dwelling for multi-unit dwellings, relative to the difference in contribution rates.

6.11 Distribution of contributions as a percentage of average construction value from a sample of metro S7.11 contribution plans



Data source: CIE analysis of a sample of 143 contribution plans in the Sydney metro region (excluding the main greenfield LGAs).

Table 6.12 shows the share of S7.11 contribution plans where current rates are likely to fall under the thresholds under consideration. This indicates the share of S7.11 contributions that could potentially move to S7.12 plan were the maximum rate to increase to that level.

- Although around 30 per cent of plans had the contribution for single dwellings less than around 3 per cent of construction value, a much smaller share (around 13 per cent) of plans had multi-unit dwelling below 3 per cent of construction value. This also tended to occur in LGAs with a high-level of multi-unit dwelling approvals. This suggests that raising the threshold for S7.12 contributions plans to 3 per cent would encourage a relatively modest share of S7.11 contribution plans to switch to S7.12 contributions.
- Above 3 per cent, the share of plans that could potentially switch increases quite significantly. If an 8 per cent maximum rate were applied, it is likely that most S7.11 contribution plans would switch to S7.12 contributions.

6.12 Share of plans under various thresholds

Contribution rate	Single dwelling	Mult-unit dwellings	Weighted average
	Per cent	Per cent	Per cent
3 per cent	29.4	13.3	15.4
4 per cent	59.4	29.4	32.2
5 per cent	66.4	39.2	44.1
8 per cent	75.5	70.6	74.8

Source: CIE analysis of a sample of 143 contribution plans in the Sydney metro region (excluding the main greenfield LGAs).

An important caveat around this analysis is that S7.12 contributions may be applied to a broader range of development, including: residential alterations and additions; and commercial development. However, we do not have any readily available data on the extent to which these types of developments are covered by S7.12 plans. As such, the

above estimates do not take into account any associated additional revenue that could be raised through switching from a S7.11 contribution plan to S7.12 contributions.

Change to the structure of S7.12 contributions

A proposal to change S7.12 contributions to:

- a flat per dwelling charge for residential development
- a per square metre of gross floor area

The impacts of these changes to the structure of S7.12 contributions is considered in the cost-benefit analysis. For the purposes of revenue projections, we assume that these rates would be applied in a revenue neutral way.

Impact on local planning agreements

Use of local planning agreements are being discouraged on the basis that:

- planning agreements can be costly to negotiate
- planning agreements can potentially increase the risk to developers (as the outcome of negotiations are not known in advance when development-related decisions are made)
- planning agreements generally lack transparency.

We understand that a proposal to restrict planning agreements to direct delivery of infrastructure and 'out of sequence' development is being considered.

This is likely to significantly reduce the number of local planning agreements. However, we would expect that in most cases, councils would switch to a S7.11 contribution plan, rather than forego the revenue (including in-kind contributions) altogether.

That said, the tighter restrictions around S7.11 contribution plans is likely to mean that councils who use planning agreements may lose some revenue. We do not have sufficient information to estimate the extent to which moving from a planning agreement to a S7.11 contribution plan would reduce revenue.

In the absence of data that would enable us to analyse the revenue impact of shifting from a planning agreement to a S7.11 contribution plan, our revenue estimates assume that the revenue (including in-kind works) from planning agreements would decline by 50 per cent.

Impact on State Government revenue

The Infrastructure Contributions Review is investigating the following changes to funding arrangements for state infrastructure.

- Implementing a per dwelling levy to fund state infrastructure.
  - The levy would apply in the following regions:
    - Greater Sydney
    - Central Coast

        - The Hunter region (including: Lake Macquarie, Newcastle, Maitland, Port Stephens, Cessnock, Singleton, Muswellbrook, Upper Hunter and Dungog LGAs)
        - The Illawarra region (including Wollongong, Shellharbour, Shoalhaven and Kiama LGAs).
    - It is assumed the levy would replace existing SICs and state planning agreements (although in practice these arrangements will be grandfathered) from 2022. The rates modelled are at the lower end of existing rates for SICs, where these are in place, so this may marginally overstate NSW Government revenue changes.
- Implementing a levy on non-residential development at a rate per m2 of gross floor area, depending on the type of development, in metropolitan areas.

The levies are estimated to raise around $632.9 million in 2024, increasing to around $1.24 billion (in nominal terms) after 20 years. The average net increase in NSW Government revenue is estimated at around $792.8 million per year on average over 20 years (table 6.13).

- The residential levy estimates assume:
    - Levies starting at:
        - $12 000 per dwelling applied to all new dwellings in the Greater Sydney region (our analysis suggests a levy at that rate is unlikely to materially affect feasibility in the Greater Sydney region).
        - $10 000 for all regional areas covered by the new levy (i.e. Central Coast, Hunter and Illawarra).
    - The levy amount would be indexed based on a weighted average of land prices and construction costs. Based on price changes over the past 10 years, the modelling assumes the levy would increase by:
        - 3.7 per cent per year (in nominal terms) in metropolitan areas
        - 2.5 per cent per year (in nominal terms) in non-metropolitan areas.
- The non-residential levy estimates assumes a rate of $35 per m2 for mixed use, $25 for commercial and $12.50 for industrial development.

6.13 Estimated net impact of proposed changes on NSW Government revenue (average annual impact over 20 years, nominal)

	Total
	$m/year
Levy - residential	811.0
Levy – commercial	92.9
SICs	- 97.3
VPAs	- 13.9
Total	**792.8**

Source: CIE estimates.

Based on the assumptions above, the proposed changes are estimated to raise an additional $16 billion (nominal) over 20 years to fund state infrastructure, mostly in the Sydney metro region.

Impact of new levy on residential development

The annual revenue raised from a new levy depends on: the number of new dwellings in the regions in which the levy would apply; and the rate at which the levy is set. The levy should be set at a level where it has minimal impact on feasibility. As zoning premiums tend to be greater in Sydney (indicating greater feasibility), a higher levy could be supported in the Greater Sydney region.

We test the following scenarios:

- Low levy — this includes:
  - a levy of $10 000 per dwelling in the Greater Sydney region
  - a levy of $8 000 per dwelling in regional areas covered by the levy.
- Medium levy — this includes:
  - a levy of $12 000 per dwelling in the Greater Sydney region
  - a levy of $10 000 per dwelling in regional areas covered by the levy.
- High levy — this includes:
  - a levy of $15 000 per dwelling in the Greater Sydney region
  - a levy of $13 000 per dwelling in regional areas covered by the levy.

The number of new dwellings is based on the average annual change in the number of dwellings reflected in NSW Government dwelling projections. Note that this does not take into account demolitions of existing dwellings. These dwelling projections suggest:

- an additional 41 100 dwellings per year in the Sydney metro region (including the Central Coast)
- an addition 3030 dwellings per year in the Hunter region
- an additional 730 dwellings per year in the Illawarra region.

Based on these dwelling projections, the revenue raised under different levy amounts is shown in table 6.14.[47]

6.14 Estimated annual revenue raised under different levies

	Low levy	Medium levy	High levy
	$m/year	$m/year	$m/year
Sydney metro	595.8	714.9	893.7
Central Coast	22.5	28.1	36.6
Hunter	30.8	38.5	50.1
Illawarra	23.5	29.4	38.2

47 This uses the same dwelling estimates with and without the changes to infrastructure contributions.

	Low levy	Medium levy	High levy
Total	**672.7**	**811.0**	**1 018.6**

Source: CIE estimates.

Impact of new levy on commercial development

The CIE has also modelled non-residential revenue from a state levy. The rates modelled for this levy are based on the gross floor area for new development, as set out in table 6.15.

6.15 Rate applied for state levy to non-residential development

	Minimum	Maimumx
	$/m2	$/m2
Mixed use	30	40
Commercial / enterprise	20	30
Industrial	10	15

Note: Applied to gross floor area.
Source: NSW Productivity Commission.

There is no specific data available on floor area projections across NSW to use for projecting revenue from these rates. In order to approximate revenue we have:

- used data on the costs of non-residential development to convert the rates into a percentage of development costs. The range is that these rates would be equivalent to between 0.7 per cent and 1.2 per cent of development costs
- assumed projected future non-residential development value is similar to the average of the past three years across each local government area, as approved by councils. This gives an average of $5.7 billion of commercial, retail and office development and $5.6 billion of mixed use development in the metropolitan areas of NSW where the levy would apply. This may be somewhat low, as some larger projects may not be recorded through council development application reporting, and
- assumed that all of the development is new, and hence would be levied, and one fifth of the mixed use development would be levied under the non-residential rate, with the remaining being levied using the residential rate.

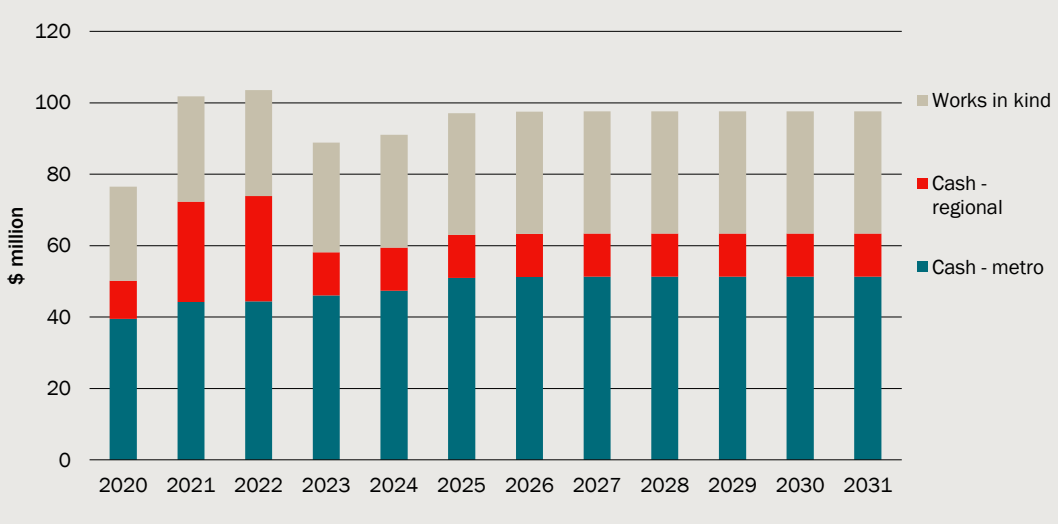
Under these assumptions, a state levy on non-residential development would raise $47 million to $81 million per year. This is then escalated over time. There is considerable uncertainty about these projections, given the lack of historical data on new gross floor area across the areas where the levy would apply and a lack of forecasts of new gross floor area.

Impact on SICs

The estimated impact on SICs are based on NSW Government forecasts of SIC revenue provided by NSW Treasury (chart 6.16). As the forecasts extend only to 2028-29, we assume SIC revenue would remain constant out to 2042-43 under current arrangements,

although it is not clear whether the current SICs will continue to provide revenue over that full period.

6.16 Revenue forecasts — special infrastructure contributions



Data source: Information provided by NSW Treasury, CIE.

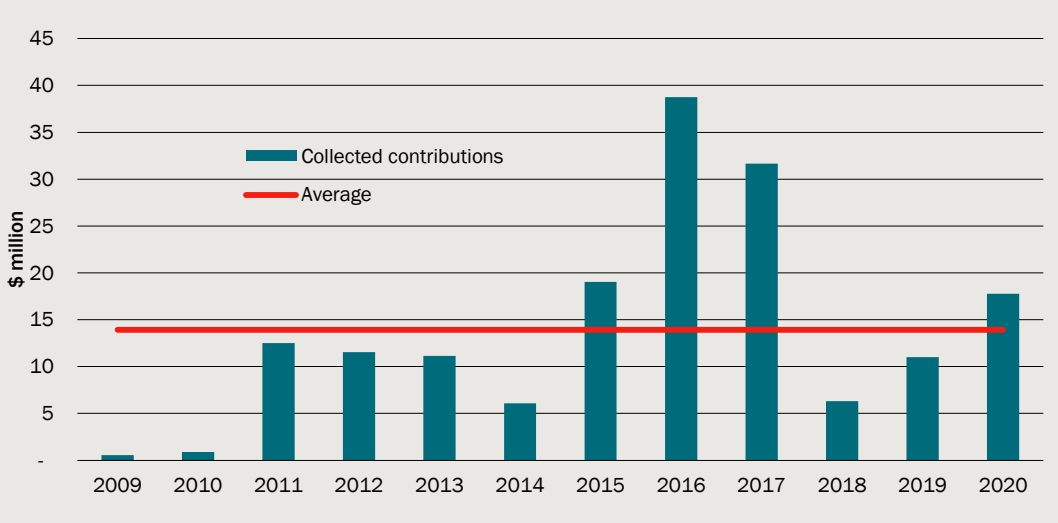
Impact on collected contributions from State planning agreements

Based on data provided by NSW Treasury, annual collected contributions from state planning agreements has varied significantly over time, ranging from less than $1 million to more than $38 million. We assume an average loss of revenue of around $14 million per year, based on the average over the 12-year period to 2019-20. It is noted that in under the proposed reforms there would still be scope for state planning agreements for direct delivery and 'out of sequence' development.

The regional disaggregation suggests that:

- around 83 per cent of collections have been from developments in the Sydney metro region
- the remaining 17 per cent of collections have been from developments in regional NSW.

6.17 Collected contributions from state planning agreements



Data source: Data provided by NSW Treasury.

Revenue from a transport SIC

The Infrastructure Contributions Taskforce is also investigating a charge related to major transport projects, such as new rail lines and stations. Any revenue collected would be hypothecated to the project.

We have not developed revenue projections related to the transport SIC, as the rates to be applied and amount of development that would be in the catchment are not well understood. To give an idea of potential impacts:

- The Sydney Metro North West urban renewal corridor indicates up to 13 400 new homes.48 If there was a transport SIC of $5000, this would equate to $67 million of revenue. A transport SIC of $10 000 would equate to $134 million of revenue.
- Sydney Metro West and Sydney Metro Greater West would also be projects to which a transport SIC could potentially apply. The amount of development expected to be associated with these projects within station catchments is not known. Given the substantial catchments associated, there could be over 100 000 dwellings accessing Sydney Metro West stations, implying revenue of $1 billion if this was applied to all dwellings at a rate of $10 000 per dwelling. If the transport SIC applied only to new dwellings, the estimated revenue collected would be lower.

48 https://www.planning.nsw.gov.au/Plans-for-your-area/Priority-Growth-Areas-and-Precincts/Sydney-Metro-Northwest-Urban-Renewal-Corridor

7 Costs and benefits of potential changes

The types of costs and benefits expected from the changes being investigated by the Infrastructure Contributions Review are detailed in table 7.1. These are divided into direct and indirect impacts:

- direct impacts relate to what the recommendation specifically does, such as increasing revenue for councils and their expenditure on services, or reducing administrative costs
- indirect impacts relate to how the recommendations may change the behaviour of councils, the community and developers. The infrastructure contributions system operates within the complexity of the overall system for land use planning. Many of the desirable outcomes from changes to infrastructure contributions are a result of indirectly influencing the operation of the planning system. A central proposition of the discussion below is that, given where the NSW land use planning and housing market is, **it is currently likely that higher charges would be more likely to increase housing supply indirectly, than they would be to reduce housing supply.**

7.1 Types of costs and benefits from proposed changes

Change	Direct costs and benefits	Indirect costs and benefits
Local government revenue changes (rates linked to population, changes to infrastructure contributions)	Net benefits or costs of the activities undertaken by council with additional revenue Changes to administration costs of system	Improved council financial incentives to support development
Re-introduction of water and wastewater charges for Sydney Water and Hunter Water	Changes to administration costs of system	Reduced rationing of areas serviced by water utilities Benefits from directing development top lower cost areas Improved environment for competition in delivering water and wastewater infrastructure
Region-wide SICs applied to all development	More timely and higher benefit cost ration infrastructure to support development Changes to administration costs of system Increased certainty for developers about charges	Improved alignment of infrastructure to growth areas, and reduced community opposition to development Possible impacts of higher charges for developers on viability
Contributions implemented at the same time as rezoning	Increased certainty for developers about charges	

Change	Direct costs and benefits	Indirect costs and benefits
Digital tools for contributions (such as calculator)	Increased certainty for developers about charges applied Reduced costs for accessing infrastructure contribution information	

Source: The CIE.

To frame the impacts, costs and benefits of the changes being investigated by the Infrastructure Contributions Review, we set out whether we think the changes will:

- reduce administration costs for the system?
- encourage councils to accept new development?
- encourage the community to accept new development?
- better support new development with state infrastructure?
- allow councils to provide additional services that their community's value?
- reduce the viability of development?
- provide a more efficient mechanism for funding infrastructure?
- increase or decrease housing prices?

We also set out the impacts of phasing the changes and the impacts of the structure of charges, as both will be important in overall impacts of the recommendations.

Will the changes reduce administration costs for the system?

The changes the Infrastructure Contributions Review will have impacts on administration and compliance costs as follows:

- the introduction of a rate peg linked to population will potentially reduce the number of special variations requested by councils and assessed by IPART
- the re-introduction of infrastructure contributions for Sydney Water and Hunter
- Water would:
- increase costs for them to develop and administer infrastructure contributions
- reduce their costs related to existing approaches, such as forward-funding by developers
- the move to a simple region-wide system for state contributions would reduce the costs of developing future SICs
- ongoing administrative costs will likely be simpler because of the simplicity of the charge, even though the charges will apply to much more development
- there will be costs related to developing and maintaining an online calculator for overall infrastructure contribution rates. This would also likely require councils to harmonise the presentation of their contributions plans to some extent

- reduced costs of developers for understanding their infrastructure contributions, through the provision of an online calculator and the developer contributions being set at the time of rezonings
- the increased S7.12 contributions would potentially lead some councils that have relatively low S7.11 plans to stop using these and move to using S7.12 plans
- the limitations on the use of planning agreements would reduce the administration costs related to planning agreements for councils, the NSW Government and developers.

Not all of these costs are able to be quantified currently. Below we set out what is known about the size of these changes to administration costs.

Costs for Special Variations

The current system for rate changes involves councils making Special Variation requests to IPART. It has previously been estimated that there are ~24 Special Variation requests per year and that the costs for each application are as follows.

- The council incurs a cost of around $166 000 on average in preparing the application.
- IPART incurs a cost of around $32 500 in assessing the application.[49]

Currently, there are around 24 special variation applications annually. This gives an annual cost of ~$5 million.

The basis for projecting revenues, as set out in the previous chapter, would anticipate that the population adjustment to the rates peg would replace the need for the existing mechanisms to some degree, but not fully. Many Special Variations are substantial, and we expect councils would continue to seek these.

IPART had previously estimated that around half the Special Variations may not be required under their proposal to adjust rates to reflect improved values. This would amount to a change of $2 million per year, of $23 million in present value terms. This is probably at the optimistic end of the change in Special Variations. We use this as an upper bound, and use a lower bound that councils continue to undertake all the same Special Variations as they currently do.

Costs for development of SICs and state planning agreements

DPIE currently has expenditure of ~$2 million per year on the administration of SICs and $1.5 million per year on the administration of planning agreements. Under the recommended changes, these costs would largely disappear. The costs related to payment would remain — these are currently estimated at $200 000 per year — and would move to Treasury.

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49 The CIE 2016, *The costs and benefits of changing local council rate setting,* prepared for IPART, December, p. 27, https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/investigation-section-9-legislative-review-of-the-local-government-rating-system/cie-consultant-report-final-report-review-of-the-local-government-rating-system.pdf.

Over 20 years, the administration cost savings from the removal of these costs would be worth $34 million in present value terms.

Costs for implementing changes

There is information available on the costs for implementing some aspects of the changes that are being examined by the Review.

- The development of a digital tool to provide infrastructure contribution information, systematise development of plans, allow for payment and provide data is estimated to cost $15 million
- Costs for re-implementing an infrastructure contribution system for Sydney Water and Hunter Water is estimated to cost $10 million in present value terms over 20 years, based on data provided by Hunter Water and extrapolated to Sydney Water.

Will the changes lead councils to switch to lower cost plans?

The proposed increase to the S7.12 rate to 3 per cent could potentially lead some councils to switch to using this instead of a S7.11 plan. A S7.11 plan is more costly to develop and administer.

However, as discussed above (see chapter 6), a 3 per cent levy is unlikely to be high enough to cause a significant proportion of S7.11 contribution plans to switch to S7.12 contributions.

The costs for councils of existing contribution plans are estimated at $52 million per year (see table 3.19), although there is a fair degree of uncertainty around these estimates. We expect that there would be some administrative cost savings, but are not in a position to estimate this with current information.

Unquantified administrative costs

We are unable to quantify at this stage

- changes in council administrative costs because of reduced use of S7.11 plans and increased use of S7.12 plans
- avoided council administrative costs related to less use of planning agreements by local councils
- avoided administrative costs for developers in relation to planning agreements, and because of changes to provide calculators for infrastructure contributions

Will the changes encourage councils to accept new development?

High growth councils are currently penalised financially for growth, because the local government rate peg is not linked to population growth. For instance, a council whose population is constant would have a rate peg applied of, for example, 15 per cent over five years. A council whose population increased by 20 per cent over this period would

also face a rate peg of 15 per cent.[50] As documented in Appendix B, this has penalised high growth councils.

The set of changes the Infrastructure Contributions Review is investigating would focus revenue growth more on high growth councils and less on low growth councils.

This would improve the incentives for councils to accept new development. This would ideally manifest in local plans and development control plans that are more accommodating towards growth.

As documented in CIE 2016, the benefits of improving council incentives related to development are difficult to precisely identify. As a broad range, this report suggested that an improvement very similar to what is being investigated by the Infrastructure Contributions Review would have a benefit of between $449 million and $866 million in present value terms over 15 years.[51] We have updated these estimates, based on timing starting in 2024, discounted back to 2020, and using a period of 20 years, giving an estimate of $426 million to $822 million.

Will the changes encourage the community to accept new development?

In 2011, the Productivity Commission asked people around Australia what their views were on accepting additional people in their suburb or community and why. The results for capital cities are shown in table 7.2. Sydney had the highest share of people not wanting additional people in their suburb or community and the least share wanting this. Across regional NSW, the attitudes to development were less negative.

7.2 Attitudes to additional population in suburb

Capital city	Would not like it	Would like it	Don't care	Other/don't know
	Per cent	Per cent	Per cent	Per cent
Sydney	64	9	20	7
Brisbane	53	10	32	5
Melbourne	52	11	29	8
Canberra	46	11	35	8
Adelaide	46	13	33	9
Darwin	45	10	34	11
Perth	43	14	34	8
Hobart	38	17	37	8

50 The peg would be slightly higher to reflect the impact of supplementary valuations applied to subdivisions.

51 The CIE 2016, *The costs and benefits of changing local council rate setting,* prepared for IPART, December, p. 40, https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/investigation-section-9-legislative-review-of-the-local-government-rating-system/cie-consultant-report-final-report-review-of-the-local-government-rating-system.pdf.

Capital city	Would not like it	Would like it	Don't care	Other/don't know
	Per cent	Per cent	Per cent	Per cent
All capitals	52	11	28	8

Source: Productivity Commission 2011, *Performance benchmarking of Australian business regulation: Planning, zoning and development assessment*, Research Report, Table 2.3.

In terms of why people did not want additional people living in their suburb or community, the pattern of reasons is shown in table 7.3. The stand-out reason for not wanting additional people in their suburb in 2011 is increased traffic congestion.

7.3 Reasons for not wanting additional people

Capital city	Increased traffic congestion	More crowded public transport	Loss of street appeal	Loss of amenity	Shadows cast by tall buildings	Don't want existing mix of people to change	Increased noise	Decreased property values
	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent
Sydney	89	46	43	26	34	17	60	29
Melbourne	86	37	48	28	35	15	56	27
Brisbane	80	24	36	20	17	17	55	23
Perth	78	25	47	22	22	19	62	33
Adelaide	81	26	45	26	24	16	58	27
Canberra	80	11	54	22	39	7	63	35
Hobart	78	15	38	17	15	13	56	19
Darwin	82	16	44	18	19	18	69	34
All capitals	85	35	45	25	29	17	59	28

Source: Productivity Commission 2011, *Performance benchmarking of Australian business regulation: Planning, zoning and development assessment*, Research Report, Table 2.4.

The changes being investigated by the Infrastructure Contributions are intended to provide additional revenue for infrastructure to support new development. Over a 15 year period, the changes would provide ~$14 billion more than the existing system. This is likely to be only a part of the costs required to support new development. For example, the Greater Sydney Commission found that costs to support 84 000 dwellings and 105 000 additional jobs in Greater Parramatta and Olympic Peninsula would amount to $20 to $30 billion.[52] A simple division of this cost by the number of dwellings and jobs indicates a cost of over $100 000 per additional dwelling and job. In some other areas, such as the Western Sydney PICs, the costs are likely to be higher. In areas where there is already infrastructure capacity, costs will be lower. However, we would expect that a SIC charge of between $10 000 and $30 000 per dwelling would be substantially lower than costs.

52 Greater Sydney Commission 2019, *PIC Place-Based Infrastructure Compact: Unpacking the new model summary paper,* https://gsc-public-1.s3.amazonaws.com/s3fs-public/pic_-_model_summary_paper.pdf https://gsc-public-1.s3.amazonaws.com/s3fs-public/pic_-_model_summary_paper.pdf

To the extent that this additional revenue can assist in alleviating concerns related to new development, then this will reduce the community opposition to development.

The long-term gains from getting the balance right for existing residents around new development are huge. Communities that are more supportive of development would lead to less restrictive land use planning regulations, reduce the premiums that existing in land prices and reduce housing costs. The benefits of such a wide-ranging improvement could be several billion dollars per year.[53]

The extent to which the changes will get towards better community acceptance of development is difficult to know. We have assumed for the benefits that it might achieve a 5 per cent reduction in existing problems, similar to improved council incentives, but would take 10 years of ramp-up for attitudes to change. Under these assumptions, benefits over 20 years are $346 million to $667 million (discounted present value). The provision of infrastructure will be critical to the degree to which this occurs and is discussed in the next section.

Will the changes better support new development with state infrastructure?

The changes are expected to provide revenue that is linked to the provision of infrastructure to support development, that is, the revenue would be hypothecated with governance arrangements to ensure it is directed towards development-related state infrastructure.

The NSW Government has already undertaken a number of programs to seek to align infrastructure better with growth, such as the Place Infrastructure Compact program[54] and Housing Acceleration Fund.[55] The success of these programs will need to be considered over the longer term. The existing SIC funding for specific areas also provides some amount of revenue for new development; however, this is very small.

The revenue from new arrangements modelled would be larger at around $16 billion (nominal) more than the existing system over 20 years, but as discussed above this is not likely to fully cover the costs of development-related infrastructure. Hence the degree to which this will alleviate concerns over new development will likely reflect the extent to which the hypothecated funding will shift broader government capital expenditure allocations.

To estimate the potential magnitude of benefits, we have examined past information on the benefit cost ratios of government investments, both public and confidential. Based on

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53 The CIE 2014, Better regulation statement for the NSW Planning Reforms, prepared for NSW Planning, https://www.thecie.com.au/publications-archive/reform-of-the-nsw-planning-system.

54 Greater Sydney Commission website, https://www.greater.sydney/growth-infrastructure-compacts.

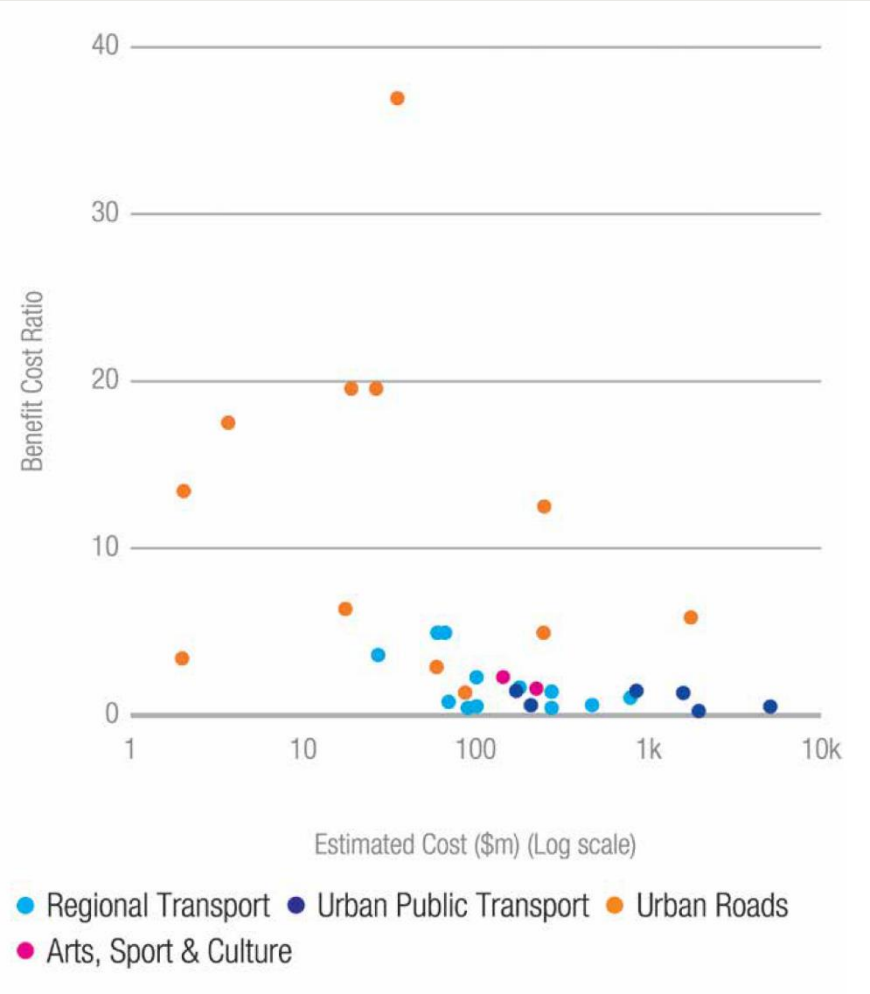
55 NSW DPIE website, https://www.planning.nsw.gov.au/Plans-for-your-area/Infrastructure-funding/Housing-Acceleration-Fund.

this, our expectation is that, additional state infrastructure contributions revenue would be expected to have a higher pay-off than most government expenditure because it would be more likely to be:

- spent on road projects
- spent on areas with higher growth, particularly urban areas
- spent on small to moderate sized projects.

This is consistent with previously published evidence from Infrastructure NSW (chart 7.4).

7.4 Benefit cost ratios across different types of NSW Government projects



Data source: Infrastructure NSW 2014, State Infrastructure Strategy update, Figure 11.3, https://infrastructure.nsw.gov.au/media/1090/inf_j14_871_sis_report_book_web_new.pdf.

To provide an estimate of the range of possible benefits from additional NSW Government revenue from infrastructure contributions, we show three scenarios (low, medium and high) about the returns from the additional infrastructure and the extent to which infrastructure contributions funding can better direct the NSW Government capital expenditure program as a whole.

- For the low scenario, we assume additional infrastructure has a benefit cost ratio of 1.25, and there is no change in the broader capital program
- For the medium scenario, we assume that additional infrastructure has a BCR of 1.5, and the funding for growth infrastructure can shift another 50 per cent again to projects with a higher pay-off
- For the high scenario, we assume that additional infrastructure has a BCR of 2.0, and the funding for growth infrastructure can shift another 100 per cent again to projects with a higher pay-off.

This is only applied to infrastructure from the general SIC. The transport and growth SIC would be linked to funding of major rail projects, which would have lower returns, and the funding would be unlikely to impact on whether these projects occur.

The net benefits for the three scenarios are set out in table 7.5.

7.5 Net benefits of additional NSW expenditure on growth-related infrastructure

Scenario	Net benefit
	$m, present value
Low	1 575
Medium	4 725
High	9 449

Note: Using a discount rate of 7 per cent and a time period of 20 years.
Source: The CIE.

Will the changes allow councils to provide additional services that their community's value?

The patterns of growth of council revenue in other states outside of NSW, and the overall levels of council revenue, suggest that NSW councils are likely under-funded relative to the level of services that people desire (chart 4.14).[56]

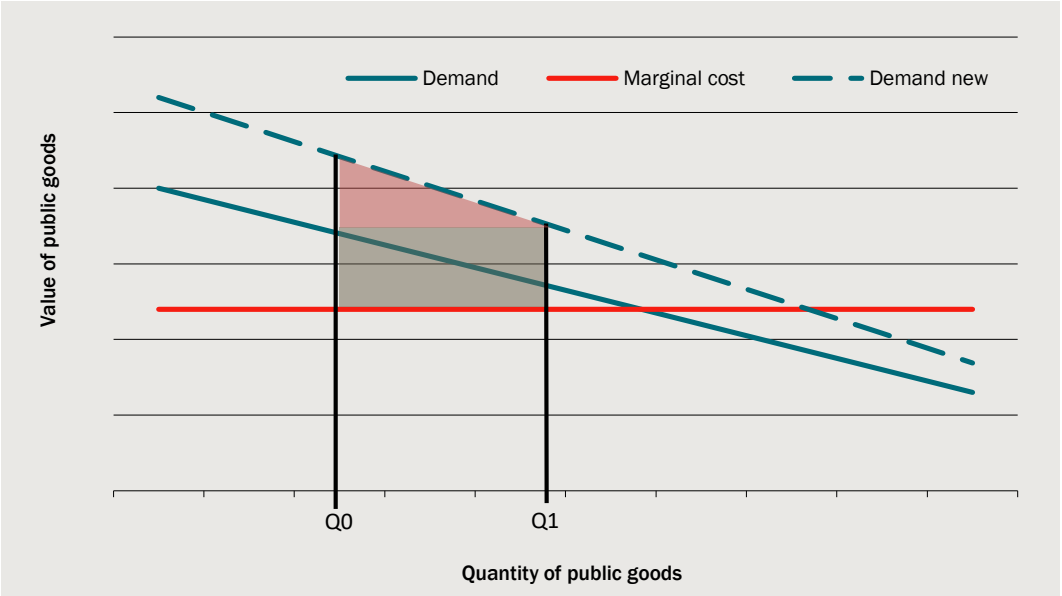
Using the same approach as for CIE 2016, the benefits of increasing council funding for the provision of public goods is shown in chart 7.6, assuming councils are below the efficient provision in the base case. The efficient level of provision of public goods is where the cost of supplying public goods is equal to the demand for public goods.

In chart 7.6, suppose a council is initially at Q_0, supplying less than an efficient amount of public goods — the point where demand for public goods equals supply of public goods is further to the right. The addition of new development increases demand for public goods. Unlike a private good, where an increase in demand leads to a quantity increase for a given price, for a public good an increase in demand means a higher value for any given level of provision of public goods. Then:

56 The alternative is that councils in all other states are collecting excess revenue and the political processes are insufficient to constrain this. Given the consistency of rate increases in other states, this is less likely than NSW councils being under-funded in terms of rates revenue.

- The new efficient level of provision of public goods increases.
- If a council is constrained by the rates revenue available to it — for example in the case that the increase in demand does not lead to any rates revenue increase — then it continues to provide Q0 of public goods
- The gain in welfare from gaining additional revenue is the shaded area in chart 7.6. [57]

7.6 Impacts of additional revenue if councils are below the efficient level of public goods



Data source: The CIE.

In some cases the provision of council goods is rivalrous — for example when roads get crowded or parks get crowded. In these cases, in the absence of additional council expenditure then the value of council services to existing residents would fall. The underlying pattern of benefits from the expansion of the provision of services is similar.

Applying the same approach to CIE 2016 to council revenue projections over a 20 year period of implementation, and assuming a start period of 2024, we find that:

- net benefits would be $95 million if NSW councils are currently providing the efficient level of service — this is a very conservative estimate of benefits
- net benefits would be $325 million if the efficient level of service is halfway between the NSW per capita revenue and the Victorian per capita revenue
- net benefits would be $556 million if the efficient level of service was reflected in Victorian levels of revenue per capita (table 7.7).

57 In this case the welfare impact is approximately $\Delta W = \frac{1}{2}\left(\frac{\Delta V}{V}\right)^2 . e.R + \frac{(v-c)}{c} . e.\frac{\Delta V}{V} . R$, where c is the unit cost, where ΔW is the change in welfare and ΔV is the change in value at Q0

7.7 Estimated benefits from improved service efficiency

Item	Low estimate	Central case	High estimate
	$ million	$ million	$ million
Net present value	95	325	556

[a] This assumes changes to S7.11 plans and VPAs are introduced in transition rather than in one go, so revenue impacts are zero in the first year.

Note: Net present value calculated using a discount rate of 7 per cent.

Source: The CIE.

Will the changes reduce the viability of development?

We do not expect the proposed changes to significantly affect the commercial viability of housing development across Sydney and regional NSW. We have specifically modelled the impact of a proposed state-wide special infrastructure contribution at a range of different per dwelling rates (including a $10 000 water infrastructure contribution, which applies to greenfield areas) and for a variety of different development types, including:

- Low density — specifically the construction of detached housing in greenfield areas across Sydney and the Hunter-Illawarra region
- Medium density development — the subdivision of lots into dual occupancies in infill areas
- High density development — including eight and twenty storey apartment complexes

Using a development feasibility model, we have been able to estimate the extent to which a state-wide SIC payment changes the viability of developing new housing. The model accounts for all of the costs associated with development (including any pre-existing SIC charges in regions where they apply) and compares this to the final sale price of newly developed dwellings. The property acquisition cost included is based on the existing zoning, and covers the estimated land and capital on the land. This is therefore a measure of the opportunity cost of the land — i.e. the value of the land in its current use. The difference between sale price and total cost must be positive in order for a development to be commercially feasible. Further details are set out in Appendix F.

Depending on the rate of the SIC, some developments that are at the margin can be made unviable, as the contribution leads to the total cost (including margin) moving from being less than the sale price to more than the sale price. Chart 7.8 shows the proportion of developments that are made commercially unviable under different SIC rates, and assuming an upper end possible charge for water and wastewater infrastructure of $10 000 per dwelling.

Overall, the impact of a $10 000 levy and a $10 000 developer contribution for water and wastewater on the proportion of new dwellings that are commercially feasible is small — less than 5 per cent of dwellings for all dwelling types except detached housing, and marginally more than 5 per cent for detached housing in Sydney. Even at much higher levy rates, most development continues to be commercially feasible.

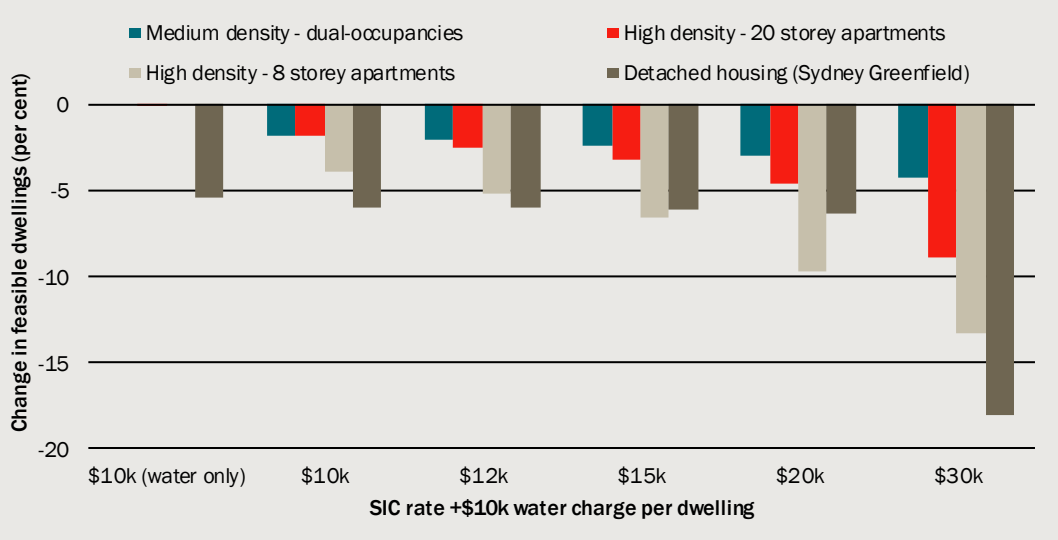
The Sydney greenfield estimates are conservative, as they assume a $35 000 per dwelling biodiversity offset based on a DPIE study for Macarthur (See Appendix F). In reality,

many areas will not be as highly vegetated (if at all) and so this rate could lead to an over-estimate of the true development cost (whilst underestimating feasibility). Even under these assumptions, however, there is still a large number of feasible new dwellings at different SIC rates.

Overall, the largest reductions in the proportion of feasible new dwellings occur in greenfield areas. This includes:

- An 18 per cent reduction in feasible detached dwellings in Sydney, assuming a SIC of $30 000 per dwelling, biodiversity charges of $35 000 per dwelling and a water charge at $10 000 per dwelling (giving a total cost of $75 000 per dwelling)
- A 34 per cent reduction in feasible detached dwellings in the Hunter-Illawarra region assuming total infrastructure, biodiversity and water charges at $60 000 per dwelling

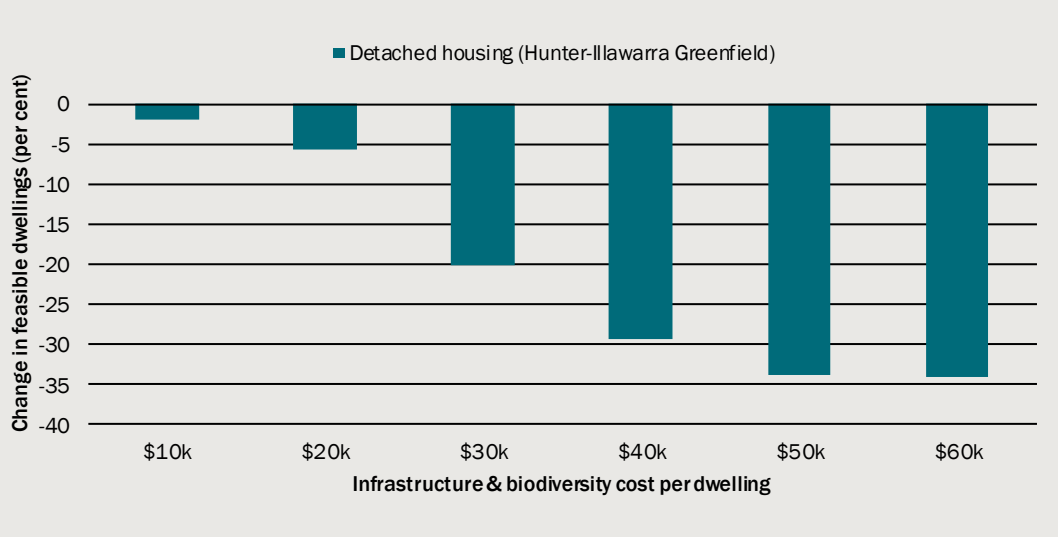
7.8 Change in the proportion of feasible developments (Sydney)



Data source: The CIE.

Detached housing in greenfield areas in the Hunter-Central Coast-Illawarra region are more sensitive to additional costs than similar developments in Sydney, which suggests that commercial feasibility of development in these areas is more marginal. In chart 7.9 we show the change in number of feasible dwellings for increases in costs from $10 000 to $60 000 per dwelling. At $30 000 per dwelling, the impacts become more significant. The final proposed SIC rate for these areas is $8000 per dwelling and Hunter Water indicates that water and wastewater costs would be in the range of $2000 to $8500 per dwelling. This is below the point at which feasibility impacts become larger. There would also be a biodiversity cost in some areas, depending on the existing site. At the maximum infrastructure charge range ($16 500 per dwelling), a biodiversity cost of $13 500 per dwelling would start leading to noticeable feasibility impacts. This will depend on the specific sites.

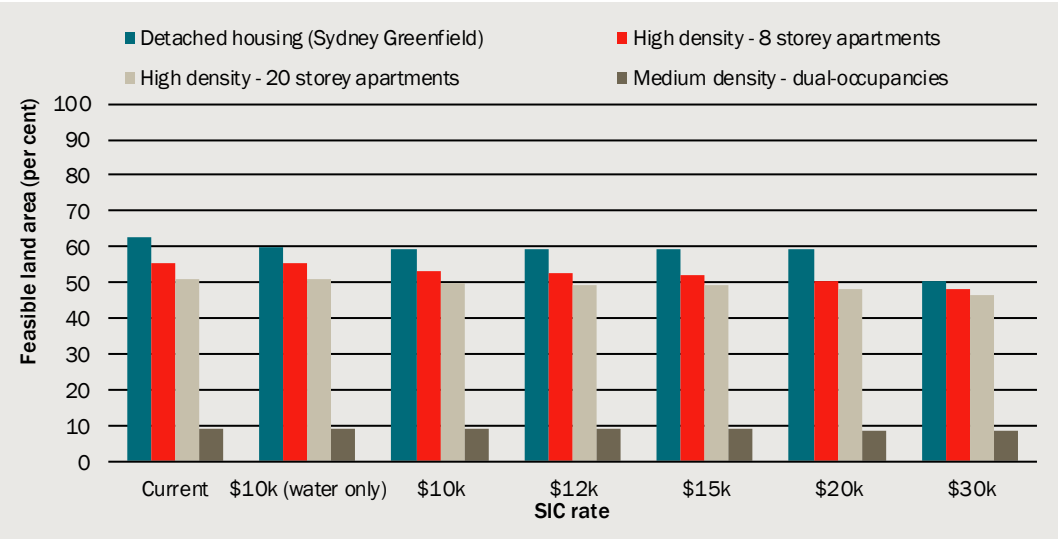
7.9 Change in the proportion of feasible developments (Hunter-Illawarra greenfield)



Data source: The CIE.

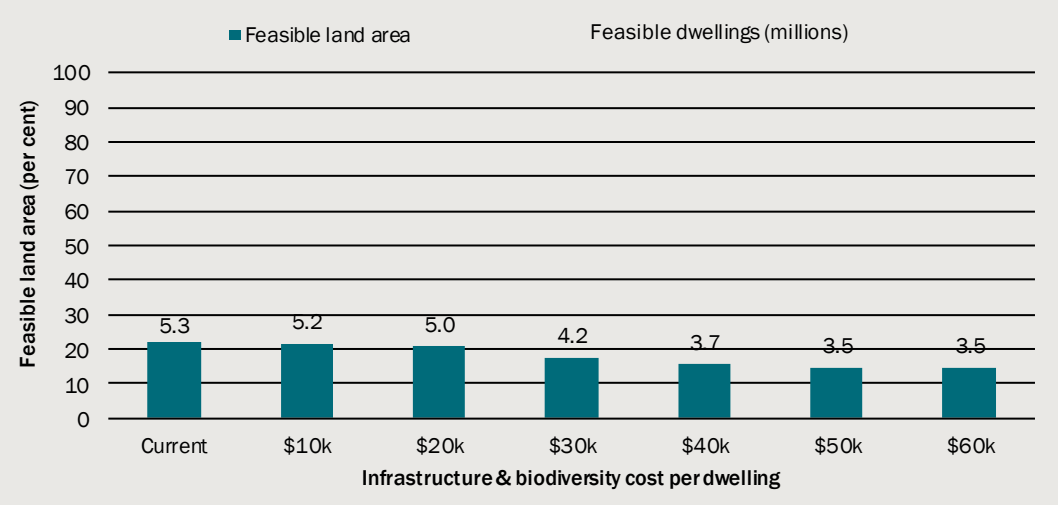
Charts 7.10 and 7.11 provides the proportion of land area that is feasible for development in Sydney and Hunter-Central Coast-Illawarra. Out of the available land area, a relatively high proportion of available greenfield land is feasible for development in Sydney. This is followed by high density housing (around 50 per cent currently). In contrast, only a small proportion of available space is feasible for use in medium density within Sydney and for detached housing in the Hunter-Illawarra region. Note that there are still millions of dwellings worth of feasible land for development in the Hunter-Illawarra region at current market prices and costs.

7.10 Feasible land area as a proportion of total land (Sydney)



Data source: The CIE.

7.11 Feasible land area as a proportion of total land (Hunter-Illawarra greenfield)



Data source: The CIE.

The impact on the proportion of development is only part of the story, however. The discussion around housing choice and housing affordability is much more concerned with the overall level of development. Table 7.12 presents the number of dwellings that would be commercially feasible to provide by developers at different SIC rates. Crucially, this also assumes that the planning system is flexible and adjusts accordingly to allow development to occur where it is most profitable to provide. We assume that:

- high density and medium density development can occur on currently zoned R1, R2 and R3 land across Sydney
- detached housing can occur in greenfield and other fringe areas in Sydney, including land currently not zoned for residential (such as rural and environmental land)
- detached housing can occur on land classified under the greenfield housing code as well as land currently not zoned for residential in the Hunter-Illawarra region

7.12 Number of feasible dwellings at different SIC rates

Development type	High density - 20 storey apartments	High density - 8 storey apartments	Medium density - dual-occupancies	Detached housing (Sydney Greenfield)
Current	37 774 891	16 537 224	128 814	2 074 436
$10k/dwelling (water)	37 766 677	16 536 622	128 814	1 962 945
$10k/dwelling	37 064 888	15 890 489	126 510	1 949 551
$12k/dwelling	36 828 628	15 688 218	126 178	1 948 820
$15k/dwelling	36 558 430	15 446 413	125 761	1 946 958
$20k/dwelling	36 017 700	14 938 206	125 035	1 942 518
$30k/dwelling	34 398 590	14 340 173	123 302	1 700 782

Source: The CIE.

Even under a SIC rate of $30 000 per dwelling, there is large number of dwellings that would still be feasible to provide, even in greenfield areas in Sydney and Hunter-Illawarra. This is due to the fact that planning constraints impact housing supply and prices far greater than a potential SIC charge. Recent research by the Grattan Institute

(2018) suggests that Australia has a low dwellings-to-population ratio and that this ratio has declined more significantly in Sydney since 2006 than any other Australian city[58].

The Reserve Bank of Australia (RBA) attributes an overall lack of supply in housing, and consequently, high housing prices due to planning and zoning constraints. A study by Kendall and Tulip (RBA) estimates that on average, zoning:

- increases the average house price in Sydney by 73 per cent or $489 000 per house
- increases the average apartment price by 68 per cent or $355 000 per apartment
- These zoning premia dwarf the impact of a potential SIC charge of $10 000 to $30 000, and thus we should not expect that a SIC charge will materially impact development if future rezoning occurs.
- One caveat, however, is that currently zoned land could be more marginal (i.e. less profitable) than other sites that have been allowed under the modelling scenario. One possibility is that the SIC could impact the feasibility of these sites more than others.

Other evidence

A similar study into special infrastructure contributions for the Greater Macarthur Special Contribution Area was undertaken by EPS and DPIE in 201859. This study examined the impact of a SIC on feasibility in land release areas of Menangle Park, Mt Gilead, Appin, Appin East and West Appin. It found that in these areas, a SIC of up to $75 000 per additional residential lot could be accommodated on rezoned land, without affecting feasibility, even for land that had increased in value because of anticipated rezoning. A more pure measure of economic feasibility is where no zoning premia is included in the land price, in which case they found that SICs of over $100 000 could be levied.

Similar to our analysis, EPS focused on the impact of a SIC on land that is subsequently rezoned. The gap between the value of rezoned land and the opportunity cost of land is large enough to accommodate a developer charge, even under a scenario of anticipated residential rezoning due to the large zoning premium that occurs once land is rezoned (table 7.13).

58 Daley, J. Coates, B. and Wiltshire, T. (2018), Housing affordability: re-imagining the Australian dream, Grattan Institute (based on OECD data).

59 Special Infrastructure Contribution Feasibility Study – Greater Macarthur Special Contribution Area, EPS 2018

7.13 Rezoning and feasible SIC rates – Greater Macarthur growth areas

Scenario	Value of land	SIC rate accommodated
	$/hectare	$/dwelling
Rural land - no anticipated rezoning	190 000	130 000
Rural land - anticipated rezoning	530 000	75 000
Existing low-density residential land	1 800 000	0

Source: Special Infrastructure Contribution Feasibility Study – Greater Macarthur Special Contribution Area, EPS 2018.

Outside of metropolitan areas, housing values are lower, and so is commercial feasibility. In these areas charges will make more difference.

The feasibility analysis has focused on residential development. Charges on commercial and industrial development are expected to be more impactful for commercial feasibility, because the land prices for this type of development are not as high.

Will the changes reduce the risks of development?

Development of new dwellings is risky because of issues related to a specific development and changes in general market conditions. A useful study of development-related risks in Australia, which is unfortunately fairly dated, categorised risks for developers into:

- pre-construction stage (10 risk factors)
- contract negotiation stage (4 risk factors)
- formal commitment stage (3 risk factors)
- construction stage (8 risk factors), and
- post-construction (completion) stage (9 risk factors).[60]

It then surveyed developers about the relative importance of these different risk factors.

Infrastructure contributions was noted as part of approvals risk, in the pre-construction stage. This risk was the 5th highest risk factor (out of 34).[61] However, this risk factor covers other aspects of approvals such as zoning, compliance and development conditions, as well as infrastructure contributions. These other factors would be expected to be more important risks. Note that the work was published in 2016, and risks would likely have changed since then — based on infrastructure contributions changes, this has probably become more risky.

The risks associated with property development are reflected in the high returns expected for property developers. For example, the DPIE urban feasibility model uses an internal rate of return for large apartment buildings of 25 per cent, and 15 per cent for simple developments such as detached houses and townhouses. These are well in excess of

60 Newell and Steglick 2006, "Assessing the importance of property development risk factors", Pacific Rim Property Research Journal, Vol 12, No 1, https://www.georeports.com.au/data/PRPRJ_No_1_2006_Newell.pdf

61 The higher ranked risks were environmental risk, time delay (during construction) risk, land cost risk and acquisition terms risk.

returns in low-risk sectors — the cost of capital used for government projects is typically set at 7 per cent (real).

The Infrastructure Contributions Review is investigating a number of changes that would reduce the risk related to infrastructure contributions:

- a simple Special Infrastructure Contribution — this would reduce risks related to SICs being developed for individual areas, with the rates unknown to developers at the time of their land purchase. It would also reduce risks related to state use of VPAs
- contributions plans to be released at the same time as rezoning — this would ensure that a developer is not purchasing rezoned land and then subject to risk around the rate of infrastructure contributions, and
- more stringent conditions around the use of VPAs by local council
- infrastructure contributions calculators to ensure that the contributions rates are understood by developers.

The re-introduction of infrastructure contributions for Sydney Water and Hunter Water will have ambiguous impacts on the risk to developers. Developers are currently subject to risk around infrastructure provision, which may fall. They are also subject to risk if they are seeking to undertake development in advance of the timing of areas in the Growth Servicing Plans of the utilities. Offsetting this, the contributions rates for development may increase risk, if this process is not implemented in a way that developers know the charges well in advance and can factor them into decisions. Our understanding is that the rates would be published and easily accessible for well-defined areas.

These changes would have some impact on the returns required by developers, although this would be fairly small given the wide range of risks to which a developer is subject. To give a very rough idea of the impact, we have divided up the developer risk premium across the risk factors based on their scores. This allocates a risk factor of 0.5 percentage points for approvals risks. Infrastructure contributions is only a part of this risk, say 10 per cent, or 0.05 percentage points of the overall risk premium. If a reduction could be achieved to zero, then this would amount to a benefit of $10 million per year, based on the latest residential building value estimates in NSW, or $89 million over 15 years in discounted terms.

Will the changes increase housing prices?

In chart 7.14 we show a conceptual view of the housing market, where there are constraints on development shown in red. The evidence shown above on commercial feasibility indicates that these constraints are likely to be the main driver of the quantity of new housing, as there are enormous amounts of development that have high levels of commercial feasibility absent constraints. The changes in infrastructure contributions proposed would have a direct impact and an indirect impact on the housing market.

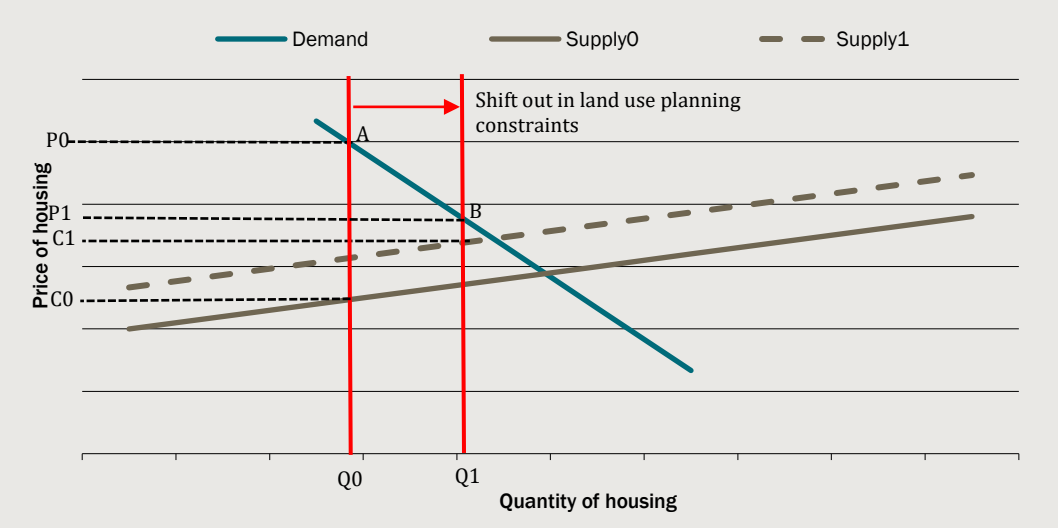
- The direct impact is that, in most areas, the amount of the infrastructure contribution would be increased — this is shown in chart 7.14 as a movement from Supply0 to Supply1

- The indirect impact is that the regulatory restrictions on housing supply would be eased because incentives for councils and the community would be more closely aligned to growth — this is shown as a movement of a housing supply constraint from Q0 to Q1.

Given what we understand about the operation of the land and housing market in Metropolitan NSW, the combined effect of these changes would be a reduction in house prices (from P0 to P1, comprising:

- an increased component related to construction and infrastructure contributions (C0 to C1), and
- a reduced component related to the land price premium (P0-C0 reducing to P1-C1).

7.14 Impacts sought from proposed changes within the housing market



Note: The quantity of housing produced with and without an infrastructure contribution is Q0, at a price of P0. The cost is C0 and C1, with the gap between the cost and price likely to largely end up in existing land prices.

Data source: The CIE.

This outcome relies heavily on the reforms contributing to indirect changes to the operation of the planning system, because councils have improved financial incentives and the community can better see a link between infrastructure and development. It also relies on existing landholders bearing the impacts of the increased developer charges plus more. These conditions are both highly uncertain, and likely to occur gradually rather than as an immediate response to changes to the infrastructure contributions system.

If the changes are not effective at impacting on the operation of the planning system, then higher charges (such as a higher SIC) would lead to a redistribution of revenue from existing landholders to the NSW Government, without impacting on long-term prices or housing supply.

These impacts will also differ across different housing markets. In some regional markets, applying a SIC would be expected to increase housing prices, because prices are reflective of costs. Currently, the SIC is only to apply to metropolitan areas, so this would not occur.

These same issues are relevant to a smaller degree for non-residential land. However, the land premiums and the infrastructure charges are both smaller than for housing markets.

Will the changes impact on competition?

There are several areas where infrastructure contributions arrangements are important for competition.

- In water and wastewater provision, the absence of an infrastructure contribution for Hunter Water and Sydney Water means that there is limited incentive for developers to seek to use other providers of these services within areas covered by Growth Servicing Plans. Whether or not an infrastructure contribution would lead to new entrants is not clear, as there are strong natural monopoly elements in provision of these services.
- outside of Growth Servicing Plans, there is the potential for competition under current arrangements
- In housing provision, the existing arrangements for water and wastewater for Sydney Water and Hunter Water tend to favour large developers, who can accelerate their development by undertaking works, which are then repaid over time by the water utility. Smaller developers would be unable to fund major water and wastewater infrastructure up front.
- In the provision of other infrastructure, such as council infrastructure or infrastructure covered by SICs, the existing arrangements allow for developers to do works-in-kind. This introduces additional competition for undertaking these infrastructure projects, and developers may find that they are more efficient than councils or NSW Government agencies in some cases at delivering infrastructure.[62] Our understanding is that these arrangements would not change.

We have not quantified any benefits or costs related to these issues.

Will the changes impact on allocative efficiency?

Discussions about infrastructure contributions will often focus on allocative efficiency. A contributions system would be allocative efficient where the costs to a developer reflect the full avoidable costs related to the development.

There are also elements of allocative efficiency related to funding of infrastructure that is not captured by the avoidable costs of the development, and which taxes are most efficient to do this.

The changes the Infrastructure Contributions Review is investigating will move the costs incurred by a developer closer to a view of the full avoidable costs in some cases and further away in others (table 7.15).

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62 Note that most infrastructure delivery is subject to competition at some level because the work is tendered out.

7.15 Impact of proposed recommendations on allocative efficiency

Change	Positive impact on allocative efficiency	Negative impact on allocative efficiency
Re-introduction of developer charges for water and wastewater for Sydney Water and Hunter Water	✓	
Increasing S7.12 charges		✓
Removal of population driven costs from S7.11 charges	✓	✓
Removal of avoidable costs from S7.11 charges		✓
Replace existing SICs with regional levy		✓
Replace existing charge of zero with regional levy	Not clear. There are state costs related to development in most locations, but the aim is to have a simple system which would be less cost reflective.	
Limit use of VPAs	Unclear as not obvious how much of VPA costs are avoidable or not	

Source: The CIE.

The benefits of improved allocative efficiency, or costs of decreased allocative efficiency, occur because different developments occur. That is, allocative efficiency is improved by infrastructure contributions that signal the costs because:

- some areas that are higher cost will now not be developed
- some areas that are lower cost will not be developed.

Our view is that in metropolitan areas, changes in the extent to which infrastructure contributions reflect the full avoidable costs are currently not of major importance. This is because we are in a second-best world, where the market outcomes are determined by other factors, such as land use planning regulations and their interaction with demand. This is confirmed by the feasibility analysis undertaken, as well as the evidence cited in chapter 4. Given this, movements towards or away from reflecting full costs are not likely to have material benefits and costs.

Outside of metropolitan areas, reflecting the full costs is more likely to lead to some developments not proceeding. For example, areas like West Dapto would likely be more marginal if the full cost of development was passed on to developers. Even in these cases, there are difficult issues about the extent to which costs are avoidable, once strategic planning decisions have been made to progress with the development of an area. Infrastructure is lumpy and once these decisions are made and infrastructure committed, not all costs will be avoidable.

Will the changes provide a more efficient mechanism for funding infrastructure?

As discussed above, the other impact of allocative efficiency is the allocative efficiency of the collection of taxation revenue. This applies to infrastructure contributions that are above the avoidable costs of infrastructure, and the aim is to minimise the overall distortions of revenue raising exercises.

Typically, broad-based taxes are the most efficient, such as GST. As shown in chapter 4, rates, which act as a tax on land, are typically quite efficient, and stamp duty is particularly inefficient.

The main estimates of benefits set out in this report are based on the changes set out by the Infrastructure Contributions Review increasing revenue and associated expenditure on infrastructure and services. In this case, issues of tax efficiency are not important.

An alternative possibility, which is a sensitivity to the main estimates, is that this instead represents a shift in the composition of revenue. In this case, it is pertinent to consider whether or not this moves government funding to instruments that are more efficient. To consider this, we have undertaken CGE modelling of a variety of government revenue raising instruments. A production tax on residential building is a much more efficient tax than stamp duty, with respective excess burdens of 23 per cent and 72 per cent. Payroll tax also comes out as being quite inefficient when applied at a NSW level only. Council rates are amongst the most efficient of taxes.

The proposed changes would increase production taxes on housing and council rates — if they reduce other taxes such as payroll tax and stamp duty then this would tend to provide a more efficient tax mix.

7.16 Excess burden of taxes for selected taxes

Tax	Excess burden of taxation
	Per cent
Stamp duty	72
Payroll	79
Production tax on residential building	23
Council rates	8

Source: CIE calculations, as per Appendix D.

What are the impacts of phasing the changes?

Transition is an important issue for changes to infrastructure contributions, for many reasons:

- developers have made decisions about land purchases that reflect their expectations of infrastructure contributions. In this case, as the existing landholder, they are likely to bear the impact of any increased contributions. This could potentially also impact on their financing arrangements for a project
- existing landholders, where land is not already owned by a developer, will likely have sticky expectations of the value of their land. For example, if a neighbour had sold a similar parcel for $3 million, a landholder might be less inclined to sell for a lower value that reflects a higher infrastructure contribution rate. This will adjust over time, but land values will likely move lower slowly, and more slowly than they move up
- councils, who will have existing S7.11 plans and VPAs in place for some development areas. Some period would be required to redo S7.11 plans for the proposed

recommendations — given that this is likely to reduce S7.11 revenue, councils will be likely to delay these changes until the end of any transition period. VPAs would be expected to remain in place for any existing VPAs

- we understand there are also potential issues related to works-in-kind that developers are undertaking in lieu of S7.11 or SIC contributions. For these, the developer has not actually paid the S7.11 contribution, but has an agreement about works-in-kind being deducted.

A number of options have been raised about how transition could occur.

1 Changed arrangements would apply only to newly zoned land.

2 Changed arrangements would be gradually phased in over time — the preferred approach of the Infrastructure Contributions Review.

In our view, the first would lead to a very long phase in, as a large part of development in the short to medium term will be on land already zoned. For example, the Sydney Greenfield Housing Monitor notes that there are 118 000 lots zoned, which is 5 to 10 years of greenfield lot supply.[63] We are not sure if this includes recent rezonings related to the Western Sydney airport development. In some areas, notably the Northern Beaches, residential land is generally zoned R1, and a change from detached housing to higher density would be reflected in more detailed development controls rather than the zoning. In this case, there would be no change of zoning.

Phasing in arrangements over time would be a simpler option. For example, if the existing SIC rate was $200 000 per hectare, then this could initially be converted to an equivalent per dwelling rate and then gradually moved to be consistent with the Sydney-wide rate over a period of four or five years.

What are the impacts of the structure of charges?

Currently, infrastructure contributions are structured in many different ways:

- S7.11 charges can apply per hectare, per dwelling or per (estimated) person
- SICs are sometimes applied per hectare and sometimes per dwelling
- S7.12s are applied based on the proposed costs of carrying out the development.

Different types of charges will lead to different incentives for those paying charges. For example, a per hectare charge will incentivise putting more dwellings on a given piece of land, relative to a per dwelling charge.

The structure of charges will also lead to issues related to administrative and compliance costs — if something is hard to observe (such as proposed costs of carrying out a development) then the administrative costs of ensuring that this is being correctly identified are higher — or people will tend to understate the item to which the charge is applied.

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63 NSW DPIE website, https://www.planning.nsw.gov.au/Research-and-Demography/Metropolitan-Housing-Monitors/Sydney-Greenfield-Monitor

Where infrastructure contributions are linked specifically and closely to costs, the relevant issue is what are the factors that drive the costs. For example, will infrastructure costs be the same regardless of the density of residential development, instead reflecting the area developed, or will costs increase if development density is higher? If costs relate to the area developed, then a per hectare charge is more efficient. If costs relate to the population or number of dwellings serviced, then a per dwelling or per person charge is more efficient.

Where infrastructure contributions are more loosely linked to costs, such as for Special Infrastructure Contributions and S7.12 contributions, then a simple approach to charges is expected to be preferred. For example, a per dwelling charge for residential development. The Infrastructure Contributions Review is examining whether S7.12 contributions could be better levied on a per dwelling or floor space basis. This is because measures of the output, such as number of dwellings or floor space, are likely to be better aligned to generating infrastructure demand than is the cost of the development.

In the sections below, we set out the types of rates that would apply for S7.12 charges if they were applied on a per dwelling basis for residential development and on a floor space basis for industrial, commercial and retail development.

Changes in S7.12 charges for residential development

The current S7.12 charge will be different for each development based on the estimated cost of the development. Construction value estimates are provided for residential developments as part of development applications and complying development certificates. A summary of the distribution of these, on a per dwelling basis, for 2018/19, is set out in table 7.17. The lowest estimates, based on the lowest 10 per cent of values, have a construction value estimate of $220 000 per dwelling for single dwellings and $167 000 per dwelling for multi-unit dwellings. At the upper end, the top 10 per cent (or 90th percentile) have construction values of $590 000 for single dwellings and $621 000 for multi-unit dwellings. The median is $334 000 for single dwellings and $279 000 for multi-unit dwellings.

7.17 Distribution of construction costs for residential developments 2018/19

Percentile	Residential - Single new dwelling	Residential - New multi unit
	$000/dwelling	$000/dwelling
10	220	167
25	274	217
50 (median)	334	279
75	434	382
90	590	621

Source: NSW DPIE, Local Development Performance Monitoring data for 2018/19; CIE calculations.

If we use the median value, we can estimate the equivalent per dwelling charge for S7.12 contributions at different percentages. This is shown in table 7.18 for the median value and a percentage of construction costs of 1 per cent, 3 per cent and 5 per cent.

7.18 Equivalent per dwelling rates for residential S7.12 contributions

Per cent of construction cost	Residential - Single new dwelling	Residential - New multi unit
	$/dwelling	$/dwelling
1 per cent	3 000	3 000
3 per cent	10 000	8 000
5 per cent	17 000	14 000

Note: Based on the median development cost for 2018/19.

Source: The CIE.

We can also compare these rates to existing S7.11 plans. We have compiled data for Sydney, covering 143 plans/areas within a plan, and estimated the 2020 contribution that would apply to a single dwelling and a 2 bedroom unit. The distribution of these is set out in table 3.9.

For single dwellings, more than 80 per cent of the areas have S7.11 rates above $15 000 per dwelling. For multi-unit dwellings, more than 80 per cent of the areas have s7.1a rates above $10 000 per dwelling.

If we compare the S7.11 rates to possible S7.12 rates:

- A 1 per cent S7.12 plan rate converted to dollars per dwelling would be below the rate charged for nearly all areas
- A 3 per cent S7.12 plan rate converted to dollars per dwelling would be below the S7.11 rates charged for most areas
- A 5 per cent S7.12 plan rate converted to dollars per dwelling would be about in the middle of existing Sydney S7.11 plan rates.

7.19 Rates charged for S7.11 plans in Sydney 2020

	Single dwelling	2 bedroom unit
	No. of plans/areas	No. of plans/areas
Less than $5000	4	8
$5000 to $10000	10	18
$10k to $15k	13	25
$15k-20k	60	47
$20k+	56	45
No of plans/areas	143	143

Source: The CIE based on S7.11 plans for Sydney metropolitan areas.

Changes in S7.12 charges for non-residential development

We do not have access to systematic data on the construction costs per metre of floor space from planning applications. To undertake a conversion of different percentage rates to a rate per metre of gross floor area, we have used estimates from quantity surveyors.

A selection of estimated construction costs from BMT quantity surveyors is set out in table 3.4. Based on this, a 1 per cent levy on costs of construction would equate to:

- $10-$15 per m2 of GFA for industrial developments
- $30-40 per m2 of GFA for commercial developments, and
- $20-30 per m2 of GFA for retail developments.

7.20 Costs for different types of non-residential development

	Low	Medium	High
	$/m of GFA	$/m of GFA	$/m of GFA
Industrial			
High Bay Warehouse, standard configuration, concrete floor, metal clad	1 122	1 267	1 366
High Bay Warehouse, standard configuration, concrete floor, pre-cast concrete wall clad	1 377	1 456	1 622
Offices			
1-4 level open plan offices, including A/C & lifts, excluding fit out	2 355	2 626	3 086
4-8 level open plan offices, including A/C & lifts, excluding fit out	2 730	2 929	3 938
8 levels and over, including A/C & lifts, excluding fit out	3 906	4 125	4 313
Retail			
Suburban shopping mall area including A/C	2 941	3 067	3 433
Supermarket, including A/C, excluding fit out	1 864	1 989	2 230

Note: Values are for Sydney.

Source: BMT Quantity Surveyors, https://www.bmtqs.com.au/construction-cost-table.

Changes in S7.12 charges for other types of development

Changes in the structure of S7.12 contributions could also mean that some development is not levied a contribution that currently is. For example, alterations and additions or knock-down rebuilds may not face a contribution if this was levied on a net new dwelling basis. This would be reasonable where these types of development are not leading to any additional infrastructure demand.

S7.12 contributions may also be applied to other development types, such as schools.

What are other impacts of the changes?

There are some aspects of the proposed changes for which the costs and benefits are difficult to model.

- The proposal to benchmark infrastructure costs through IPART could lead to some positive incentives for efficient infrastructure delivery. Alternatively, it may simply lead to reduced contributions but no reduction in infrastructure delivery costs. Applying benchmarks is often a very difficult process because there are different drivers of costs across projects.

- The proposed land contribution model would shift a part of the council contribution for S7.11 plans to land. This would have a positive impact in terms of allocation of risk around land prices — councils would be less subject to these risks, allowing greater certainty that the land required to support infrastructure is available. It may also accelerate the impact of changes to infrastructure contributions being incurred by existing landholders, as they would be required to pay the land component. The final incidence of the contribution should be unaffected.

Overall costs and benefits

The overall estimated costs and benefits of the proposed recommendations are set out in table 7.21. In total, we estimate quantified net benefits of $2.5 to $11.8 billion over 20 years (discounted). The upper end of the range reflects NSW Government infrastructure spending on very high return projects that would not otherwise be funded, and some redirection of funding outside of infrastructure contributions also towards high return projects, as well as a moderate impact on overall planning system operation.

The benefits are strongly driven by changes to local government rate pegging arrangements and additional growth-related state infrastructure. The direct benefits of these changes reflect:

- for councils there is strong evidence that NSW councils' level of service provision cannot accommodate growth because of the structure of the rate peg, and has not been able to accommodate growth historically
- For state infrastructure, there is reasonable evidence of higher returns from the sorts of infrastructure likely to be supported by infrastructure contributions, such as small to medium sized road projects in metropolitan areas.
- The indirect impacts that arise from changing the system relate to providing a system that is more supportive of growth for councils and the community. This is because:
- councils would no longer be financially penalised for having more development and growth
- additional infrastructure would be provided to reduce community concerns about development and growth.

The benefits of these changes have been modelled as making a small contribution to alleviating the problems related to development in NSW. Of course, these types of impacts are highly uncertain, in terms of how long it could take and the magnitude of the impact. However, given the large opportunity from improving the operation of the planning system, and clear evidence about why the community is not supportive of development, even small changes have substantial value.

Changes to infrastructure contributions arrangements would also have a benefit from reduced risk to developers. This arises through releasing local contribution plans at the time of rezoning, simple state contributions and improved market information on contributions through digital tools.

7.21 Overall costs and benefits

	Low	Medium	High
	$m, present value	$m, present value	$m, present value
Net benefits of additional services provided by councils	95	325	556
Better incentives for growth from councils	426	624	822
Better incentives for the community to support development because of state infrastructure	346	507	667
Net benefits of additional and redirected state infrastructure provision	1 575	4 725	9 449
Reduced risk related to infrastructure contributions	47	95	236
Changes to administration costs			
Reduced special rate variations	0	10	19
Reduced NSW Government costs for SICs and VPAs	34	34	34
Digital tool implementation	-15	-15	-15
Developer contributions for water and wastewater	-10	-10	-10
Total	2 498	6 294	11 759
Unquantified			
Reduced rationing of development because of water and wastewater provision	Potentially a moderate positive impact		
Adjustments to method for including land in contributions	This will better allocate risks around land prices, with some small benefits		
Benchmarked costs for contributions plans	This may reduce S7.11 rates, which is a transfer. Overall benefits will be small		
Changes to competition in water and wastewater provision	Likely positive but small		

Note: Using a 20 year period and a discount rate of 7 per cent.

Source: The CIE.

One of the most important factors in the above conclusions is that feasibility in Sydney metropolitan areas is very high, and land prices hold a lot of premium over the opportunity cost of the land. This means that, over time, higher infrastructure contributions will be factored into lower land values, rather than higher housing prices. There is a complex temporal issue around this, as it may take years for existing landholder expectations to adjust. This suggests that a slow and predictable transition would be most likely to achieve benefits.

8 Economic modelling of potential impacts

The CIE has also been asked to estimate the economywide impacts of the proposed changes using a computable general equilibrium (CGE) model. We have employed the CIE Regions model, as set out in appendix E.

CGE modelling is a useful tool to take account of issues such as tax distortions and allocative efficiency. As discussed above, these issues are of less importance in our view, given the housing market circumstances in NSW. The main weakness of CGE modelling for this project is that it does not adequately capture the range of land use planning restrictions that exist and can be understood through the cost benefit analysis and feasibility modelling. This means that additional charges on housing construction will tend to be passed through in part to higher housing prices, while this would not be likely to occur in the longer term in our view, and existing landholders would instead bear the increase. This makes impacts on housing construction pessimistic, and likely somewhat overstates negative impacts from increased infrastructure contributions on the NSW economy.

To model the economic impacts of the proposed changes we have:

- included a tax on the production of housing, commensurate to the change in over infrastructure contributions revenue averaged over 20 years less the change in state administrative costs
- increased rates, to align to the average increase in rates revenue over 20 years
- allowed for the additional taxation to be spent on infrastructure, and allocated to sectors in rough proportion to existing spending (table 8.1)
- provided an increase to housing supply, of an amount represented by the benefits from better incentives for growth for councils and the community and reduced risk around infrastructure contributions, averaged over 20 years.

8.1 Allocation of infrastructure spending

Sector	Share of capital expenditure
	Per cent
Road passenger	72.12
Rail passenger	4.54
Education	8.97
Hospital/medical	0.43
Recreation services	13.79
Other services	0.16

Note: The allocation of spending is based on the pattern for the Western Sydney Special Infrastructure Contributions plan.
Source: The CIE.

The magnitude of the shocks used is set out in table 8.2.

8.2 Inputs into CGE modelling

Type of shock	Size of input	Shock applied
	$m (real) over 20 years, undiscounted	$m/year
Higher rates	13 247	576
Higher infrastructure contributions on development		
local	-1 794	- 41
state	15 101	439
reduced administrative costs	- 19	- 1
total	13 289	397
Additional expenditure on infrastructure/services	26 535	973
Housing supply shock	3 092	155
reduced risk about infrastructure contributions	196	10
better incentives for growth from councils	1 545	77
better incentives for the community to support development because of state infrastructure	1 351	68
total	3 092	155

Source: The CIE.

The impacts on the NSW economy are set out in table 8.3. On average per year over the next 20 years, the changes are expected to increase NSW GSP by $606 million, increase NSW consumption by $528 million and increase employment by 2631 jobs. This reflects:

- negative impacts from increased infrastructure contributions and higher council rates,
- more than offset by positive impacts from increased housing supply and additional infrastructure expenditure.

Note that for each additional dollar raised from infrastructure contributions and council rates and used on infrastructure, the CGE modelling anticipates that long-run consumption, GSP and employment will be higher.

8.3 Impacts on the NSW economy (average per year over 15 years)

Item	GSP	Consumption	Employment
	$m/$10m shock	$m/$10m shock	No./$10m shock
Improved housing productivity	15	6	17
Higher infrastructure contributions	-16	-12	-48
Higher council rates	-8	-11	-58
Additional infrastructure expenditure	15	15	71
	$m/year	$m/year	No//year
Aggregate impacts			
Overall impact	606	528	2 631

Source: The CIE.

A Private sector arrangements for infrastructure contributions

Electricity

In electricity, the Australian Energy Regulator sets out arrangement for new customers to contribute to the capital cost of their electricity network connections. New customers are required to pay for different types of costs depending on the size of the customer connection.

- A single new residential connection would pay for the infrastructure to connect from their home to the existing electricity system.
- For new connections that are larger than a voltage threshold, customers also pay for network augmentation. This is expansion of capacity such as a new substation. Where this will be sufficient for multiple new developments then there is the possibility for refund of some part of costs.
- The capital contribution is in general measured as incremental cost less incremental revenue. However, in NSW where connections, extensions and augmentations can all be provided on a contestable basis (i.e. not just by the regulated distributor), there does not appear to be a deduction for incremental revenue. In NSW accredited service providers can undertake works on behalf of a developer and are paid directly for this.[64]
- These arrangements mean that costs applicable to a development in NSW are different for each development, and are fully reflective of cost differences. This is not universally the case, with non-NSW distributors often using average costs of additional capacity, rather than costs specific to a new development.[65]

Gas

Gas distribution businesses are able to seek a capital contribution for new users.[66] The regulation around this is less prescriptive than for electricity, with gas distribution pricing rules generally ensuring that a user pays somewhere between the avoidable cost and the stand-alone cost of providing services.

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64 AusGrid 2019, *Connections policy – connections charges,* September; AER 2012, Connection charge guidelines for retail electricity customers, June.

65 For example, Ergon Energy, Unit rates for capital contributions.

66 National Gas Rules, Rule 82.

In practice, gas distribution businesses often do not charge for new connections, and even offer discounts (such as vouchers) for new connections.

Telecommunications

Telecommunications services to new development areas are contestable and policy arrangements are set out in *Telecommunications infrastructure in new development*[67]. Key components include:

- Developers can choose amongst infrastructure providers, with NBN Co the provider of last resort for developments greater than 100 lots and Telstra for developments of less than 100 lots;
- Developers will meet the costs of 'pit and pipe' infrastructure. This is the conduits that allows fibre to be connected to premises.
- NBN Co will charge developers a set deployment contribution and retailers a set end-user contribution. It will not charge for backhaul if there is backhaul available, but can charge for backhaul of up to 50 per cent of the first $1000 per lot of capital where backhaul is not available. Above $1000 per lot, developers will pay all costs.
- The telecommunications arrangements are different to other regulated arrangements because they are more prescriptive. The subsidies for backhaul are an interesting counterpoint to caps on local contributions in NSW, because NBN Co subsidises the first part of costs and developers bear the full costs above a threshold. This compares to developers facing no price signal above a threshold for NSW local contributions.

Privately provided services

Many services are provided by private businesses, and involve differences in costs of providing services across areas. For example, the cost of land for supermarkets is different across areas.

Private providers of services address these issues in two ways:

- Providing services at different levels — for example, a supermarket requiring expensive land would have a larger catchment of people to use it so that it could still be profitable, without adjusting prices for products.
- Charging different prices for services. For example, prices for restaurants and accommodation may be higher in places such as Thredbo.

Similarly for government services, standards may not be the same across areas, and the mechanisms for provision of service could adjust to costs and demand. For example, in an area where land was very costly, drainage may be undertaken differently than in areas where land was cheap.

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67 Department of Communications 2015, *Telecommunications in new development,* March. – Note that Telecommunications in new development is currently under review https://www.communications.gov.au/have-your-say/review-telecommunications-new-developments-tind-policy

B Comparison of council finances by state and territory

This appendix documents the finances of local governments in each state and territory. It starts at a high level, then focusses on revenues, and finally focusses on the issue of council rates specifically. In brief:

- **The overall budget situation**: Councils tend to have more revenue than expenses, which means they have a net operating surplus. Revenue has grown faster than expenses over the past two decades, so these surpluses have become larger over time. NSW councils have had large and increasing surpluses, indicating that in general there is little evidence that rate capping has caused financial hardship for councils in total.
- **Revenue components**: In most states, taxation revenue (which includes council rates) have risen just as fast as total revenue, so their reliance on taxation revenue has been stable over time. In contrast, NSW local councils have not been able to increase their taxation revenues as fast as other components of total revenue, so their reliance on taxation revenue has fallen over time. This is evidence that rate capping has changed the composition of revenue.
- **Council rates**: Council rates per capita have been stable in real terms in NSW, but increasing in other states. This suggests that, if rate capping had been absent in NSW, rates would likely have risen in real terms.

Taken together, this suggests that rate caps have reduced NSW council rates, revenues and expenditure relative to what would otherwise have occurred. However, NSW councils have increased revenue from other sources and been given larger grants. As a result, rate capping has not caused much financial hardship for councils in total.

A second question is whether rate capping affects the incentives of *individual* NSW councils to approve developments that increase population. The second part of this appendix addresses that question, and finds that councils with fast growing populations have:

- slower growth in revenue per capita
- slower growth in expenses per capita
- less improvement in their net operating balance.

The data used in this analysis is from the ABS and Office of Local Government as set out below.

- Data on local government finances are taken from Government Finance Statistics 2018-19.[68]

68 https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/5512.02018-19?OpenDocument

- Council rates revenue data is taken from Taxation Revenue release.[69]
- Estimated residential population by State is available in table 4 of the Australian Demographic Statistics.[70]
- Gross State Product of each state and Territory was taken from Table 1 of the State Accounts, 2018-19.[71]
- The All Groups Consumer Price Index in each capital city was taken from Table 1 of the Consumer Price Index release.[72]
- NSW Office of Local Government (OLG) annual reports on council performance. This used all available reports, which covered 1994-95 to 2018-19, though some variables were only available for a subset of reports.[73]

Overall local government finances

Local government budgets are healthy in NSW in total

In aggregate, NSW councils' revenues have tended to exceed their expenses. As a result, their net operating balance (revenue less expenses) is typically positive. Revenue growth has been specially fast in recent years, which has caused large increases in the net operating balance.

69 https://www.abs.gov.au/AUSSTATS/abs@.nsf/second+level+view?ReadForm&prodno=5506.0&viewtitle=Taxation%20Revenue,%20Australia~2018-19~Latest~28/04/2020&&tabname=Past%20Future%20Issues&prodno=5506.0&issue=2018-19&num=&view=&

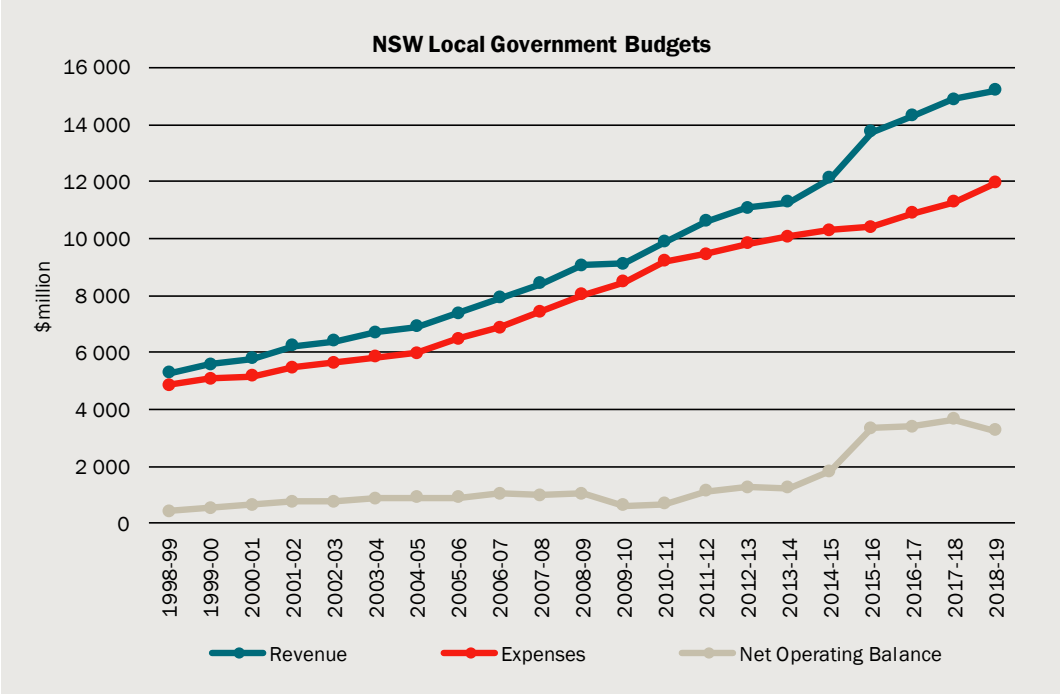
70 https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/3101.0Dec%202019?OpenDocument

71 https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/5220.02018-19?OpenDocument

72 https://www.abs.gov.au/AUSSTATS/abs@.nsf/mf/6401.0?opendocument&ref=HPKI

73 https://www.olg.nsw.gov.au/public/about-councils/comparative-council-information/your-council-report/

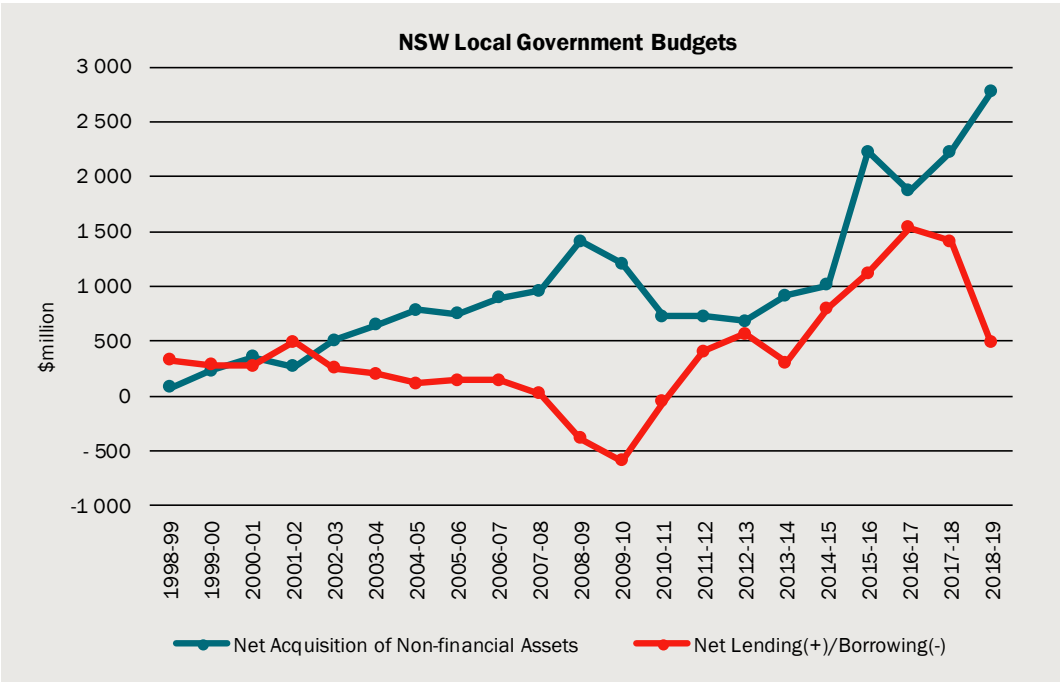
B.1 NSW Local Government Budget



Data source: The CIE based on data sources set out in text.

In NSW, local governments have used most of their positive net operating balances to fund the net acquisition of non-financial assets. The remainder is used on net lending. A similar pattern is observed in other states.

B.2 NSW Local Government balance sheet

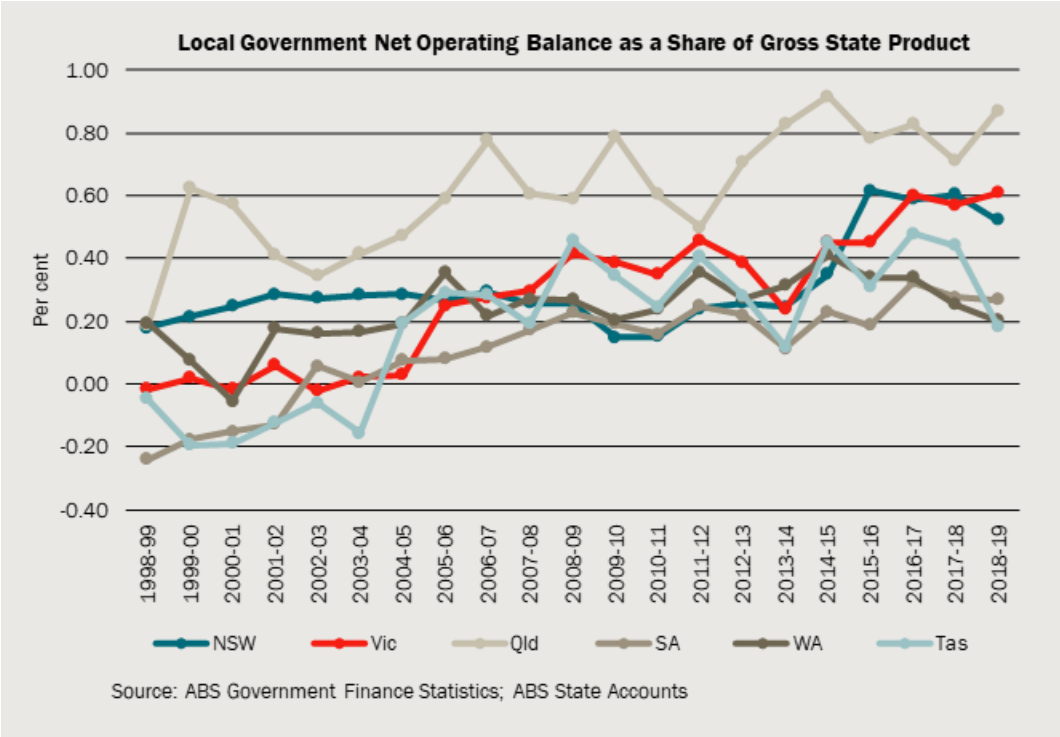


Data source: The CIE based on data sources set out in text.

■ **Local government budgets are also healthy in other states in total**

Local governments in all states tend to have higher revenue than expenses, and hence run large net operating surpluses. As in NSW, these surpluses are used mainly to fund the net acquisition of non-financial assets, rather than net lending.

B.3 Local Government Net Operating Balance as a share of GSP



Data source: The CIE based on data sources set out in text.

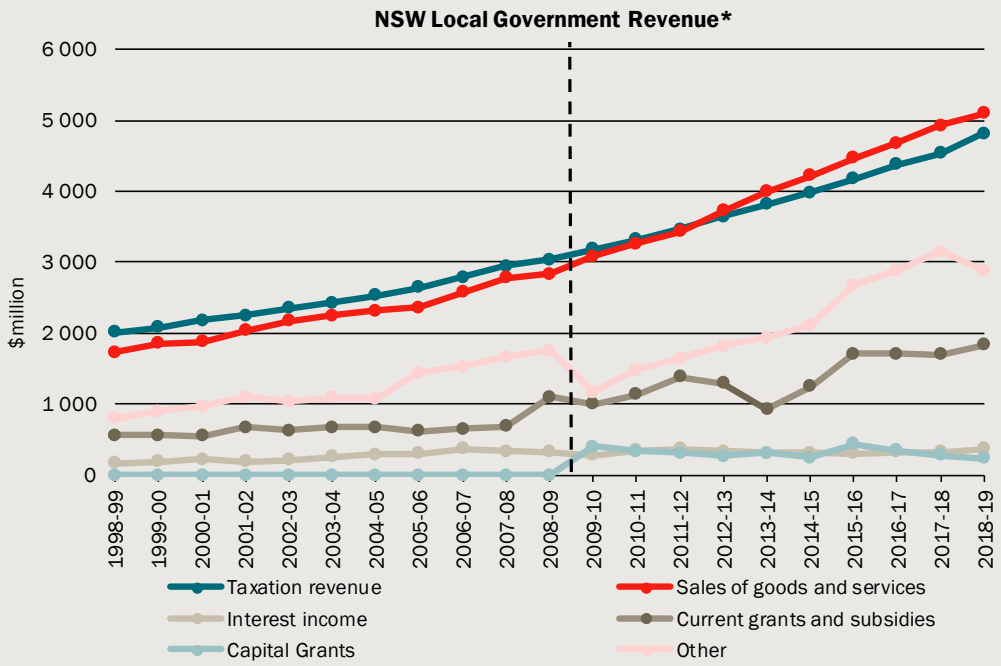
Revenue Components

■ **In NSW, taxation revenue has risen, but not as fast as other components**

In NSW, taxation revenue has grown over time, but not as quickly as other components of revenue. As a result, taxation revenue has declined as a proportion of total revenue. The most likely reason for this is that NSW has had rate capping since 1977. [74] Notably, the rate caps do not appear to be causing financial distress for most councils. NSW local governments have still experienced rapid increases in revenue and operating surpluses.

74 https://www.lga.sa.gov.au/sa-councils/local-government-in-sa/rate-capping

B.4 NSW local government revenue



Data source: The CIE based on data sources set out in text.

In other states, taxation revenue has kept pace with other components

Recall that other States also experienced rapid increases in Revenue. In these other States, taxation revenue rose just as fast as other components. This rapid increase was possible because Victoria did not introduce rate capping until 2016, and the other states still do not have rate capping. [75] As a result, taxation revenue has been stable as a share of total revenue (with the exception of a sharp increase in Tasmania![76]). This stands in contrast to NSW, where taxation revenue has declined as a share of total revenue.

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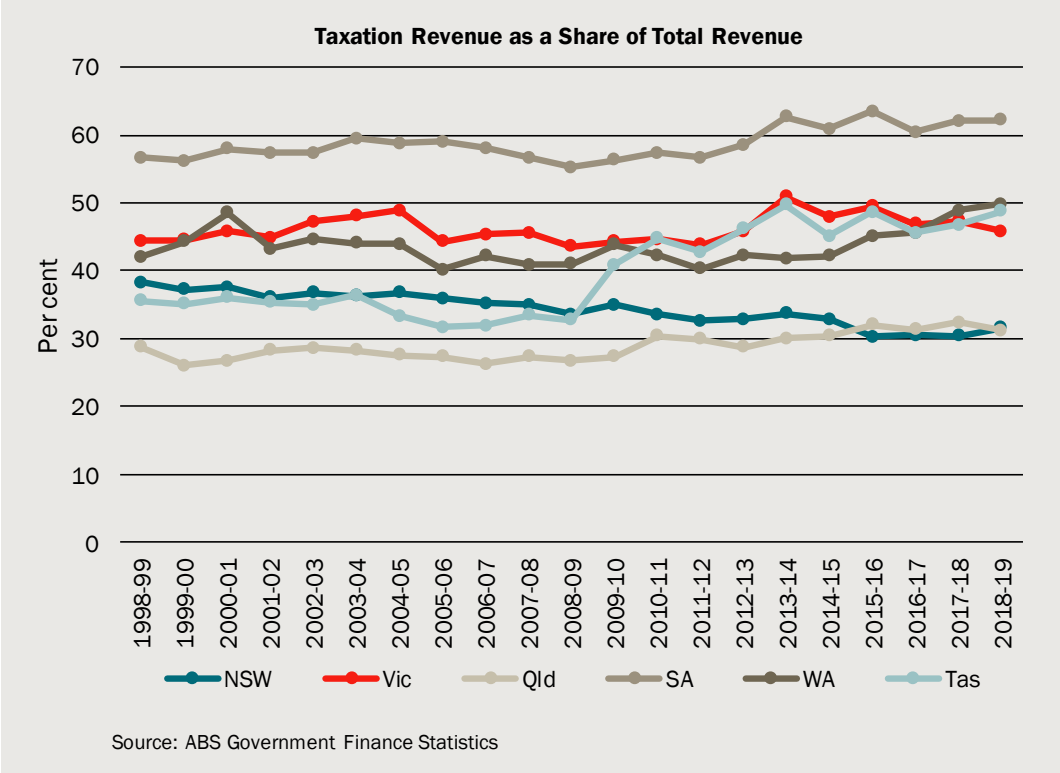
75 https://www.lga.sa.gov.au/sa-councils/local-government-in-sa/rate-capping

76 The rapid increase in taxation revenue's share of total revenue in Tasmania occurred in 2009-10. This was driven by a large fall in sales of goods and services, which reduced total revenue. In the same year, Tasmanian local councils reduced their expenses substantially. This suggests to me that responsibility for the provision of some service was shifted from Tasmanian governments to some other entity, such as the State government, or to public corporations (who do not appear as part of 'general government – local' in the government finance statistics). I have yet to investigate this further.

B.5 Council tax revenue as a share of revenue



Data source: The CIE based on data sources set out in text.

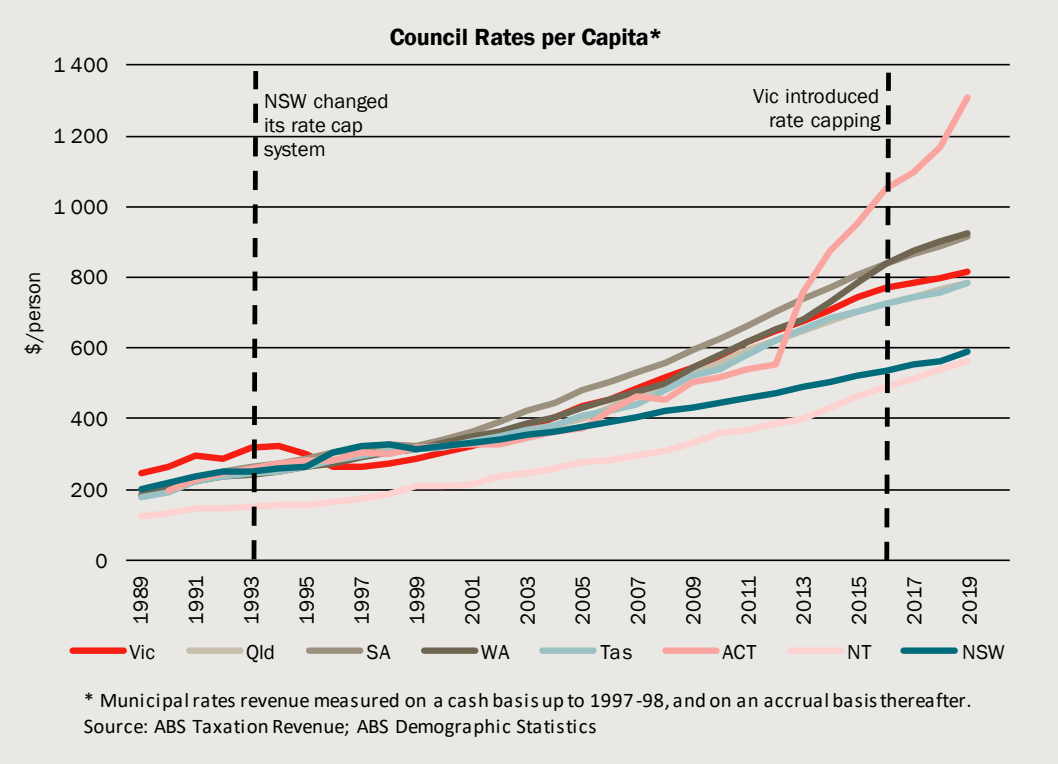
Council rates per capita

Some policymakers are concerned that, due to rate capping, council rates revenue may not keep pace with the demands of an increasing population. In all States and Territories, council rates have risen faster than population, causing council rates per capita to rise (especially in the ACT[77]). However, growth has been slower in NSW than elsewhere.

Council rates have grown especially quickly in the ACT since it began shifting away from stamp duties and towards land taxes. Growth has been slower in NSW than elsewhere.

77 The ACT government has begun reducing stamp duty and increasing land tax. Since the ACT lacks a local government, the ACT land taxes are classified as council rates in the ABS taxation revenue release.

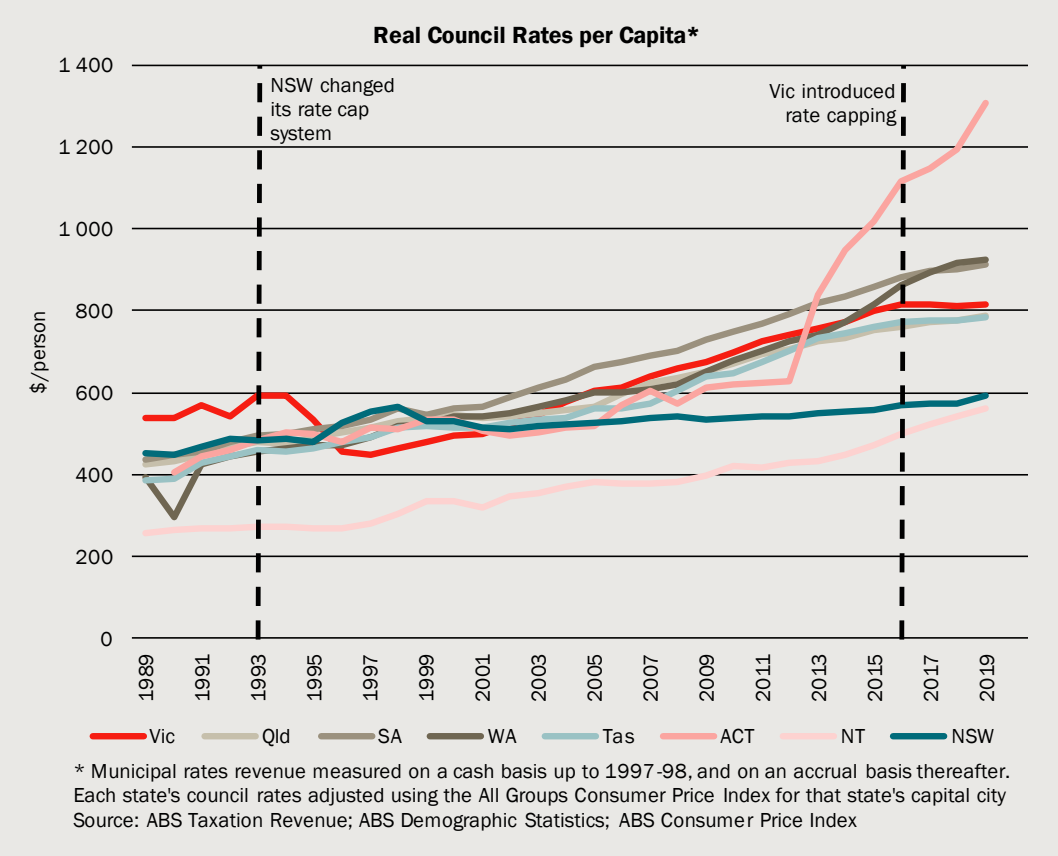
B.6 Council rates per capita



Data source: The CIE based on data sources set out in text.

In real terms, council rates per capita have grown strongly in most States. The exceptions are States and Territories with rate pegs. NSW's real council rates per capita have been stable since the late 1990s. Victoria's real council rates per capita grew rapidly until the introduction of a rate cap in 2016, and have been stable since then.

B.7 Council rates per capita



Data source: The CIE based on data sources set out in text.

NSW council finances and population growth

In this section, we analyse the relationship between NSW council's finances and population. The key findings are that councils with fast growing populations have:

- slower growth in revenue per capita
- slower growth in expenses per capita
- less improvement in their net operating balance.

The dataset used in this analysis was formed by combining data from the NSW Office of Local Government (OLG) annual reports on council performance. This used all available reports, which covered 1994-95 to 2018-19, though some variables were only available for a subset of reports.[78] Consistently relying on the OLG data improves the accuracy of comparisons of different variables, such as comparisons of revenue growth and population growth. This is because it ensures that different variables are measured under the same definition of LGAs. It also makes it more likely that different financial variables are measured using a similar set of accounting conventions.

78 https://www.olg.nsw.gov.au/public/about-councils/comparative-council-information/your-council-report/

A caveat with this analysis is that the population data is subject to some error, and tends to jump up or down in census years.

In the analysis that follows, the sample of councils comprises all NSW councils except:

- Councils formed by mergers in 2000, 2004 and 2016.[79]
- Albury, Lithgow and Oberon LGAs (whose boundaries changed in 2004)
- Hornsby and Hills LGAs (whose boundaries changed in 2016).

These councils are excluded to ensure that the LGAs in the sample have consistent boundaries over time. This makes it possible to interpret growth rates in revenues, costs and population in each LGA as a reflection of economic developments, rather than boundary changes.

Revenue, Expenses and Net Operating Balance

NSW councils with rapid population growth had lower revenue per capita growth. These councils responded by restraining growth in expenditure per capita. In aggregate, the net operating balances of NSW councils improved over the past two decades. However, the net operating balances of councils with fast growing populations did not increase as much, as their lower revenue per capita growth more than offset their lower expenditure per capita growth.

- Councils that have had more rapid population growth have had faster revenue growth (chart B.8)
- However, on a per capita basis, councils have had slower per capita growth in revenue if they have had faster population growth (chart B.9)
- Expenditure per capita has also growth less rapidly for councils with faster population growth (chart B.10)
- And the net operating balance has not improved as rapidly for councils with faster population growth (chart B.12).

The above impacts appear to be heavily driven by outcomes for rates revenue, with rates revenue growth per capita being slower for councils with faster population growth (chart B.15).

This suggests that the current system is likely to have financial incentives that penalise councils that have a higher amount of development, because their revenue per capita grows less rapidly, potentially resulting in a decline in the quality of council services in LGAs with rapid population growth relative to in LGAs with low population growth. However, it is also possible that this decline in relative quality did not occur, as LGAs with rapid population growth may experience economies of scale that allow them to provide a given service quality at lower cost.

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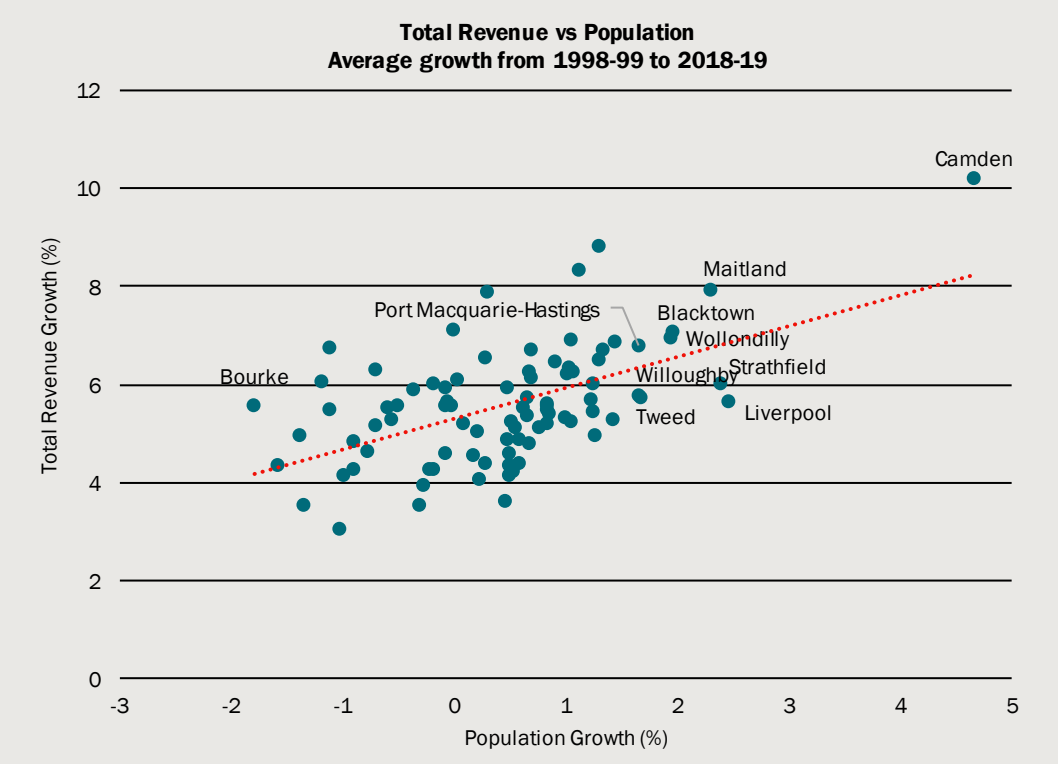
79 Councils formed by mergers were excluded even if they have the same name as one of their predecessors. E.g. In 2004, South Sydney council and Sydney council merged to form the identically named Sydney council, so I excluded these councils.

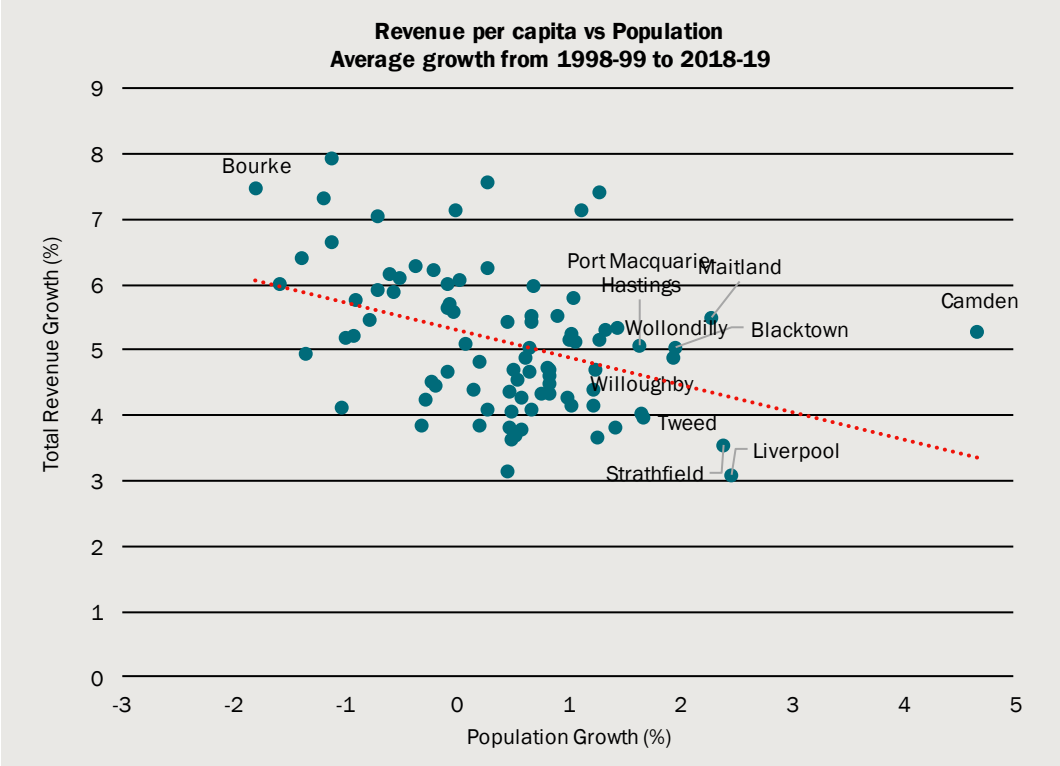
B.8 Total revenue growth and population growth



Note: Excludes LGAs that did not exist for the entire sample period. Excludes Albury, Lithgow & Oberon, whose borders changed in 2004. Excludes Hills & Hornsby, whose borders changed in 2016.

Data source: The CIE, based on data from https://www.olg.nsw.gov.au/public/about-councils/comparative-council-information/your-council-report/.

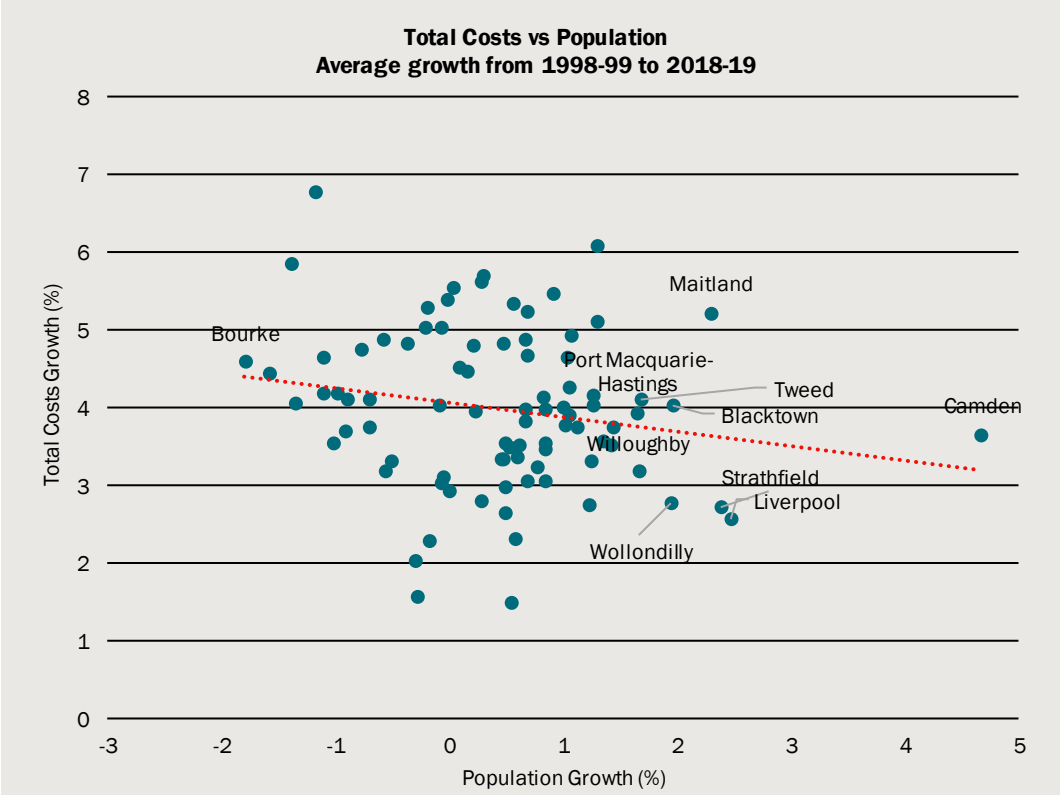
B.9 Revenue per capita growth and population growth



Note: Excludes LGAs that did not exist for the entire sample period. Excludes Albury, Lithgow & Oberon, whose borders changed in 2004. Excludes Hills & Hornsby, whose borders changed in 2016.

Data source: The CIE, based on data from https://www.olg.nsw.gov.au/public/about-councils/comparative-council-information/your-council-report/.

B.10 Expenditure per capita growth and population growth



Note: Excludes LGAs that did not exist for the entire sample period. Excludes Albury, Lithgow & Oberon, whose borders changed in 2004. Excludes Hills & Hornsby, whose borders changed in 2016.

Data source: The CIE, based on data from https://www.olg.nsw.gov.au/public/about-councils/comparative-council-information/your-council-report/.

The response of revenue per capita to population is quite strong. For every 1 percentage point increase in population growth over the sample period, revenue per capita growth was reduced by 1.32 percentage points. The response of expenditure per capita to population is weaker. The estimates suggest that every 1 percentage point increase in population growth, expenditure per capita growth was reduced by 0.45 percentage points, and this relationship is not statistically significant.

B.11 Revenue and expenditure against population growth

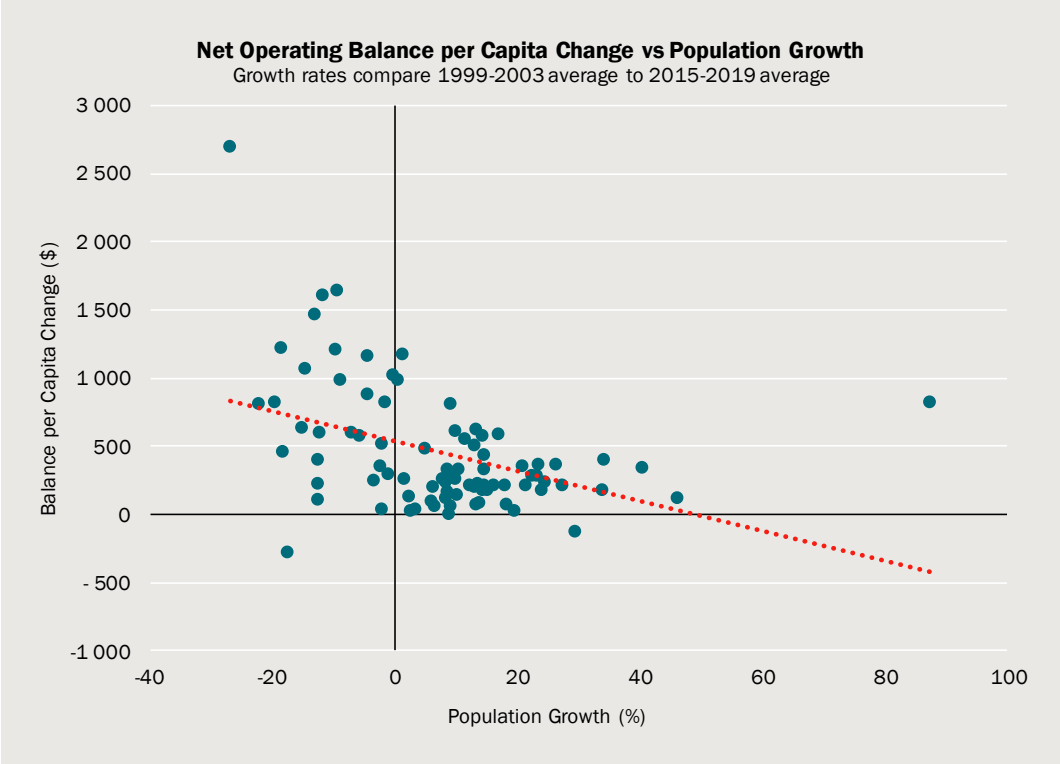
Dependent variable	Revenue per capita growth from 1999 to 2019	Expenditure per capita growth from 1999 to 2019
Estimated coefficients:		
Intercept	189.548***	126.167***
	(6.592)	(5.209)
Population growth from 1999 to 2019	-1.322***	-0.4531
	(0.294)	(0.2323)
Sample size	85	85
R2	0.1939	0.0433

Note: Standard errors are in brackets. $p < 0.001$ is ***, $p < 0.01$ is **, $p < 0.05$ is *

Source: The CIE.

In aggregate, NSW councils have higher revenue than expenses, which results in net operating surpluses. Moreover, these surpluses have grown over time. Councils with fast growing populations experienced lower revenue per capita growth, which will worsen their net operating balance. On the other hand, they experienced lower expenditure per capita growth, which will improve their net operating balance. The former effect dominates, so councils with fast growing populations tend to experience smaller improvements in their net operating balance.[80]

B.12 Net operating balance per capita and population growth



Note: Excludes LGAs that did not exist for the entire sample period. Excludes Albury, Lithgow & Oberon, whose borders changed in 2004. Excludes Hills & Hornsby, whose borders changed in 2016.

Data source: The CIE, based on data from https://www.olg.nsw.gov.au/public/about-councils/comparative-council-information/your-council-report/.

The estimated relationship is quite strong, and is highly statistically significant. A council whose population growth was 0% over the sample period would be expected to see their net operating balance per capita improve by $535. However, a council whose population growth was 30% over this period (which is not unusual) would be expected to have their net operating balance per capita improve by just $205.

---

80 This graph shows the change in net operating balance per capita over the sample period. However, rather than comparing the level of the balance in 2019 with its level in 1999 (as was done for the earlier graphs), it compares the *average* level from 2015-2019 with the *average* level from 1999-2003. The reason for this is that the net operating balance of an individual council tends to fluctuate a lot from year to year. Comparing the last year with the first year would place too much emphasis on what the level of the balance happened to be in those years, when it may have been temporarily high or low. Comparing an average over 5 years with another average over 5 years makes it easier to discern the economic relationships of interest.

B.13 Net operating balance and population growth

Dependent variable	Net Operating Balance per capita: change from 1999-2003 to 2015-2019
Estimated coefficients:	
Intercept	535.391***
	(49.713)
Population growth from 1999-2003 to 2015-2019	-10.999***
	(2.673)
Sample size	85
R2	0.1678

Note: Standard errors are in brackets. p < 0.001 is ***, p < 0.01 is **, p < 0.05 is *

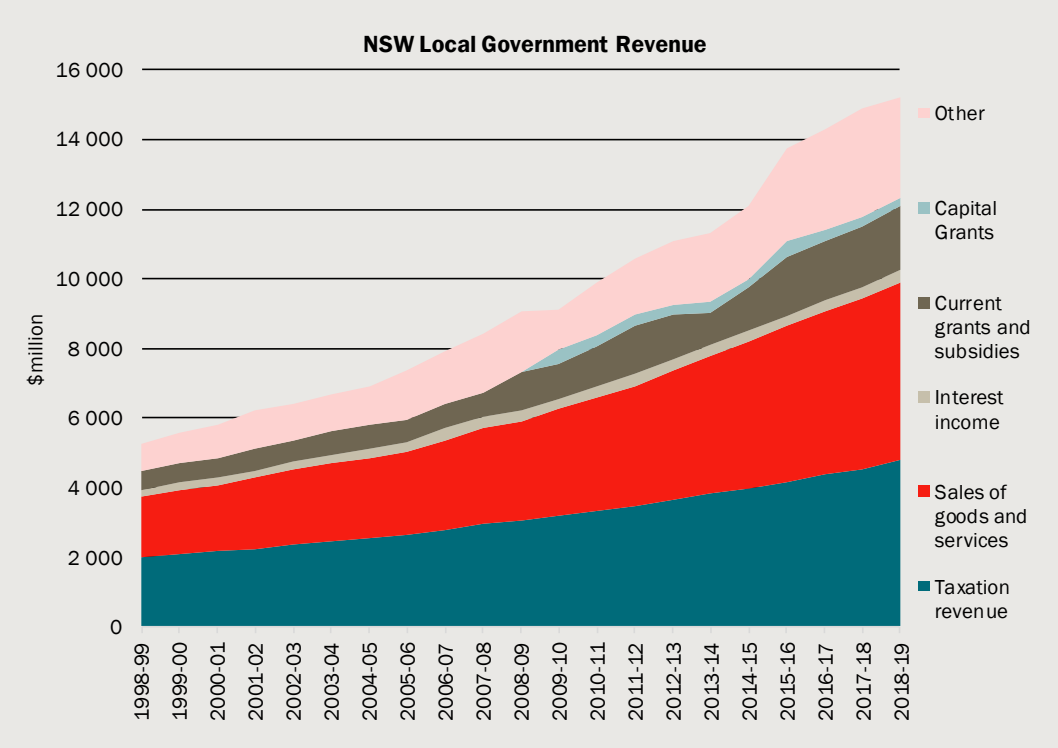
Source: The CIE.

What role do council rates play?

Some councillors may be reluctant to approve developments that increase the population of their local government area, as councils with fast growing populations tend to have lower revenue per capita growth.

To understand why councils with rapid population growth have lower revenue per capita growth, it is useful to gain an appreciation for the variety of council revenue sources. Taxation revenue, which includes council rates, now accounts for around a third of revenue (Graph 5). Sales of goods and services, which are also called 'user charges' make up another third. The remainder comprises grants from the NSW and Federal governments, interest income, and a variety of smaller sources.

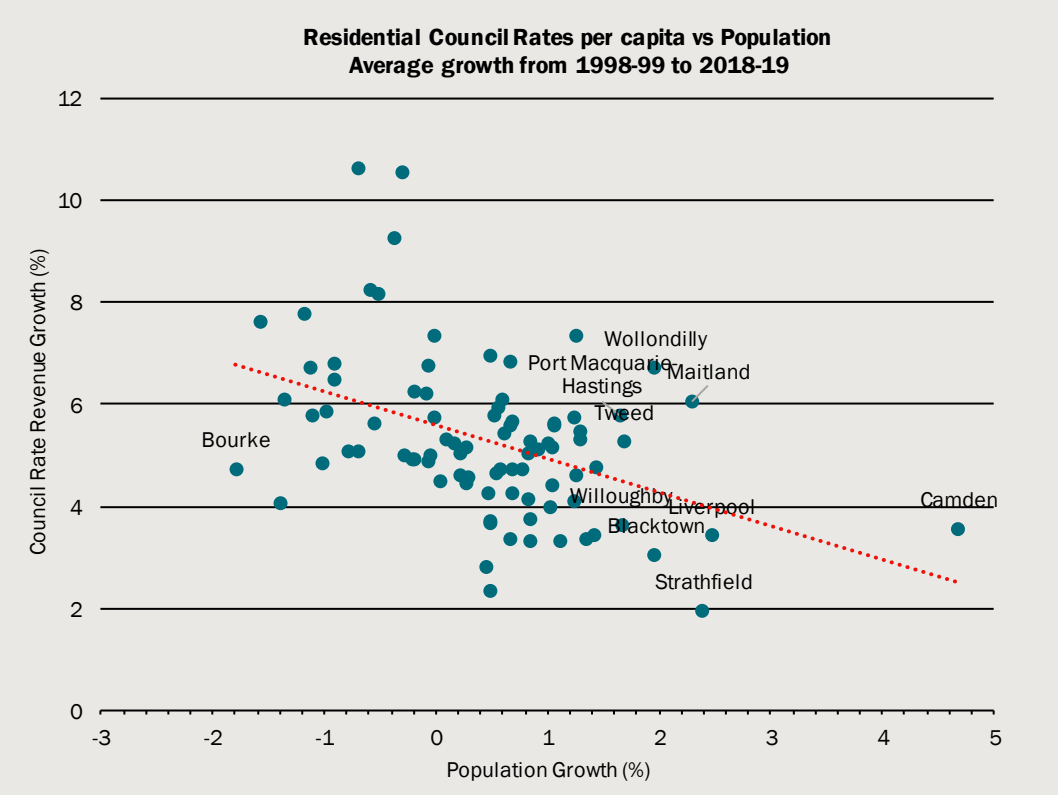
B.14 NSW local government revenue



Data source: ABS Government finance statistics.

A major part of taxation revenue are council rates (which includes residential, business, farmland and mining rates). Councils with rapid population growth from 1999 to 2019 had lower growth in council rates per capita over this period (Graph 6). This *partly* explains why these councils had lower revenue per capita growth over this period. Remember that council rates are only part of taxation revenue, which is in turn only a third of council revenues.

B.15 Rates revenue per capita and population growth



Note: Excludes LGAs that did not exist for the entire sample period. Excludes Albury, Lithgow & Oberon, whose borders changed in 2004. Excludes Hills & Hornsby, whose borders changed in 2016.

Data source: The CIE, based on data from https://www.olg.nsw.gov.au/public/about-councils/comparative-council-information/your-council-report/.

The estimated relationship is statistically significant (Table 3). A council whose population did not change over the two decade period would expect to see rates revenue per capita rise by 167%. A council whose population rose by 25% over this period (which would not be unusual), would expect to see rates revenue per capita rise by 144%.

B.16 Rates revenue and population growth

Dependent variable	Rates Revenue per capita growth from 1999 to 2019
Estimated coefficients:	
Intercept	168.584***
	(8.697)
Population growth from 1999-2003 to 2015-2019	-0.954*
	(0.398)
Sample size	85
R2	0.06717

Note: Standard errors are in brackets. p < 0.001 is ***, p < 0.01 is **, p < 0.05 is *

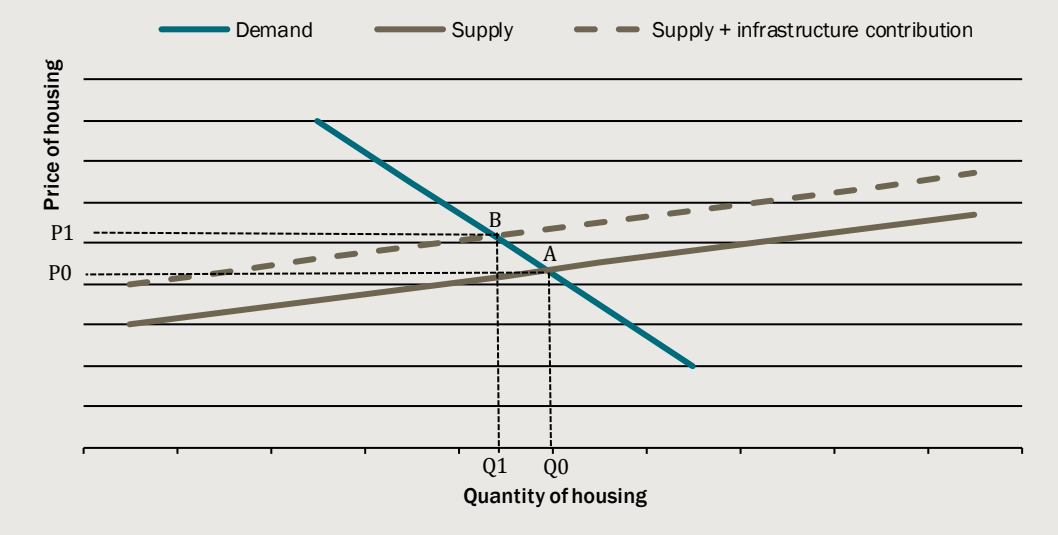
Source: The CIE.

C Impacts of infrastructure contributions with and without a quantity constraint

Infrastructure contributions with no other regulations

In a market with no other distortions, an infrastructure contribution is a straightforward upward shift in the supply curve for supplying property, such as housing (chart C.1). In this case, the infrastructure contribution increases the price of housing and reduces the quantity supplied.

C.1 Infrastructure contributions with no other regulations

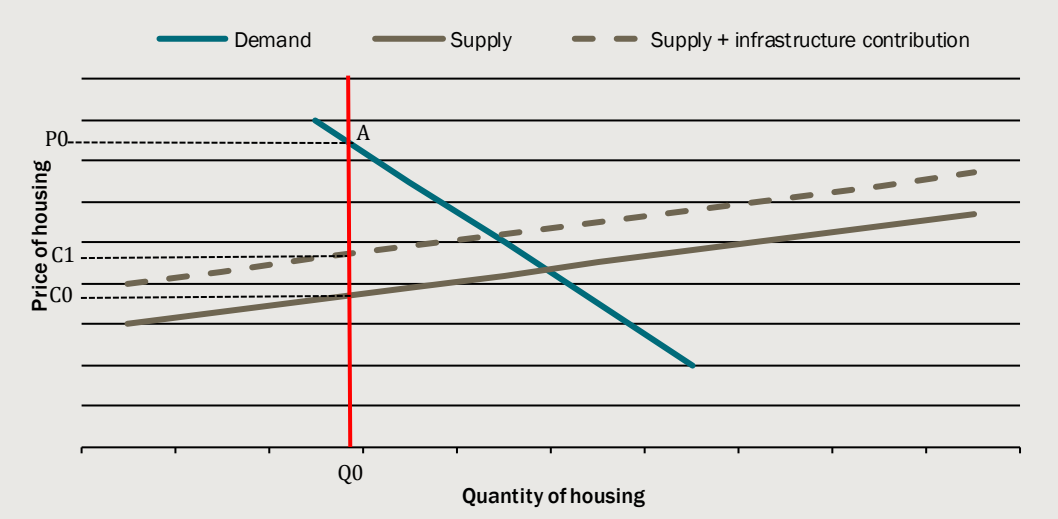


Data source: The CIE.

Infrastructure contributions with a quantity restriction

In contrast, if there is a quantity restriction on new housing, such as shown in the red vertical line in chart C.2, then the infrastructure contribution does not have any impact on the price or quantity of housing. However, it would reduce the difference between the price and the cost.

C.2 Infrastructure contributions with a quantity restriction



Note: The quantity of housing produced with and without an infrastructure contribution is Q0, at a price of P0. The cost is C0 and C1, with the gap between the cost and price likely to largely end up in existing land prices.

Data source: The CIE.

In practice, it will be quite important exactly how the planning system is operating. For example, if there is a hard quantity constraint, then the effects of an infrastructure contribution will be minimal on prices and supply. However, if the planning system is instead acting to increase the cost of housing, but does not act as a hard constraint, then a infrastructure contribution would further increase costs, increase prices and reduce the quantity of housing.

D CIE REGIONS model

The CGE modelling is carried out with the CIE's in-house model of the Australian economies, CIE-REGIONS. This appendix provides a brief introduction to the model and the simulations for this project.

The model

CIE-REGIONS model is a general equilibrium model of the Australian economy. It was developed by the Centre for International Economics based on the publicly available MMRF-NRA model developed by the Centre of Policy Studies for the Productivity Commission.[81]

Some of the key aspects that make this model especially suited for this task are that it:

- uses the latest input-output table
- provides a detailed account of industry activity, investment, imports, exports, changes in prices, employment, household spending and savings and many other factors;
- this version of the CIE-REGION model identifies 53 industries and commodities (table D.1)
- accounts for Australia's six states and two territories as distinct regions
- accounts for differing economic fundamentals in the states and territories
- state and territory results can be further disaggregated down to statistical division (SD) level
- includes specific details about the budgetary revenues and expenditures of each of the eight state and territory governments and the Australian Government (the government finances in CIE-REGIONS align as closely as practicable to the ABS government finance data)
- specifically accounts for major taxes including land taxes, payroll taxes, stamp duties and others at the state level, as well as income taxes, tariffs, excise, the GST and other taxes at the federal level (table D.2).
- traces out the impact of transfers between governments
- can be run in a static or dynamic mode. The dynamic version allows analysis to trace impacts over time as the economy adjusts, being particularly useful over the medium to longer terms.

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81 Productivity Commission 2006, *Potential Benefits of the National Reform Agenda*, Report to the Council of Australian Governments, available at http://www.pc.gov.au/research/commissionresearch/nationalreformagenda

The CIE has used CIE-REGIONS to analyse the impacts of a wide range of policy issues, including state tax reform, proposed reform options on accelerated depreciation, energy policy and climate change policy measures, international trade agreements, government R&D policy, local infrastructure development, and industrial development strategies, as well as projections of agriculture, mining and energy industries and greenhouse gas emissions.

D.1 CIE-REGIONS industries/commodities and margin services

Industries/commodities			
1	Sheep and cattle	28	Residential building construction
2	Grains	29	Other construction
3	Other animal	30	Construction services
4	Other agriculture	31	Trade
5	Forestry	32	Accommodation and food services
6	Fishing	33	Road freight transport
7	Coal	34	Road passenger transport
8	Oil	35	Rail freight transport
9	Gas	36	Rail passenger transport
10	Metal ores	37	Transport services
11	Other mining	38	Water transport
12	Meat products	39	Air freight transport
13	Other food manufacturing	40	Air passenger transport
14	Textiles, clothing and footwear	41	Communication services
15	Wood products	42	Finance
16	Paper products	43	Dwellings
17	Printing and publishing	44	Business services
18	Petroleum products	45	Scientific and technical services
19	Chemicals	46	Government administration and defence
20	Non-metal construction materials	47	Education
21	Basic metals	48	Hospitals
22	Metal products	49	Medical and other health care services
23	Transport equipment	50	Community care services
24	Professional and scientific equipment	51	Cultural services
25	Electronic equipment	52	Recreational services
26	Other manufacturing	53	Other services
27	Utilities		

Margin services	
Utilities (part of commodity 27)	Transport services (part of commodity 37)
Trade (part of commodity 31)	Water transport (part of commodity 38)

Margin services	
Accommodation and food services (part of commodity 32)	Air freight transport (part of commodity 39)
Road freight transport (part of commodity 33)	Finance (part of commodity 42)
Rail freight transport (part of commodity 35)	

Source: CIE-REGIONS database.

D.2 Federal and state taxes

Federal taxes	State, territory and local government taxes
Good and service tax (GST)	Payroll tax
Sales taxes	Land tax
Excises and levies	Municipal rates
Labour income tax	Fire surcharges
Company income tax	Stamp duties on
Non-residents income tax	- insurance
Import duties	- financials
Export taxes	- motor vehicle
	- residential property
	- non-residential property
	- non-residential non-real estate

Source: CIE-REGIONS database.

Simulations

Thirteen simulations were carried out with CIE-REGIONS to model four state taxes or charges and one productivity improvement in the residential construction sector in NSW:

- $10 million increase in stamp duty on residential buildings
- $10 million increase in payroll tax
- $10 million increase in production tax on residential building construction
- $10 million increase in council rate, and
- Productivity improvement equivalent to $10 million cost reduction in residential building construction.

For the first 4 taxes and charges modelling, each has three different ways of disposing the additional revenue:

- Lump sum transfer to households with the same amount – this is a standard modelling approach to estimate the marginal excess burden (MEB)
- Retaining the additional revenue by the government in the revenue pool, and
- Higher capital stock by allocating the additional revenue to infrastructure investment (table D.3).

D.3 Sectoral capital increase from additional revenue

CIE-REGIONS sector	Allocated revenue	Share
	$ million	%
Road passenger transport	7.21	72.12
Rail passenger transport	0.45	4.54
Education	0.90	8.97
Hospital and medical care	0.04	0.43
Recreational services	1.38	13.79
Other services	0.02	0.16
Total	**10.00**	**100.00**

Source: CIE

Simulations are run with a long run closure where the national labour market is assumed to be at the long run equilibrium of full employment, that is the employment is fixed at the national level, while some labour mobility is allowed across states and territories.

State population is assumed to change along the change in state employment, which essentially assumes fixed participation rate for a state/territory in the simulation.

The results

Impact on household consumption

Impacts on household consumption are generally used as a welfare measurement of policy changes. Tables D.4 and D.5 report the impacts on total household consumption and per capita consumption, respectively, in NSW.

D.4 Impact on total household consumption in NSW

	Return to household	Not return to household	Allocated to infrastructure investment	Productivity in residential building
	$m	$m	$m	$m
Stamp duty	-7.22	-16.93	-1.94	
Payroll	-7.91	-17.77	-4.76	
Production tax on residential building	-2.29	-12.10	1.85	
Council rates	-0.83	-10.55	4.62	
Cost reduction in residential building				6.39

Source: CIE-REGIONS simulations

The first column in the tables shows the deadweight loss of different state taxes and charges. Payroll tax has the highest deadweight loss of $7.9 million, closely followed by stamp duty on residential buildings at $7.2 million. By contrast, council rates have the

lowest deadweight loss of $0.83 million. These results are similar to those found by the Henry Tax review.[82]

The second column reports impacts on household consumption assuming that the additional revenue is not transferred to households. As a result, the total household consumption further falls by roughly $10 million from the first column.

D.5 Impact on per capita consumption in NSW

	Return to household	Not return to household	Allocated to infrastructure investment	Productivity in residential building
	$	$	$	$
Stamp duty	-0.89	-2.09	-0.24	
Payroll	-0.98	-2.20	-0.59	
Production tax on residential building	-0.28	-1.50	0.23	
Council rates	-0.10	-1.30	0.57	
Cost reduction in residential building				0.79

Source: CIE-REGIONS simulations

The third column reports the impact of allocating additional revenue to infrastructure investment. As the investment results in higher capital stock, more production resources are available for NSW, leading to further reduction in the adverse impacts on household consumption. In fact, for the production tax and council rates that have relatively small deadweight loss, the expansion effects of additional capital stock are bigger, resulting in positive impacts on household consumption.

Productivity improvement is always welfare enhancing because more products and services could be produced with the same amount of resources.

Impact on GSP

Table D.6 reports the impact on gross state product (GSP) in NSW. GSP is a measurement of overall economic activity in an economy. The pattern of GSP impacts across different simulations are different from the pattern of consumption impacts.

For example, while the production tax on residential building has much smaller adverse impact on household consumption than payroll tax when the additional venue is transferred to the household, the difference in GSP impacts of these two taxes/charges are proportionately smaller. This is because payroll tax increases the cost of labour, and thus reduce the employment and labour income more, affecting the consumption directly. By contrast, production tax on residential building affects the consumption more indirectly through higher overall cost/price, but the fall in residential building activities has relatively stronger flow-on effects (less demand from the sector for other products and services), resulting in relatively bigger impact on economic activities.

82 Commonwealth of Australia 2010, *Australia's future tax system: Report to the Treasurer – Part One: Overview*, Chart 1.5, p.13

D.6 Impact on gross state product (GSP) in NSW

	Return to household	Not return to household	Allocated to infrastructure investment	Productivity in residential building
	$m	$m	$m	$m
Stamp duty	-8.50	-12.70	2.13	
Payroll	-16.12	-21.37	-7.59	
Production tax on residential building	-11.06	-15.78	-1.69	
Council rates	-3.55	-7.75	7.39	
Cost reduction in residential building				14.75

Source: CIE-REGIONS simulations

When the additional revenue is retained by the government, additional government spending would boost the economic activity, partly offsetting the adverse impacts of lower household consumptions on economic activity. This is why the additional impact on GSP is less than $10 million, compared to the scenario where additional revenue is transferred to households.

For the infrastructure investment scenario, additional capital resources lead to higher level of production, offsetting the adverse impact of charging additional taxes and fees. Compared to the impacts of returning additional revenue to households, this additional capital resources leads to around $10 million more in overall economic activity.

As discussed above, productivity improvement boosts overall economic activity because more products and services could be produced with the same amount of resources.

Impact on employment

Table D.7 reports the impact on employment in NSW.

D.7 Impact on total employment in NSW

	Return to household	Not return to household	Allocated to infrastructure investment	Productivity in residential building
	FTE	FTE	FTE	FTE
Stamp duty	-23	-51	20	
Payroll	-65	-108	-38	
Production tax on residential building	-13	-48	21	
Council rates	-30	-58	15	
Cost reduction in residential building				17

Source: CIE-REGIONS simulations.

E Development feasibility model

Data sources

The development feasibility model uses lot level data on land values, purchase prices and zoning provided by NSW LPI to determine under a range of scenarios whether any given lot would be commercially viable to be developed.

In addition to this dataset, the model combines a range of other information sources as part of the calculations, including:

- Residential property price indexes from the ABS — these are used to price update the most recent sales price information to 2020 values[83]
- Planning requirement information from DPIE — such as minimum lot size data, to inform the scope of development possible on any given lot for different development types (e.g. such as subdividing a lot)
- Suburb level median sale price data from Core Logic[84] — this gives the median sale price of houses and units by suburb over the last 12 months, in addition to the estimated average value of houses and units in each suburb. We use this dataset to supplement the LPI dataset where there are insufficient transactions to determine the average sale price of a dwelling.
- Data and assumptions from the DPIE Urban Feasibility Model — to build consistency with existing tools, we assume the same cost assumptions as the UFM for a range of development types (high density, medium density and low density/detached)
- Assumptions on typical building types and sizes from RBA research on apartments[85]
- Information on the greenfield housing code from DPIE — this informs which lots in our study areas are classified as greenfield (and therefore have the potential to be developed)[86]

83 ABS Residential Property Price indexes, https://www.abs.gov.au/statistics/economy/price-indexes-and-inflation/residential-property-price-indexes-eight-capital-cities/latest-release

84 See https://www.corelogic.com.au/reports/market-trends-suburb-data

85 See The Apartment Shortage, Keaton Jenner and peter Tulip, RBA April 2020, at https://rba.gov.au/publications/rdp/2020/pdf/rdp2020-04.pdf

86 https://www.planning.nsw.gov.au/Policy-and-Legislation/Housing/Greenfield-Housing-Code/Maps

Measuring commercial feasibility

For a development to be commercially feasible, the gap between the final sale price of the development (e.g. the final sale price of a new dwelling or number of dwellings) must be sufficiently greater than all of the associated costs of the development, such that the developer receives a return that makes the development worthwhile (commercial).

The equation for measuring commercial feasibility is given as:

$$Total\ sale\ price - 1.2 * (Construction\ cost + site\ purchase\ price + stamp\ duty + DA\ fees + (Local\ Infrastructure\ contributions + greenfield\ development\ costs + biodiversity\ offsets) * number\ of\ dwellings)) + GST$$

There are numerous costs associated with development, all of which detract from the commercial feasibility of a development project the larger they become. A detailed breakdown of the above cost elements is provided in table E.1.

E.1 Drivers of commercial feasibility for developers

Component	Description	Source
Site acquisition costs	The purchase price of land and any existing structures on the site	LPI dataset
Construction costs	Includes the costs of demolition, constructing of buildings, car parking and other site works	DPIE UFM assumptions (see table E.2)
Financing costs	Interest rate charges on debt used to finance the development (assumed rate 10 per cent)	RBA, The Apartment Shortage (research discussion paper, April 2020)
Government charges	Includes local infrastructure charges based on average charge per dwelling by LGA, plus an assumed SIC rate	CIE calculations using dataset on local infrastructure contributions provided by DPIE
Taxes	Includes stamp duty as part of site acquisition and GST on construction	Revenue NSW
Greenfield costs	Relates to the cost of developing on greenfield sites, such as on-site electricity, water and wastewater, earthworks etc — $59 475 per dwelling	Capital city cost review – Greenfield Urban Development, SMECC 26 June 2018, p17
Biodiversity offset costs	Assumed cost per dwelling for clearing vegetated land (applies to greenfield sites only) — $35 000 per dwelling. This is a conservative (high) assumption based on Macarthur, and there would be areas where these costs would be much lower.	Strategic Biodiversity Feasibility Study, NSW DPIE/ ESPS, August 2019
Development Application fees	DA fees that apply when submitting the application, includes a fixed amount plus an amount that varies with construction value	Planning NSW (see table 7.6)
Developer margin	Assumes a developer must achieve at least a 20 per cent margin for the development to be feasible, based on the NSW DPIE Urban Feasibility Model	CIE

Source: The CIE

Other cost data

The below construction costs reflect the parameters used by the DPIE Urban Feasibility Model. These values were provided by the department for use in our mode (table B.7). Building costs apply to gross floor area (which includes the size of an apartment plus common areas apportioned on a per dwelling basis) while demolition and site works apply by site area (square meter of the entire lot). We have assumed a car parking floor space to total floor space ratio of 0.28 and applied this to the construction costs below.

E.2 Construction cost by component and development type

Development Type	Demolition	Building cost	Car parking	Site works
	$/m2	$/m2	$/m2	$/m2
9 to 20 Storey	249	3 752	1 554	242
7 to 8 Storey	249	3 461	1 244	242
Dual Occupancy	249	2 172	0	0
Detached Dwelling	0	2172	0	0

Source: Provided by DPIE

Development application fees apply for all types of development. These are set according to the following schedule in table E.3. Further:

E.3 Development application fee schedule

Estimated cost	Maximum fee payable
Up to $5,000	110
$5,001–$50,000	$170, plus an additional $3 for each $1,000 (or part of $1,000) of the estimated cost.
$50,001–$250,000	$352, plus an additional $3.64 for each $1,000 (or part of $1,000) by which the estimated cost exceeds $50,000.
$250,001–$500,000	$1,160, plus an additional $2.34 for each $1,000 (or part of $1,000) by which the estimated cost exceeds $250,000.
$500,001–$1,000,000	$1,745, plus an additional $1.64 for each $1,000 (or part of $1,000) by which the estimated cost exceeds $500,000.
$1,000,001–$10,000,000	$2,615, plus an additional $1.44 for each $1,000 (or part of $1,000) by which the estimated cost exceeds $1,000,000.
More than $10,000,000	$15,875, plus an additional $1.19 for each $1,000 (or part of $1,000) by which the estimated cost exceeds $10,000,000.

Source: Planning NSW

Development types

We analyse the commercial feasibility of a range of different development types, including:

- Low density — specifically the construction of detached housing in greenfield areas across Sydney and the Hunter-Illawarra region
- Medium density development — the subdivision of lots into dual occupancies in infill areas
- High density development — including eight and twenty storey apartment complexes
- As part of the modelling exercise, we have assumed that the planning system is flexible and adjusts accordingly to allow development to be provided where it is most profitable. We have assumed that:
- high density and medium density development can occur on currently zoned R1, R2 and R3 land across Sydney
- detached housing can occur in greenfield and other fringe areas in Sydney, including land currently not zoned for residential (such as rural and environmental land)
- detached housing can occur on land classified under the greenfield housing code in the Hunter-Illawarra region
- To estimate the number of dwellings that can be constructed on any given lot, we assume the following for each development (table E.4). For detached housing and medium density, we assume that lots can be subdivided by the permitted minimum lot size for a particular zone (e.g. if the minimum lot size is 300m2, then a 600 square meter lot can be subdivided into 2 lots if feasible to do so).
- For high density housing, we have used data from Jenner and Tulip (Reserve Bank of Australia) The Apartment Shortage (2020)[87], which provides the average number of apartments for high density structures for a typical lot size. They state that on average a high-density apartment building:
- has 117 apartments
- is situated on a lot of 2 397 square meters
- has an average land area of 20 square meters per apartment
- We have used this information as a starting point and extrapolated from an average building height of 10 storeys in Sydney, to obtain the average number of apartments for other building heights (8 and 20 storeys).

E.4 Dwellings per site by development type

Development type	Criteria for number of dwellings
High density - 20 storey apartments	10m2 per apartment
High density - 8 storey apartments	25m2 per apartment
Medium density - dual-occupancies	Site area divided by R3 zoned minimum lot sizes

87 See https://rba.gov.au/publications/rdp/2020/pdf/rdp2020-04.pdf

Development type	Criteria for number of dwellings
Detached housing (Sydney Greenfield)	Site area divided by R2 zoned minimum lot sizes
Detached housing (Hunter-Illawarra Greenfield)	Site area divided by an assumed 650m2 per new dwelling

Source: The CIE.

Floor space

The floor space of each development directly relates to the cost. We have informed the average floor space for each dwelling type from a number of sources (E.5).

E.5 Floor space by dwelling type

Dwelling type	Floor space	Source
High density	105 m2 (gross floor area) per apartment	Jenner and Tulip (Reserve Bank of Australia) The Apartment Shortage (2020)
Medium density	100 square meters per dwelling	UNSW City Future Research Centre – Appendix B Market Feasibility Methods
Low density (detached)	220 square meters per dwelling	ABS Building Activity, Australia December 2018 (Table 5)

Source: The CIE.

Dwelling prices

A key cost included as part of total development costs are site acquisition costs. This involves purchasing a lot which may include an existing structure (such as a house). We use LPI data on the most recent sale price and price update this value using ABS residential property price indexes to reflect the 2020 cost of purchasing a given lot. Since not all lots have undergone sales in recent times, for those with missing values we simply apply an average LGA level price to such lots.

There are greater data limitations in trying to determine the typical sale prices of apartments at the lot level. To supplement the LPI dataset, we have used the Core Logic Market Trends Suburb dataset[88]. This contains median sale prices of houses and apartments by suburb for NSW (as well as other states). To inform the total sale price of a new development (e.g. such as an apartment building containing 50 apartments) we multiply the number of new dwellings by the median price per dwelling for the suburb in which the development took place. Where suburb data was not available, we LGA level median.

88 https://www.corelogic.com.au/reports/market-trends-suburb-data

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