

MEASURING PLANNING SYSTEM PERFORMANCE: THE CASE OF HOUSING SUPPLY AND AFFORDABILITY

Nicole Gurrán¹, Peter Phibbs¹

¹*University of Sydney, NSW, Australia, ²University of Western Sydney, NSW, Australia*

INTRODUCTION

In the last few years there has been intense interest in the performance of Australia's planning systems. Partly driven by concerns about housing supply and affordability, and in part by a wider regulatory reform agenda, there have been major challenges to the legitimacy of policy settings for land supply, environmental assessment and infrastructure charging (eg. RDC 2007; COAG Reform Council 2010). However, to date the evidence base on planning system performance is limited and largely dominated by sectoral interests. Indicators of performance are often simplistic – focusing on the quantity and speed of decisions – which in many cases misconstrue the wider social and environmental purposes of planning systems. In this context, this paper presents early findings from a larger study (Gurrán, Phibbs et al. 2011) which aims to establish a more comprehensive framework for measuring planning performance in relation to housing supply and affordability outcomes and more widely.

The first section of the paper reviews the international literature on planning system performance measurement and relationships between planning and the housing market, as a particular subset of plan outcome evaluation. Drawing on this literature, it conceptualises different approaches to measuring relationships between planning and housing outcomes in relation to indicators of planning system policy orientation, regulatory constraint, service efficiency, and local authority 'culture'. The paper then charts existing and emerging approaches to measuring planning system performance and housing market efficiency in Australia, comparing these approaches the more established practice of national reporting on planning and housing market outcomes in the United Kingdom (UK), and situating existing indicators in relation to the typology of measures identified through the international literature.

PLANNING, PERFORMANCE MEASUREMENT, AND EVALUATION

Planning is a complex process of decision making, intended to manage the multiple objectives and interests associated with urban and regional change and development. According to Patsy Healey, planning is:

“a governance practice that has evolved to address the difficulties created by the complex collocation of activities and their relations and the impacts these collocations generate across space-time. It is a practice that is not merely concerned with managing existing relations but with imagining and opening up future potentialities for improving the conditions of daily life existence and enrichment for humans in their coexistence with each other and the rest of the

animate and inanimate world... It involves the formation and practicing of complex public realm judgements about what to do and how to do it" (Healey 2009p. 277).

Measuring planning performance is particularly difficult since such "complex public realm judgements" are effected through different types of planning activities. In their international analysis of performance management in planning systems, Carmona and Sieh (2008) distinguish between planning "services" (such as releasing land, assessing development) and planning "products" (such as strategies, planning instruments or development controls).

Planning services, largely performed by local governments, have increasingly been monitored as part of the wider emphasis on demonstrating efficiency and accountability in the public sector (Mastop and Needham 1997; Murray and Dollery 2004; Carmona and Sieh 2008). For instance, in the UK, local authorities have long been required to supply service efficiency data on the volume of planning applications received and on decision times (Carmona and Sieh 2008). Since 2005, local authorities in the UK have also reported against progress in implementing strategic targets set out in local development plan documents (Office of the Deputy Prime Minister 2005). These "Annual Monitoring Reports" must contain "core output indicators" including data on planning permissions, land supply, net housing completions and net new affordable homes, and infrastructure provision, providing a more holistic set of data on performance outcomes (Gurran, Phibbs et al. 2011).

Planning evaluation research

Two types of evaluation are distinguished in plan evaluation literature and practice: "ex ante" evaluation, which precedes implementation; and "ex post" evaluation, which is conducted following the implementation of a particular plan, policy, or program (Lichfield and Prat 1998). Using the "ex ante" approach, planning products might be evaluated in relation to readily measured "conformance" with higher level policy objectives; while an "ex ante" method traces evidence of actual "performance" over time and space (Oliveira and Pinho 2010).

As an example of "ex ante" evaluation in planning research, content analyses of local plans have been used to measure conformance with state planning mandates in relation to sprawl reduction in Florida (Brody, Carrasco et al. 2006), the inclusion of policies relating to affordable housing in Illinois (Hoch 2007) and the interpretation of sustainable development principles in local plans in New Zealand (Berke and Conroy 2000).

However, "ex post" evaluation research demonstrates that "conformance" is not necessarily an indicator of plan "performance" (Laurian, Day et al. 2004). For instance, a comparison of the outcomes associated with distinctly different local planning approaches within two similar municipalities in Ontario, Canada – one of which promoted higher density "new urbanist" development, the other that followed a less restrictive philosophy – found limited difference between

the two municipalities in density outcomes, implying that policy differences made little demonstrable development differences over time (Langlois 2010). Similarly, in their study of relationships between metropolitan planning policy (favouring more concentrated patterns of development, particularly around centres and transport) and actual housing development outcomes in Melbourne, Goodman, Buxton and others (2010) identified limited evidence of effective policy impact (Goodman, Buxton et al. 2010).

These examples highlight the difficulties associated with assuming cause and effect in plan performance and evaluation research (Carmona and Sieh 2008). As development is generally initiated by the private sector, planning can influence, but not directly produce, desired outcomes. This is a particular issue in relation to the impact of planning systems on the housing market.

Planning, housing supply and affordability

Concern about declining housing affordability in nations such as Australia and the UK has focused attention on potential causes of house price inflation. In the context of sluggish new housing construction relative to strong underlying demand, potential barriers to supply, such as the planning system, have fallen under scrutiny. This has generated renewed interest in monitoring planning system efficiency (Barker 2006; Killian and Pretty 2008; Local Government and Planning Ministers' Council 2011). However, as discussed further below, empirical evidence suggests that relationships between planning system efficiency, housing supply and affordability are indirect at best.

Housing 'affordability' is itself a contested concept. Typically, the term is used to describe changing relationships between house prices and incomes (Stone 2006) across the population and market, although more nuanced definitions consider income distribution as a basis for measuring housing need. Housing affordability might also extend to costs associated with housing location (transport expenses) (Dodson and Sipe 2008), design (energy and water efficiency, maintenance), or management (apartment strata fees). These later costs may be important indicators in constructing a more comprehensive understanding of the relationship between planning requirements and housing outcomes.

The difficulty in isolating impacts arising from planning intervention versus other potential factors influencing urban change, has sparked ongoing debate in the literature on planning and the housing market. Such factors include geographic constraints and opportunities, underlying population growth and household formation, industry, unemployment and income trends, interest rates and inflation, price to rent ratios (as an indicator of returns on housing investment); and the potential value of alternative investments such as the stock market (Malpezzi 2002; Hui and Ho 2003; Otto 2007; Saiz 2010). In his econometric study of differences in house prices across Australian capital cities, Otto (2007) used development approval figures as a proxy for potential blockages in housing supply associated with planning regulations, but, when situated amongst other potential factors explaining

price growth (particularly nominal mortgage rate movements), no statistically significant planning system influence was identified.

Obtaining data on planning as a basis for measuring impacts on housing outcomes is a complex research problem, given that there are no ready “control” cases against which to compare how outcomes might differ without planning. Researchers have addressed this problem in different ways. Some studies have sought to observe land or house price impacts following the introduction of new planning control or regime, such as the introduction of zoning (McMillen and McDonald 1999; Zhou, McMillen et al. 2008), or environmental protections, providing a basis for a “before/after” analysis of the effects of policy intervention (Chamblee, Dehring et al. 2009).

Such data is often collected through surveys of local planning officials, or through constructed databases of planning controls focusing on key regulatory factors likely to affect housing development conditions (typically numbers of controls, type and quantity of restrictive residential zones, development standards designed to reduce housing density, referral requirements, and development fees) (Levine 1999; Lewis 2000; Pendall 2000; Gyourko 2008; Glaeser and Ward 2009). Most of these studies construct indices of planning constraint as a basis for measuring difference to determine impacts on housing supply and price, controlling for endogenous spatial and geographical features of the housing market, and recognizing potential for lag time between the articulation of a planning control and its potential to influence patterns of development (Hui and Ho 2003). By focusing on actual planning controls these methodological approaches provide a rigorous basis for understanding and comparing differences between local planning regimes, however, they are resource intensive and present particular difficulties in measuring impacts over time.

Where available, spatial data has been used to estimate development opportunity and constraint based on zone coverage (Hui and Ho 2003). Development contributions, or ‘impact fees’ have been a focus of specific attention, with scholars interested in the relationship between impact fees and house prices (Lawhon 2004; Mathur, Waddell et al. 2004), affordability for low income groups (Been 2005; Burge, Nelson et al. 2007), and rates of housing production (Burge and Ihlanfeldt 2006; Bluffstone, Braman et al. 2008). Another trajectory of research has focused specifically on the potential for planning requirements designed to secure affordable housing in new development to reduce overall rates of new housing production within a particular area or to raise overall house prices (Mukhija, Regus et al. 2010; Schuetz, Meltzer et al. 2011).

The problem of measuring relative planning constraint is also an issue in jurisdictions where planning decisions largely involve a determination based on merit, rather than the application of a quantifiable control or code, such as in the UK. To overcome this, other ‘proxy’ indicators, such as the time taken to issue a planning permit (Ball 2010), and developer perceptions of the likelihood of gaining approval (Monk, Pearce et al. 1996) have been used. As noted, planning service data, such as residential

approval and refusal rates, and rates of planning appeals, are often used as indicators of a responsive or sluggish planning system (Hui and Ho 2003).

Drawing on this literature, Table 1 conceptualises the different approaches to measuring relationships between planning and housing outcomes in relation to a fourfold typology: planning system policy orientation, regulatory constraint, service efficiency, and planning authority ‘culture’. Key indicators used in the studies reviewed are shown to illustrate how data on the particular measure might be collected.

In relation to indicators of housing market outcomes, there has been a particular emphasis in the research on land and housing prices and the quantity of new residential land and development supplied (Bramley 1998; Ihlanfeldt 2007; Glaeser and Ward 2009). Some studies have also considered the potential for planning constraints in one area to have “spillover” effects to other housing markets (Monk and Whitehead 1999; Byun, Waldorf et al. 2005). The impact of planning requirements on the density and diversity of housing produced has also received some attention (White and Allmendinger 2003).

Table 1: Measuring planning system performance and housing market outcomes

Planning System Measure	Indicator	Reference
Policy orientation	Introduction of specific new control	(Zhou, McMillen et al. 2008; Chamblee, Dehring et al. 2009)
	Strategic state / regional policy content	(Lewis 2005; Waldner 2008)
	Content of comprehensive local plans	(Ihlanfeldt 2009)
Regulatory constraint	Controls (survey database) / GIS data	(Lewis 2000; Pendall 2006; Gyourko, Saiz et al. 2008)
	Urban Growth Boundary / Land supply policy / land availability	(Landis 2006; Cunningham 2007; Kahn, Vaughn et al. 2010)
	Developer contribution requirements (including inclusionary zoning)	(Mathur, Waddel et al. 2004; Burge, Nelson et al. 2007), (Schuetz, Meltzer et al. 2011)
Service efficiency	Approval / refusal rates	(Hui and Ho 2003)
	Decision times	(Ball 2010)
	Appeals	(Hui and Ho 2003)
Planning authority culture	Developer perceptions of local administrators	(Monk and Whitehead 1999)
	Type of decision (code, merit, political)	(Levine 1999; Kahn 2011)
Outcomes	Land values	(Shilling, Sirmans et al. 1991)
	House prices	(Bramley 1993; Dawkins and Nelson 2002;

	Glaeser, Gyourko et al. 2005)
Rates of new housing construction (permissions, completions, net additions)	(Bramley 1998; Lewis 2005)
Spillover effects (price / supply)	(Monk and Whitehead 1999; Byun, Waldorf et al. 2005)
New housing composition (density, diversity)	(White and Allmendinger 2003)

Source: (the authors 2011)

As shown in Table 1, “policy orientation” provides a measure of the content of planning instruments in relation to strategic goals (either normative goals or mandates established by higher levels of government). Focusing on the policy orientation of plans provides a basis for determining the extent to which these objectives are realised, not only within planning instruments (plan ‘conformance’) but also through subsequent implementation (plan ‘performance’) when paired with other data sets.

Measures of regulatory constraint focus on the quantity and nature of planning controls. They provide a particular basis for examining potential outcomes arising from regulations designed to restrict development in certain areas, environmental controls, density or design standards, or fee obligations. Constraint measures can also be used to examine the total quantity of available residential land supply within a particular locality, providing an indication of the balance between regulatory and other constraints to housing development.

Service efficiency measures focus on the performance of planning functions and provide a basis for diagnosing potential planning system blockages (such as unpredictable decision outcomes, indicated by high refusal rates) or sluggish timeframes. As noted, these measures are often used as proxies for overall planning system performance, but are a limited source of data subject to multiple interpretations. For instance, faster approvals (measured by decision times and approval ratios) could mean a highly efficient local authority able to facilitate fast and appropriate planning permissions, but this might not necessarily translate into housing completions or to net additions to the overall dwelling supply, due to other market factors. Equally, faster approvals might reflect lower planning standards, poorer development outcomes in turn, leading to lower prices within a particular area due to compromised amenity.

“Planning authority culture” provides a measure of attributes not readily quantified in an analysis of planning regulations or service efficiency data. Rather, this measure relates to the ways in which planning rules are interpreted by local authority staff, decisions are made, and the nature of relationships between planners and developers or other stakeholders. These factors can have a significant impact on developer behaviour (Monk and Whitehead 1999).

The series of “outcome” measures shown in Table 1 include indicators of planning system impact on housing supply (land subdivisions, rates of new construction) and affordability (for instance, house prices and rents). As shown in the table it is also important to investigate the potential for a restrictive planning regime to have “spill-over” impacts in surrounding areas (Monk and Whitehead 1999).

Bringing these factors together, it is important to recognise mediating conditions that might influence the ways in which the planning system intersects with the housing market in a given place and time. These include overarching housing market conditions and fluctuations, with planning regulations likely to have differential impacts in rising and declining markets (Langlois 2010), and in high and low value settings; the degree of segmentation in local and regional housing markets, with high substitutability of housing a countervailing effect of tight regulation; and, the proportion of housing supply within a local and regional housing market that is new construction. Several studies have also pointed to the potential for positive housing market outcomes to arise from specific forms of intervention, such as the effective use of impact fees to ensure local infrastructure provision (Mathur, Waddell et al. 2004), or the promulgation of clear controls to promote certainty and investor confidence (White and Allmendinger 2003). These studies demonstrate the need for a wide evaluative framework supported by a full spectrum of indicators to understand the range of outcomes that may arise from different planning interventions, in different spatial, community, and political contexts.

MEASURING AUSTRALIAN PLANNING SYSTEM PERFORMANCE

Recent national level interest in urban policy and regulatory reform has triggered a number of initiatives intended to review, monitor, or evaluate planning system performance in Australia (Table 2). These include national criteria for capital city strategic planning systems (COAG Reform Council 2009); the ongoing implementation of the National Reform Agenda (formerly the National Competition Policy), which has a specific component on development assessment processes (COAG Reform Council 2010); and the housing supply and affordability reform agenda (COAG 2010) which extends to “zoning and planning approval processes, infrastructure charges, environmental regulations and the identification of underutilized land” (Productivity Commission 2010 p. 331).

Development assessment is a specific emphasis of COAG’s National Reform Agenda, which seeks to cut the “costs of regulation” by improving “development assessment processes to provide greater certainty and efficiency in the development and construction sector by reducing regulatory burdens and delays” (Local Government and Planning Ministers’ Council 2011 p. 3). As part of this process, nine ‘National Performance Measures’ have been identified. Overall, these measures appear comprehensive, spanning aspects of “process” “system” and “outcome” performance. “Process performance” measures rely on indicators of decision speed and compliance with statutory timeframes for development assessment. “System performance” measures are the proportion of developments assessed under different levels of code based or merit based assessment; and the extent to which electronic development assessment systems are being taken up by local authorities.

“Outcome performance” indicators are intended to measure the effectiveness of policy objectives although the sole indicator is the proportion of matters challenged in appeal (Local Government and Planning Ministers' Council 2011).

Applying the conceptualisation outlined above, these measures focus primarily on service efficiency rather than genuine evidence of performance outcomes. The evidence base to support even this level of analysis is extremely limited. The first report against the National Performance Measures, based on 2008/09 data provided by the States and Territories, shows that minimal monitoring and reporting of local planning activities currently occurs in most jurisdictions, with the exception of NSW, South Australia, and Victoria. These jurisdictions report annually on development approvals, assessment times, internal reviews and court appeals (Local Government and Planning Ministers' Council 2011 p. 12).

Table 2: Measuring planning system performance in Australia

Review process	Indicators / data sets	Planning System Measures
National Report on Development Assessment Performance, Local Government and Planning Ministers' Council (2011)	Decision speed, codification, take up of electronic assessment systems, appeals	System efficiency
Productivity Commission Performance Benchmarking of Planning, Zoning and Development Assessment (2011)	Timeframes (land supply and development assessment); zoning controls; development approval trends; local council resources; community perceptions; travel times	System efficiency, regulation / constraint, planning authority culture
Capital City Strategic Planning Systems criteria (COAG) based on BEMP / KPMG assessment (KPMG 2010)	Metropolitan Strategy policy coverage / implementation framework Budget alignment (strategic plan priority infrastructure requirements against actual budgets) Population management (growth forecasting) Housing affordability (key workers) Transport congestion (based on estimated congestion costs)	Policy orientation, outcomes

Source: (the authors 2011)

The articulation by COAG of criteria for capital city strategic planning systems may provide a platform for purposively connecting planning frameworks to available indicators of urban performance in the future. The articulation of “appropriate performance measures” is itself a capital city planning system criteria (COAG Reform Council 2009). Other criteria span efficiency measures (integration between

governments, long term planning) and comprehensive policy foci (infrastructure, productivity, environment, social inclusion, transport, health, liveability and housing affordability). An assessment of city planning system performance against these criteria was commissioned by the group "Built Environment Meets Parliament (the Property Council of Australia, Australian Institute of Architects, Consult Australia and the Green Building Council Australia) in 2010. In the absence of nationally consistent data on urban and environmental indicators relevant to measuring city planning performance, the report reviewed metropolitan strategic plans to determine coverage of key policy areas and evidence of a framework for implementation. Four additional indicators were identified, relating to the alignment of State infrastructure budgets, preparedness for high growth population scenarios, housing affordability for 'key workers' (using data from a BankWest 2009 report), and relative transport congestion (using estimated congestion costs reported by the Bureau of Transport and Regional Economics in 2007) (KPMG 2010).

The Productivity Commission's 'Performance Benchmarking' study on Planning, Zoning and Development Assessments includes several local government area scale indicators of the functioning of Australian cities (Productivity Commission 2011). These include travel times to work in urban local government areas; community views about state/territorial government performance in planning and zoning; community attitudes to increased population in their areas; types of development and about local planning processes. As a basis for understanding the different levels of resources available to local government (a factor which may help explain service performance outcomes), the study also reported on local council planning income and staff resources; the proportion of staff time devoted to planning activities in local government; and developer contributions received by councils with Greenfield development areas, although much of this data was collected in relation to a small sample of local government areas. A major focus of the study was on the service efficiency of Australian planning systems, so timelines for the delivery of new land supply (ie. reclassification / rezoning for urban development) are compared between capital city planning areas. The number of land use zones in local planning schemes was calculated as a novel measure designed to indicate relative planning system complexity or constraint.

A major difference between the more established national level approaches to planning system performance applied in the UK and the more emergent Australian practices reviewed here relates to the reporting of housing market outcomes. Under the UK model, the performance monitoring framework synthesises local level data about plan achievements against key targets, including, though not limited to, targets for affordable housing supply (Gurran, Phibbs et al. 2011). In Australia the establishment of the National Housing Supply Council (NHSC) in 2008, and the release of annual reports (NHSC 2010); has established a platform for understanding and monitoring housing supply and affordability trends at city, state / territorial, and national scales. The NHSC draws on data supplied by state planning agencies (including information on metropolitan land supply and development patterns) but at a broad geographical scale. Further, annual performance monitoring by

the States and Territories under the National Affordable Housing Agreement (COAG Reform Council 2010) provides data on housing needs, market trends, and deliver of funded affordable housing initiatives. However, in contrast to the UK, such data is not readily informed by, or able to inform, Australian local planning.

The first State of Australian Cities report (MCU 2010) covers headline indicators of urban trends (population growth and change, urban settlement, productivity, sustainability, liveability, social inclusion and governance). Although at present these indicators have not been articulated at the level of detail needed to determine potential relationships to different policy settings, future iterations may provide more detailed sources of data.

A number of other performance measurement approaches and potential sources of information, sit beyond these formal reporting processes. For instance, the Green Building Council Australia is developing a framework of five community sustainability indicators to underpin a new green rating tool and certification system (Green Building Council Australia 2011). Such processes by their nature capture large volumes of data through certification, so could provide a useful input to more systematic, broad based planning performance review and monitoring over time.

CONCLUSION: QUALITATIVE MEASURES AND GOALS FOR PLANNING PERFORMANCE

This paper has reviewed performance management and planning evaluation research, and the potential implications for measuring relationships between planning and the housing market, within the wider set of expectations for planning systems. It also charted current and emerging approaches to measuring planning system performance in Australia, highlighting the predominantly administrative, or procedural nature of current measurement approaches. Whilst there have been some recent improvements in evaluation approaches, previous attempts at evaluation have been narrow and usually undertaken from the perspective of a particular stakeholder. What is required is the application of a more holistic evaluation framework which would triangulate multiple sources of information about the planning system – from readily measurable data on service performance (timeframes, decision volumes, appeals) to other factors identified in the international research as influencing relationships between planning, housing supply and affordability, and wider social and environmental outcomes.

A wider performance measurement framework would also incorporate information on policy orientation and regulatory approach (plan goals and requirements), and data on the implementation of policy goals – for instance, spatial development patterns, transport and environmental quality indicators, housing market trends, community health markers, and stakeholder views. Recent initiatives, such as the COAG capital cities strategic planning criteria, the annual State of Australian Cities reporting cycle, and the outcomes of the Productivity Commission's benchmark review of planning and zoning systems may provide some guidance in building these more comprehensive measurement frameworks in the future. To achieve this a far more systematic approach to local level

data collection and analysis will be required, extending beyond the remit of local planning authorities to the wider spectrum of portfolios (housing, transport, infrastructure, environment, health) with a stake in urban and regional change. This approach has the potential to yield some rich insights into the performance of Australian planning systems.

REFERENCES

- Ball, M. (2010). "Planning Delay and the Responsiveness of English Housing Supply." Urban Studies **48**(2): 349-362.
- Barker, K. (2006). Barker Review of Land Use Planning - Final Report - Recommendations. London, HM Treasury.
- Been, V. (2005). "Impact Fees and Housing Affordability." Cityscape **8**(1): 139-185.
- Berke, P. R. and M. M. Conroy (2000). "Are we planning for sustainable development? An evaluation of 30 comprehensive plans." Journal of the American Planning Association **66**(1): 21-33.
- Bluffstone, R., M. Braman, et al. (2008). "Housing, sprawl, and the use of development impact fees: The case of the Inland Empire." Contemporary Economic Policy **26**(3): 433-447.
- Bramley, G. (1993). "Land-Use Planning and the Housing-Market in Britain- The Impact on Housebuilding and House Prices." Environment and Planning A **25**(7): 1021-1051.
- Bramley, G. (1998). "Measuring planning: indicators of planning restraint and its impact on housing land supply." Environment and Planning B-Planning & Design **25**(1): 31-57.
- Brody, S. D., V. Carrasco, et al. (2006). "Measuring the adoption of local sprawl - Reduction planning policies in Florida." Journal of Planning Education and Research **25**(3): 294-310.
- Burge, G. and K. Ihlanfeldt (2006). "Impact fees and single-family home construction." Journal of Urban Economics **60**(2): 284-306.
- Burge, G. S., A. C. Nelson, et al. (2007). "Effects of proportionate-share impact fees." Housing Policy Debate **18**(4): 679-710.
- Byun, P., B. S. Waldorf, et al. (2005). "Spillovers and local growth controls: An alternative perspective on suburbanization." Growth and Change **36**(2): 196-219.
- Carmona, M. and L. Sieh (2008). "Performance measurement in planning - towards a holistic view." Environment and Planning C-Government and Policy **26**(2): 428-454.
- Chamblee, J. F., C. A. Dehring, et al. (2009). "Watershed development restrictions and land prices: Empirical evidence from southern Appalachia." Regional Science and Urban Economics **39**(3): 287-296.
- COAG (2010). Housing Reform Agenda and Timeline. Canberra, Council of Australian Governments.
- COAG Reform Council (2009). COAG Communique 7 December 2009. Canberra, Council of Australian Governments (COAG).
- COAG Reform Council (2010). National Affordable Housing Agreement: Baseline performance report for 2008-09. Canberra, COAG.
- COAG Reform Council (2010). National Partnership Agreement to Deliver a Seamless National Economy: Part 1 - 27 Deregulation Priorities. Canberra, COAG
- Cunningham, C. R. (2007). "Growth controls, real options, and land development." Review of Economics and Statistics **89**(2): 343-358.
- Dawkins, C. J. and A. C. Nelson (2002). "Urban containment policies and housing prices: an international comparison with implications for future research." Land Use Policy **19**(1): 1-12.
- Dodson, J. and N. Sipe (2008). "Shocking the Suburbs: Urban Location, Homeownership and Oil Vulnerability in the Australian City." Housing Studies **23**(3): 377 - 401.
- Glaeser, E. L., J. Gyourko, et al. (2005). "Why is Manhattan so expensive? Regulation and the rise in housing prices." Journal of Law & Economics **48**(2): 331-369.
- Glaeser, E. L. and B. A. Ward (2009). "The causes and consequences of land use regulation: Evidence from Greater Boston." Journal of Urban Economics **65**(3): 265-278.
- Goodman, R., M. Buxton, et al. (2010). "Planning and the characteristics of housing supply in Melbourne." AHURI Final Report Series No: 157.
- Green Building Council Australia (2011). Green Star Communities National Framework. Canberra, Green Building Council Australia.
- Gurran, N., P. Phibbs, et al. (2011). Quantifying planning system performance and Australia's housing reform agenda: Review of literature, context, and key issues. Melbourne, AHURI.

- Gyourko, J., A. Saiz, et al. (2008). "A new measure of the local regulatory environment for housing markets: The Wharton residential land use regulatory index." Urban Studies **45**(3): 693-729.
- Gyourko, J., Saiz, A., Summers, A. (2008). "A new measure of the regulatory environment for housing markets: the Wharton Residential Land Use Regulatory Index." Urban Studies **2008**(5): 693-729.
- Healey, P. (2009). "The Pragmatic Tradition in Planning Thought." Journal of Planning Education and Research **28**(3): 277-292.
- Hoch, C. (2007). "How plan mandates work - Affordable housing in Illinois." Journal of the American Planning Association **73**(1): 86-99.
- Hui, S. C. M. and V. S. M. Ho (2003). "Does the planning system affect housing prices? Theory and with evidence from Hong-Kong." Habitat International **27**(3): 339-359.
- Ihlanfeldt, K. R. (2007). "The effect of land use regulation on housing and land prices." Journal of Urban Economics **61**(3): 420-435.
- Ihlanfeldt, K. R. (2009). "Does Comprehensive Land-Use Planning Improve Cities?" Land Economics **85**(1): 74-86.
- Kahn, M. E. (2011). "Do liberal cities limit new housing development? Evidence from California." Journal of Urban Economics **69**(2): 223-228.
- Kahn, M. E., R. Vaughn, et al. (2010). "The housing market effects of discrete land use regulations Evidence from the California coastal boundary zone." Journal of Housing Economics **19**(4): 269-279.
- Killian, J. and D. Pretty (2008). The Killian Pretty Review: Planning Applications - a faster and more responsive system: Final Report. London, DCLG.
- KPMG (2010). Spotlight on Australia's Capital Cities: an independent assessment of city planning systems, Discussion paper for the Built Environment Meets Parliament (BEMP). Canberra, Built Environment Meets Parliament.
- Landis, J. D. (2006). "Growth management revisited - Efficacy, price effects, and displacement." Journal of the American Planning Association **72**(4): 411-430.
- Langlois, P. (2010). "Municipal visions, market realities: does planning guide residential development?" Environment and Planning B-Planning & Design **37**(3): 449-462.
- Laurian, L., M. Day, et al. (2004). "Evaluating plan implementation - A conformance-based methodology." Journal of the American Planning Association **70**(4): 471-480.
- Lawhon, L. L. (2004). "The effects of development impact fees and growth on the price of housing in high growth Colorado communities: A comparison of two cities." Journal of Architectural and Planning Research **21**(1): 1-9.
- Levine, N. (1999). "The effects of local growth controls on regional housing production and population redistribution in California." Urban Studies **36**(12): 2047-2068.
- Lewis, P., Neiman, M. (2000). Residential Development and Growth Control Policies: Survey Results from Cities in Three California Regions, Public Policy Institute of California.
- Lewis, P. G. (2005). "Can state review of local planning increase housing production?" Housing Policy Debate **16**(2): 173-200.
- Lichfield, N. and A. Prat (1998). Linking ex ante and ex post evaluation in British town planning. Evaluation in Planning - Facing the Challenge of Complexity. N. Lichfield, A. Barbanente, D. Borri, A. Khakee and A. Prat. **47**: 283-298.
- Local Government and Planning Ministers' Council (2011). First National Report on Development Assessment Performance 2008/09. Adelaide, COAG Business Regulation and Competition Working Group.
- Malpezzi, S. (2002). "Urban regulation, the "new economy," and housing prices." Housing Policy Debate **13**(2): 323-349.
- Mastop, H. and B. Needham (1997). "Performance studies in spatial planning: the state of the art." Environment and Planning B-Planning & Design **24**(6): 881-888.

- Mathur, S., P. Waddell, et al. (2004). "The effect of impact fees on the price of new single family housing." Urban Studies **41**(7): 1303-1312.
- Mathur, S., P. Waddell, et al. (2004). "The effect of impact fees on the price of new single-family housing." Urban Studies **41**(7): 1303-1312.
- McMillen, D. P. and J. F. McDonald (1999). "Land use before zoning: The case of 1920's Chicago." Regional Science and Urban Economics **29**(4): 473-489.
- MCU (2010). State of Australian Cities. Canberra, Major Cities Unit, Infrastructure Australia.
- Monk, S., B. J. Pearce, et al. (1996). "Land-use planning, land supply, and house prices." Environment and Planning A **28**(3): 495-511.
- Monk, S. and C. M. E. Whitehead (1999). "Evaluating the economic impact of planning controls in the United Kingdom: Some implications for housing." Land Economics **75**(1): 74-93.
- Mukhija, V., L. Regus, et al. (2010). "CAN INCLUSIONARY ZONING BE AN EFFECTIVE AND EFFICIENT HOUSING POLICY? EVIDENCE FROM LOS ANGELES AND ORANGE COUNTIES." Journal of Urban Affairs **32**(2): 229-252.
- Murray, D. and B. Dollery (2004). An Evaluation of Performance Measurement and the Identification of 'At Risk' Municipal Councils in NSW Local Government. Working Paper Series in Economics. Armidale, University of New England School of Economics.
- NHSC (2010). Second State of Supply Report. Canberra, Department of Families, Community Services and Indigenous Affairs.
- Office of the Deputy Prime Minister (2005). Local Development Framework Monitoring: a Good Practice Guide. London, ODPM.
- Oliveira, V. and P. Pinho (2010). "Evaluation in Urban Planning: Advances and Prospects." Journal of Planning Literature **24**(4): 343-361.
- Otto, G. (2007). "The growth of house prices in Australian capital cities: What do economic fundamentals explain?" Australian Economic Review **40**(3): 225-238.
- Pendall, R. (2000). "Local land use regulation and the chain of exclusion." Journal of the American Planning Association **66**(2): 125-142.
- Pendall, R., Puentes, R. and Martin, J. (2006). From Traditional to Reformed: A Review of the Land Use Regulations in the Nation's 50 largest Metropolitan Areas. Washington, Brookings Institute.
- Productivity Commission (2010). Performance Benchmarking of Australian Business Regulation: Planning, Zoning and Development Assessments. P. Commission. Canberra, Australian Government.
- Productivity Commission (2011). Performance Benchmarking of Australian Business Regulation: Planning, Zoning and Development Assessments; Productivity Commission Draft Research Report. Canberra, Australian Government.
- RDC (2007). Boulevard of Broken Dreams: The future of housing affordability in Australia. Sydney, Residential Development Council, Property Council of Australia.
- Saiz, A. (2010). "THE GEOGRAPHIC DETERMINANTS OF HOUSING SUPPLY." Quarterly Journal of Economics **125**(3): 1253-1296.
- Schuetz, J., R. Meltzer, et al. (2011). "Silver Bullet or Trojan Horse? The Effects of Inclusionary Zoning on Local Housing Markets in the United States." Urban Studies **48**(2): 297-329.
- Shilling, J. D., C. F. Sirmans, et al. (1991). "THE IMPACT OF STATE LAND-USE CONTROLS ON RESIDENTIAL LAND VALUES." Journal of Regional Science **31**(1): 83-92.
- Stone, M. E. (2006). "What is housing affordability? The case for the residual income approach." Housing Policy Debate **17**(1): 151-184.
- Waldner, L. (2008). "Regional plans, local fates? How spatially restrictive regional policies influence county policy and regulations." Environment and Planning B-Planning & Design **35**(4): 679-700.

- White, M. and P. Allmendinger (2003). "Land-use planning and the housing market: A comparative review of the UK and the USA." Urban Studies **40**(5-6): 953-972.
- Zhou, J., D. P. McMillen, et al. (2008). "Land values and the 1957 Comprehensive Amendment to the Chicago Zoning Ordinance." Urban Studies **45**(8): 1647-1661.