
The Need for Reform of Land Use Policy

Submission to the Productivity Commission Inquiry into Australia's Productivity Performance

23 March 2022



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Submission to the Inquiry into Australia's Productivity Performance

The Centre for Independent Studies (CIS) welcomes the opportunity to provide a submission to the Productivity Commission's Inquiry into Australia's Productivity Performance.

The CIS is a leading independent public policy think tank in Australia. It has been a strong advocate for free markets and limited government for more than 40 years. The CIS is independent and non-partisan in both its funding and research, does no commissioned research nor takes any government money to support its public policy work.

The CIS has done substantial work on many of the issues relevant to the current inquiry. However, this submission focusses on the need for reform of housing policy. This is a topic of great public concern where there is substantial scope for improved performance. It is also a subject where we believe past Productivity Commission analysis has been incomplete. Our Education Director, Glenn Fahey, is making a separate submission on education reform.

We would be happy to expand on the points in the attached submission, or to provide further information if this would assist the Commission.

Yours sincerely,

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23 March 2022

Summary

Shifting the Dial (2017) emphasised the planning system’s ‘red tape’. However, recent research indicates that the more important problem with the planning system is that it restricts the supply of housing, increasing its price. Estimates of this effect in Australian cities are very large. For example, planning restrictions are estimated to raise the cost of the average Sydney apartment by \$355,000 or 68%. These estimates are in line with other observations of the Australian housing market and a large body of international research.

In principle, a large effect on prices would be justified if housing density created large negative externalities. However, attempts to quantify the most commonly cited externalities find them to be unimportant or positive. Of special relevance to this inquiry, allowing people to concentrate together in large dense cities has repeatedly been found to boost productivity, technological progress and wages.

The welfare costs of these distortions, in terms of equity, deadweight loss and dynamic losses, are all large.

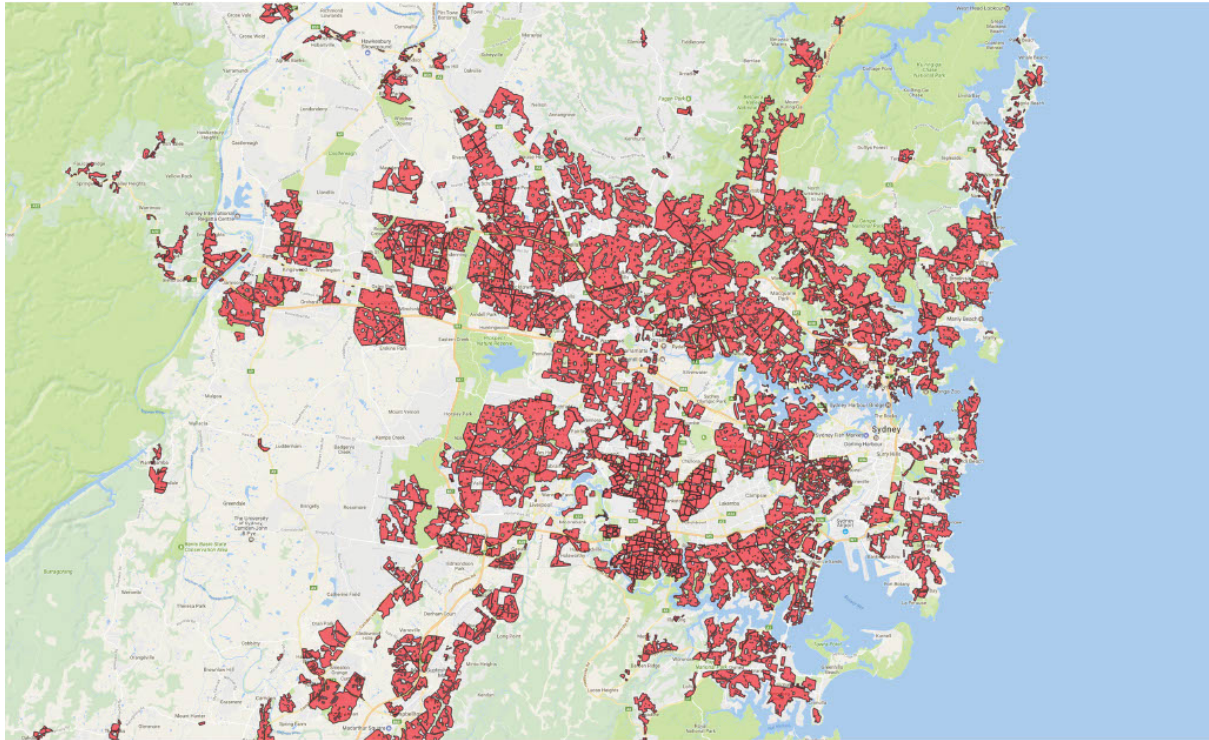
Shifting the Dial recommended streamlining the planning process to reduce administrative costs. The recent research calls for more fundamental reforms. We need to build more housing, especially high density near transport hubs and in the inner suburbs of our big cities. That requires loosening planning restrictions. Planning decisions need to stop over-weighting the objections of nearby residents and start respecting the interests of renters and future generations of home buyers.

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1. Planning restrictions make housing expensive

Zoning restricts most of our urban land to detached houses. For example, Figure 1 shows large areas of Sydney are zoned 'low density residential', from which townhouses and apartments are excluded.



R2 Low Density Residential zones across NSW

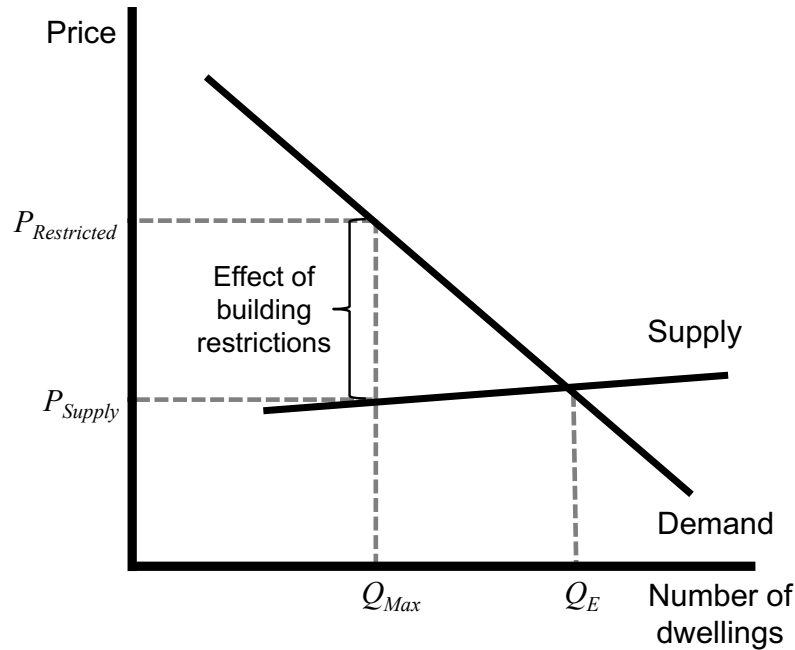
Source: A place for everyone: Tackling Sydney's housing affordability crisis

Source: PWC ([2017](#), p19)

In areas where apartments are permitted, height restrictions limit the number of dwellings that can be provided. [O'Sullivan, 2020](#) presents some salient examples, with comprehensive information available on council websites. Through these and other restrictions, the planning system restricts the supply of housing. Like supply restrictions in any other market, this increases the price.

Figure 2 illustrates. Planning restrictions reduce the supply of housing from Q_E to Q_{max} , pushing the price up to $P_{Restricted}$. The difference between $P_{Restricted}$ and the cost of supply, P_{Supply} , often referred to as the 'zoning tax,' provides a measure of the severity of these restrictions and the shortage they cause. This is essentially the same way economists measure the severity of other quantitative restrictions, such as taxi licenses or import quotas.

Figure 2: Housing Market with Building Restrictions



For example, Jenner and Tulip (2020) estimate that the average new Sydney apartment sold for \$873,000 in 2018 (analogous to $P_{Restricted}$ in Figure 1) but only cost \$519,000 (P_{Supply}) to supply, implying a gap of \$355,000 or 41% of the price. Estimates for detached houses and other Australian cities are in the first two columns of Table 1.

Table 1: The Wedge Between Sale Prices and the Cost of Supply

	<u>Estimates of the Contribution of Planning Restrictions to Property Prices</u>		<u>Site Values</u>
	Detached Houses, 2016	Apartments, 2018	Apartments, 2020
Sydney	\$489,000 (42%)	\$355,000 (41%)	\$180,000
Melbourne	\$324,000 (41%)	\$97,000 (16%)	\$130,000
Brisbane	\$159,000 (29%)	\$10,000 (2%)	\$40,000
Perth	\$206,000 (35%)		\$50,000
Adelaide			\$40,000
Gold Coast			\$80,000
Canberra			\$80,000
Hobart			\$100,000
Darwin			\$50,000

Source: Kendall and Tulip (2018) Jenner and Tulip (2020) Knight Frank (2021)

The sources in the last row of the table give details of how the estimates are constructed. For a summary of the estimates in the first two columns see Tulip (2020).

The ‘site values’ in column 3, sometimes called the ‘residual land value’ of apartment buildings, are not directly our focus but provide a useful comparison. Site values, like the effect of planning, essentially reflect the per-apartment difference between sales prices and costs. As such, they provide an independent check on the estimates, though there are differences reflecting different

coverage, definitions, weighting and timing. The site values in Table 1 are compiled and regularly updated by Knight Frank, one of Australia’s leading property consultancies.¹ They are analogous to the market price of a taxi licence or import quota. Site values like these are commonly discussed within the industry on a ‘per apartment’ basis, consistent with land values being roughly proportional to the number of apartments that are allowed to be built on a site.

Further corroboration comes from the large increases in land values that typically accompany changes in zoning. As an illustrative example, in 2014 a property at 661 Chapel St, South Yarra in Melbourne was sold for \$20 million when it was zoned for 13 storeys. It was then rezoned for 31 storeys and sold later that year for \$56 million (Lucas, [2017](#)). Large changes in land values like this are routinely reported in local newspapers. For more examples, see Kendall and Tulip (2018, Appendix A) or the recurring corruption stories in the news. The change in property values means legal permission to build is valuable. That, in turn, indicates that permission is both scarce and a binding constraint. It also indicates a large gap between dwelling price and the cost of supply, as in Table 1.

A few common misunderstandings about estimates of the effect of planning should be clarified:

First, the estimates do not imply that other factors, such as population or interest rates, are unimportant. The restrictions make supply inelastic. It is the *interaction* of inelastic supply and rising demand that causes high prices.

Second, these estimates do not imply that planning restrictions have tightened. In fact, the problem is the opposite — the restrictions barely change even as demand increases with increases in population, higher incomes or lower interest rates. So the constraint becomes more binding.

Third, it is not argued that planning restrictions prevent all, or even most, building. The argument is simply that they do not permit enough.

Tulip ([2021](#)) notes further criticisms of the estimates of the zoning effect and argues that these reflect simple misunderstandings that are not taken seriously in the research literature.

2. Overseas research also finds large effects

Estimates of the effect of planning on housing prices in Table 1 have been frequently replicated in international research. The approach and estimates for detached houses are qualitatively similar to those found for coastal US cities, Southern California, Florida and New Zealand. The approach and estimates for apartments are similar to or smaller than those found for Manhattan, Auckland, Zurich and commercial property in Britain and Europe. For references to these studies see Tulip (2020).

Reflecting that, and the similar results from other approaches, there is widespread agreement among researchers. Some quotations from literature surveys illustrate:

“... most studies have found substantial effects on the housing market. In particular, regulation appears to raise house prices, reduce construction, reduce the elasticity of

¹ The estimates in column 3 and column 2 are conceptually similar except estimates in column 2 use marginal cost and apply after building approval is granted, whereas those in column 3 use average cost and apply at an earlier stage in planning (so incur a larger risk premium). Jenner and Tulip (2020, Appendix B) discuss further differences between the series.

housing supply, and alter urban form. ... The available research suggests [the zoning] tax is quite large for many markets.” Gyourko and Molloy ([2015](#) pp 1289, 1296)

“... there is a strong consensus among economists that ... land use regulations are standing in the way of new housing construction and are causing high and rising prices.” Hamilton, ([2021](#) p195)

“Dozens of empirical studies have shown that more restrictive land use regulations are associated with higher housing prices.” Been, ([2018](#) p227)

Similar conclusions are found in other high-profile surveys by Furman ([2015](#)), Glaeser and Gyourko ([2018](#)), and, for a UK focus, Hilber and Vermeulen ([2015](#), Section 2). The individual papers cited in these surveys typically contain shorter literature reviews with the same message. The Economist magazine ([2021](#)) has complained that “no one needs any more papers showing that stringent zoning regulations raise housing costs. It is time for solutions.”

In principle, large differences between sales prices and supply costs might occur for many reasons, including imperfect competition, adjustment lags, mismeasurement and so on. However, none of these is considered a serious alternative within the literature.

3. Benefits of planning restrictions are small

Binding quantitative restrictions that raise prices would be justified if there were negative externalities from higher density housing. However, attempts to quantify these externalities tend to find that they are small or even positive. There is no evidence or even credible suggestions of which we are aware suggesting that negative externalities are anywhere near as large as the implicit ‘tax’ estimates of the previous section. That means many restrictions on density lack a microeconomic justification — they appear to increase housing costs unnecessarily.

A leading argument in support of planning restrictions (e.g. Stokes, [2020](#)) is that, while they might make housing expensive, this is worthwhile because they improve neighbourhood amenity. Nearby residents often object to new apartment buildings on the grounds that they are ugly, they bring traffic and crowds, they block out the sun and so on.

These arguments are legitimate and the residents are entitled to their preferences. However, their views are not the only ones to be taken into account. Policymakers also need to weigh the preferences of those who like high-density living. Many potential residents like proximity to shops, transport and entertainment. These potential residents are mobile and do not have a stake in any particular construction project. Indeed, they typically cannot be identified beforehand. Accordingly, their views are under-represented in public discussion.

We can weigh these conflicting preferences by looking at nearby house prices. If apartment towers did harm neighbourhood amenity, as the opponents of density argue, then nearby house prices should fall.

In a recent CIS paper, Tulip and Lanigan ([2021](#)) find that this does not happen. They look at five prominent examples of high-density construction in Sydney: Chatswood, Forest Lodge, Green Square, Liverpool and Turrella and three in Melbourne: Box Hill, South Yarra and Footscray. They find that nearby house prices are essentially unaffected by new development. It seems that for every

recalcitrant neighbour that dislikes the new apartments, there are other home buyers who want a walkable, lively community.

There is a large international literature on broader effects of urban density. Ahlfeldt and Pietrostefani (2019) standardise and quantify this research and conclude that, on balance, the external benefits of urban density are positive. Productivity spillovers, more patent applications, less energy use and other benefits of density are found to more than offset traffic congestion, shadows, noise and other costs. Australian studies, specifically Travers Morgan and Applied Economics (1991), Trubka, Newman and Bilsborough (2008) and CIE (2010), are less comprehensive, but do not point to overall results being very different here. Glaeser, Gyourko and Saks (2005) specifically examine height restrictions and estimate their external costs to be small.

One of the strongest findings of this international literature is that urban density promotes productivity and technological progress. This is discussed further in Section 4.3.

The results of academic research are in line with judgements of elected politicians. The recent Parliamentary Inquiry into Housing Affordability and Supply, the Falinski Report, concluded:

“Available estimates of the effects of planning restrictions on housing costs are ... so large, that it is hard to see how benefits of planning restrictions could be comparable... The Committee accepts that there are important benefits from planning, but it does not accept that these are sufficient to justify denying affordable housing to renters or to future generations of home owners.” (Parliament of Australia, 2022, para 3.72)

4. Welfare costs of planning restrictions are large

4.1 Equity

Restrictions that raise the cost of housing increase the wealth of current homeowners while making renters and future generations of homeowners worse off.

These transfers seem to be inequitable according to community standards. The beneficiaries of planning restrictions are wealthy, by virtue of owning property that has greatly appreciated in value since it was purchased. That wealth was unearned and arguably undeserved. In contrast, those injured tend to be poor and young. First home buyer grants, Commonwealth Rent Assistance and other government programs try to offset this redistribution. More importantly, expensive housing results in major social problems including rental stress and homelessness.

The inequity perpetuates itself and grows over time. The exclusion of apartments and other inexpensive housing from wealthy suburbs segregates society into rich and poor. Many observers think that is a central purpose of the restrictions. Low income families are denied access to better schools and employment opportunities. Moreover, the difficulty in saving for a housing deposit without parental assistance makes home ownership increasingly hereditary.

4.2 Static efficiency

The inefficiency of housing restrictions results in substantial sacrifices and burdens. Homeownership, a central aspiration in Australian culture, is increasingly out of reach. Instead, families live in insecure rentals they do not control. Commuters have to travel hours to get to work. Families live in houses without bedrooms and bathrooms they could otherwise afford. Young adults are forced to remain living at home. Tenants share overcrowded housing with flatmates they dislike. And so on. These are

some of the unnecessary costs of our planning policy. Everyday life, especially in Sydney and Melbourne, would be less stressful with less expensive housing.

In technical terms, these welfare losses can be gauged by the size of the triangle under the demand curve in Figure 1. For a simple approximation, assume that planning restrictions outside the major cities listed in Table 1 are less severe and that a national average price effect is about 25%. Furthermore, assume that the elasticity of demand for housing is -0.4 (Saunders and Tulip, [2019](#)), so to achieve a 25% reduction in price requires increasing the national housing stock by 10%. And assume the unconstrained supply curve is approximately horizontal, which seems reasonable for apartments, which are the marginal dwellings (Jenner and Tulip, 2020, Section 8). The welfare loss would be $.5 \times .25 \times .1 = 1.25\%$ of the value of the housing stock, or about \$110 billion. For those unfamiliar with 'Harberger triangles' that seems small, however it is comparable to estimates of major economic reforms, such as eliminating trade barriers.

4.3 Dynamic efficiency

Many economists believe that dynamic efficiency gains are more important in the long run than the static gains described above. Given the Inquiry's focus on productivity growth, this is worth emphasising.

Large dense cities increase interactions, specialisation, thick labour markets, spillovers, copying, competition and incentives for experimentation. These externalities boost the level and growth of productivity.

Glaeser and Maré ([2001](#)) write:

Workers in cities earn 33% more than their nonurban counterparts. A large amount of evidence suggests that this premium is not just the result of higher ability workers living in cities, which means that cities make workers more productive. Evidence on migrants and the cross effect between urban status and experience implies that a significant fraction of the urban wage premium accrues to workers over time and stays with them when they leave cities. Therefore, a portion of the urban wage premium is a wage growth, not a wage level, effect. This evidence suggests that cities speed the accumulation of human capital.

De la Roca and Puga ([2012](#)) examine why this premium exists using rich longitudinal data for Spain. They find that one-half of the urban wage premiums is received upon arriving in a city, while the other half accumulates with the dynamic benefits from learning. Other prominent studies with similar results include Baum-Snow and Pavan ([2013](#)) and Wang ([2016](#)). Wage premiums are found to increase with urban density.

Large dense cities also boost patenting. Carlino and Kerr ([2014](#), p10) note that, during the 1990s, 92 percent of U.S. patents were granted to residents of metropolitan areas, though these areas only contained three-quarters of the U.S. population. Carlino, Chatterjee and Hunt (2007) find that the rate of patenting per capita is about 20 percent higher in a metropolitan area with twice the employment density (jobs per square mile) of another metro area.

There is a large research literature on these questions. For surveys, see Glaeser ([2012](#)), Carlino and Kerr ([2014](#)), Combes and Gobillon ([2014](#)) and Ahlfeldt and Pietrostefani ([2019](#)). According to Glaeser, the key lesson is that 'Ideas spread more easily in denser places'.

To be precise, most of this literature focusses on the density of workers rather than the density of housing. However, the two typically go together. Moreover, many policies (for example, building height limits) affect both in similar ways.

More recently, Hsieh and Moretti (2019) argue that planning restrictions lead to a substantial misallocation of labour in the United States. Workers are trapped in low-productivity locations and unable to move to high-productivity cities like San Francisco or New York because zoning restrictions in those cities make housing unaffordable. Hsieh and Moretti estimate this misallocation reduces US GDP by 14 percent, an effect that is growing over time.² Similar studies include Ganong and Shoag (2017) and Glaeser and Gyourko (2018). These studies find very large effects in the US. However, it is not clear whether restrictions in Australia give rise to similar levels of labour misallocation as seen in the in the US.

5. Previous Productivity Commission Analysis

The Productivity Commission has examined planning restrictions on several occasions, including *Shifting the Dial* (2017, Section 4.6) and *Performance Benchmarking of Australian Business Regulation: Planning, Zoning and Development Assessments* (2011). The emphasis in both these publications is on the complexity of the planning system and the excessive administrative burden it places upon developers. This analysis is sensible and important. However, given what researchers now know, that analysis is incomplete. The issues are more important and necessary recommendations are more fundamental.

Shifting the Dial focussed on how difficult and uncertain the planning system makes building and hence recommended the process be simplified. In contrast, the new research focusses on how the planning system simply stops much building and supports a recommendation of allowing more construction. Whereas *Shifting the Dial* focussed on complications and the 'grey area' between what is permitted and what is not, the new research focusses on simple prohibitions that are black and white.

Various studies have been made of the administrative costs imposed by the planning system. The Centre for International Economics (CIE) (2013) considers a range of reforms to the NSW Planning system in detail. Their Table 11.5 summarises various estimates that 'suggest excessive costs of between \$174 million and \$312 million per year from the development approval system in NSW.' That would be around the order of \$2,000 per new dwelling. Delays in rezoning prior to Development Approval might add a further \$6,000 to greenfields dwellings. The risks imposed by the planning system might increase costs by a greater amount, though quantification of that is difficult. Deloitte Access Economics (2016, Section 3.1.1) discuss the estimates of the CIE and others. They suggest that streamlining of planning processes might plausibly reduce waiting times by about 6 months and this might reduce supply costs by about \$6,000 a dwelling.

While these costs are significant, they are tiny relative to estimates of the 'zoning tax' presented in Table 1, which are often several hundred thousand dollars per dwelling. By far the main effect of the planning system on housing affordability comes from the restriction of supply rather than from the administrative burden.

² The published paper incorrectly reports this estimate as 4 per cent. A correction was acknowledged in <https://www.econlib.org/a-correction-on-housing-regulation/>

6. Recommendations

Recommendation 1:

As a community, Australia needs to be more accepting of high-density housing. We have been too resistant to change and the resulting lack of urban infill has made housing too expensive. We have placed too much weight on preservation of old structures and the interests of old, wealthy homeowners and not enough weight on the interests of renters and future generations of home buyers.

This change in attitude requires a public education campaign. The Productivity Commission is ideally placed to take a leading role in that. It is not the Commission's role to call for a change in values. However educating the public about the costs of policy distortions has been a core responsibility since the Tariff Board.

Recommendation 2:

Decisions on land use are primarily the responsibility of state and (to a lesser extent) local governments. They need to stop saying 'no' and start saying 'yes'. Primarily, that requires a change in attitude, as discussed in Recommendation 1. That said, processes can be made less hostile to development. More specific recommendations, which vary in their applicability from state to state, include:

- a) State governments should implement and enforce housing targets for local governments that are ambitious and evidence-based. Targets should prioritise excess demand, as reflected in prices and rents.
- b) More ambitious housing targets will often mean raising height limits on apartment buildings, especially near transport hubs.
- c) Permitted uses in low density zones should be revised so as to allow more medium-density housing, such as terraces and townhouses, as of right.
- d) Planning processes need to place a greater focus on the affordability consequences of supply restrictions. For example, those who oppose extra development should be asked to address affordability consequences in their submissions and public hearings. Planning bodies that reject applications should specify where the potential residents who would occupy the proposed building should live instead, and why that is a better outcome.
- e) Legislation should specify tighter criteria for rejecting development applications. For example, there should be a presumption that proposed development be approved unless significant harm is demonstrated or that alternative development could provide as much housing at lower cost.
- f) To accelerate planning approvals, planning bodies should be given deadlines to respond, with approval being given if the deadline is not met.
- g) Heritage controls should preserve architecture that is unusual, not entire neighbourhoods. Preserving history is nice, but turning suburbs into museum exhibits is not worth the cost, especially when it prices out the previous inhabitants.

Recommendation 3:

As recommended by the recent Federal Parliamentary Inquiry into housing, the Commonwealth government should encourage better decision-making by lower levels of government with financial grants. For example, it could replace some existing unconditional grants and infrastructure spending

with grants of say \$25,000 per housing completion.³ The CIS Submission to the Parliamentary Inquiry discusses this issue a greater length.

Recommendation 4:

State and Territory land authorities need to release more land. This is most clearly a problem in the Australian Capital Territory where the Suburban Land Agency abuses its monopoly position for revenue-raising purposes (Stanhope and Ahmed, [2021](#)).

7. References

Note: where some references are paywalled, hypertext links are to a more accessible version.

- Ahlfeldt GM and E Pietrostefani (2019), 'The Economic Effects of Density: A Synthesis', *Journal of Urban Economics*, 111, pp 93–107. <https://voxeu.org/article/economic-effects-density-synthesis>
- Baum-Snow, N., Pavan, R. (2013). 'Inequality and city size.' *Review of Economics and Statistics*, 95 (5), 1535-1548 <https://direct.mit.edu/rest/article-abstract/95/5/1535/58138/Inequality-and-City-Size?redirectedFrom=fulltext>
- Been, Vicky (2018) 'City NIMBYs' *Journal of Land Use & Environmental Law* <https://furmancenter.org/research/publication/city-nimbys>
- Carlino, Gerald, S Chatterjee and R Hunt (2007). 'Urban density and the rate of invention.' *Journal of Urban Economics*, 61 (3), 389-419
- Carlino, Gerald and William R. Kerr 'Agglomeration and Innovation' in *Handbook of Regional and Urban Economics*, Vol. 5. https://www.nber.org/system/files/working_papers/w20367/w20367.pdf
- CEDA (Committee for Economic Development of Australia) (2017), Housing Australia, August. <https://www.ceda.com.au/Research-and-policy/All-CEDA-research/Research-catalogue/Housing-Australia>
- CIE (Centre for International Economics) (2010), 'The Benefits and Costs of Alternative Growth Paths for Sydney: Economic, Social and Environmental Impacts', Report prepared for NSW Department of Planning, December.
- CIE (Centre for International Economics) (2013), 'Reform of the NSW planning system' <https://www.thecie.com.au/publications-archive/reform-of-the-nsw-planning-system>
- Centre for Independent Studies (CIS) (2021) Submission to the Inquiry into Housing Affordability and Supply in Australia. <https://www.cis.org.au/publications/submissions/submission-to-the-inquiry-into-housing-affordability-and-supply-in-australia/>
- Combes, Pierre-Philippe and Laurent Gobillon (2014) 'The Empirics of Agglomeration Economies' in *Handbook of Regional and Urban Economics*, Vol. 5. <https://docs.iza.org/dp8508.pdf>
- De La Roca, Jorge and Puga, Diego. 'Learning by working in big cities' *Review of Economic Studies* (2017) 84, 106–142 https://diegopuga.org/papers/DeLaRoca_Puga_REStud_2017.pdf
- Deloitte Access Economics (2016), *A Federal Incentives Model for Housing Supply*. https://www.propertycouncil.com.au/Web/Content/Submissions/National/2016/A_Federal_Incentives_Model_for_Housing_Supply.aspx
- Economist, The (2021) 'How to turn NIMBYs into YIMBYs' 11 September, 2021; <https://www.economist.com/finance-and-economics/2021/09/11/how-to-turn-nimbys-into-yimbys>
- Furman, Jason (2015) 'Barriers to Shared Growth: The Case of Land Use Regulation and Economic Rents' https://obamawhitehouse.archives.gov/sites/default/files/page/files/20151120_barriers_shared_growth_and_use_regulation_and_economic_rents.pdf

³ For example, supposing that conditional grants replaced the discretionary \$5billion a year Urban Congestion Fund; assuming about 20,000 dwelling completions a year.

- Ganong, Peter and Daniel Shoag. "Why has regional income convergence in the U.S. declined?" *Journal of Urban Economics*, Volume 102 (November 2017): Pages 76-90. <https://www.nber.org/papers/w23609>
- Glaeser, Edward (2012) 'Triumph of the City: How Our Greatest Invention Makes Us Richer, Smarter, Greener, Healthier, and Happier' Penguin Books
- Glaeser, Edward and Joseph Gyourko (2003), 'The Impact of Building Restrictions on Housing Affordability', *Economic Policy Review*, 9(2), pp 21–39. <https://www.newyorkfed.org/research/epr/03v09n2/0306glae.pdf>
- Glaeser, Edward and Joseph Gyourko (2018) 'The Economic Implications of Housing Supply' *Journal of Economic Perspectives* Vol. 32, No. 1, pp. 3-30
- Glaeser, Edward, Joseph Gyourko and Raven Saks (2005), 'Why is Manhattan so Expensive? Regulation and the Rise in Housing Prices', *The Journal of Law & Economics*, 48(2), pp 331–369. https://repository.upenn.edu/cgi/viewcontent.cgi?article=1007&context=penniuir_papers
- Glaeser, Edward and David Maré (2001) 'Cities and Skills' *Journal of Labor Economics*, Volume 19, Number 2 <https://www.journals.uchicago.edu/doi/abs/10.1086/319563>
- Gyourko, Joseph and Jacob Krimmel (2021) 'The Impact of Local Residential Land Use Restrictions on Land Values Across and Within Single Family Housing Markets' *Journal of Urban Economics* <http://www.nber.org/papers/w28993>
- Gyourko Joseph and Raven Molloy (2015), 'Regulation and Housing Supply', *Handbook of Regional and Urban Economics*, 5, pp 1289–1337. <http://www.nber.org/papers/w20536>
- Hamilton, Emily (2021) 'Land Use Regulation and Housing Affordability' Chapter 9 in *Regulation and Economic Opportunity: Blueprints for Reform* edited by Adam Hoffer and Todd Nesbit https://www.thecgo.org/wp-content/uploads/2021/04/Regulation_and_Economic_Opportunity_Blueprints_for_Reform.pdf
- Hilber, Christian and Wouter Vermeulen (2016), 'The Impact of Supply Constraints on House Prices in England', *The Economic Journal*, 126(591), pp 358–405. <https://onlinelibrary.wiley.com/doi/epdf/10.1111/ecoj.12213>
- Hsieh, Chang-Tai and Enrico Moretti 'Housing Constraints and Spatial Misallocation' *American Economic Journal: Macroeconomics* 2019, 11(2): 1–39; <https://eml.berkeley.edu/~moretti/growth.pdf>
- IMF (2021) 'Australia: Staff Concluding Statement of the 2021 Article IV Discussions' <https://www.imf.org/en/News/Articles/2021/09/23/mcs092321-australia-staff-concluding-statement-of-the-2021-article-iv-discussions>
- Jenner, Keaton and Peter Tulip (2020) 'The Apartment Shortage' <https://www.rba.gov.au/publications/rdp/2020/2020-04.html>
- Kendall, Ross and Peter Tulip (2018) 'The Effect of Zoning on Housing Prices' <https://www.rba.gov.au/publications/rdp/2018/2018-03.html>
- Knight Frank (2021) 'Australian Residential Development Review' 2021; <https://content.knightfrank.com/research/916/documents/en/australian-residential-development-review-2021-8147.pdf>
- Lucas, Clay (2017) 'Developer and Liberal Party Donor Makes \$36m Profit after Building Approval from Matthew Guy', *The Age*, 14 August, 2017. <https://www.theage.com.au/national/victoria/developer-and-liberal-party-donor-makes-36m-profit-afterbuilding-approval-from-matthew-guy-20170814-gxvr13.html>
- NSW Productivity Commission (2021) 'Rebooting the economy' <https://www.productivity.nsw.gov.au/white-paper>
- OECD (Organisation for Economic Co-operation and Development) (2021) OECD Economic Surveys: Australia 2021 https://read.oecd-ilibrary.org/economics/oecd-economic-surveys-australia-2021_ce96b16a-en?_ga=2.75096466.1667384192.1632746046-1356414766.1630071861 OECD Publishing, Paris.
- O'Sullivan, Matt (2020) 'Development plans for Sydney's north shore scaled back after outcry' *Sydney Morning Herald*, August 29, 2020; <https://www.smh.com.au/national/nsw/development-plans-for-sydney-s-north-shore-scaled-back-after-outcry-20200828-p55q9w.html>
- Parliament of Australia (2022) *The Australian Dream; Inquiry into housing affordability and supply in Australia*, https://parlinfo.aph.gov.au/parlInfo/download/committees/reportrep/024864/toc_pdf/TheAustralianDream.pdf;fileType=application%2Fpdf
- PWC (2017) 'A place for everyone; tackling Sydney's affordable housing crisis' <https://www.pwc.com.au/infrastructure/cities-affordable-housing-initiative-report-2017.pdf>

- Productivity Commission (2011) 'Performance Benchmarking of Australian Business Regulation: Planning, Zoning and Development Assessments' <https://www.pc.gov.au/inquiries/completed/regulation-benchmarking-planning/report>
- Productivity Commission (2017) 'Shifting the Dial' <https://www.pc.gov.au/inquiries/completed/productivity-review/report>
- Saunders, Trent and Peter Tulip (2019) 'A Model of the Australian Housing Market' RBA Research Discussion Paper 2019-01 <https://www.rba.gov.au/publications/rdp/2019/2019-01.html>
- Stanhope, Jon and Khalid Ahmed (2021) 'How "blameless" Berry keeps people out of homes' CityNews November 24, 2021 <https://citynews.com.au/2021/how-blameless-berry-keeps-people-out-of-homes/>
- Stokes, Rob (2020) 'Planning Controls' NSW Legislative Assembly Hansard 6 August 2020 <https://www.parliament.nsw.gov.au/Hansard/Pages/HansardResult.aspx#/docid/HANSARD-1323879322-112142>
- Travers Morgan and Applied Economics (1991), Housing Costs Study No. 2: Evaluation of Fringe Development and Urban Consolidation, Prepared under the Australian Building Research Grants Scheme.
- Trubka R, P Newman and D Bilsborough (2008), 'Assessing the Costs of Alternative Development Paths in Australian Cities', Curtin University Sustainability Policy Institute, Report commissioned by Parsons Brinkerhoff Australia.
- Tulip, Peter (2020) 'Planning restrictions harm housing affordability' <https://www.cis.org.au/publications/policy-papers/planning-restrictions-harm-housing-affordability/>
- Tulip, Peter (2021) 'Misunderstandings about Planning Restrictions' <http://petertulip.com/misunderstandings.pdf>
- Tulip, Peter and Zachary Lanigan (2021) 'Does high-rise development damage neighbourhood character?' <https://www.cis.org.au/publications/policy-papers/does-high-rise-development-damage-neighbourhood-character/>
- Wang, Zhi (2016) 'Wage Growth, Ability Sorting, and Location Choice at Labor-Force Entry: New Evidence from U.S. Census Data' *Journal of Urban Economics* August 2016 https://zhiwang2013brownecon.weebly.com/uploads/4/2/1/9/42190763/wage_growth_jue_2016.pdf