

Housing affordability dynamics in Sydney's housing sub-markets:  
the case for spatially sensitive policy

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## **Housing affordability dynamics in Sydney's housing sub-markets: the case for spatially sensitive policy**

**ABSTRACT:** *This paper argues that policy makers need a more fine-grained understanding of housing submarkets, to avoid the often perverse outcomes of aspatial incentives and regulations on housing affordability. A cluster analysis provides an outline of the differentiation within Sydney's housing submarkets, identifying five distinct types of submarkets. The policy implications of these distinct submarkets are explored to demonstrate the utility of a spatially sensitive decision support system.*

**Keywords:** *Housing submarkets; development incentives; affordable housing policy*

### **Introduction**

While Sydney's overall housing market is tight, with large current and projected housing deficits, housing markets within the metropolitan area are quite sharply differentiated. The timing and pace of property value appreciation has followed sharply different trajectories across the metropolitan area over the past decade. Rapid urban renewal and gentrification has pushed affordable rental housing out of some suburbs, as the accessibility premium has escalated. In other suburbs, homes have appreciated little if at all, but high rates of mortgage indebtedness keep housing costs burdensome without offering the prospect of speculative gains.

Policy initiatives have rarely considered the tremendous diversity in local housing submarkets, with the result that incentives frequently have perverse consequences, stimulating price increases in places where affordability is a problem, and subsidizing supply in areas that are already attracting intense development rather than those that are lagging. Policy makers need a more fine-grained understanding of housing submarkets. One size fits all policy instruments are less likely to effectively address real problems, and may both waste resources (subsidizing behaviour that would occur anyway) and worsen problems (for instance, by increasing prices and in turn undermining affordability). The institutional history of housing (and indeed metropolitan) policy in NSW has not been framed around spatially targeted solutions, but this does not mean that such solutions are impossible to achieve (McGuirk and O'Neil 2002). However,

institutional change will be essential to developing spatially targeted policy (Searle 2002).

This paper demonstrates how such spatially targeted policy responses could be guided by a more fine-grained analysis of local housing market dynamics. It is not an exhaustive analysis of every aspect of local markets. Instead, it uses a variety of key indicators to demonstrate how a spatially differentiated policy response could be developed. More sophisticated analyses would be needed to develop a spatial decision support system that would work in practice. The paper outlines how such a decision support system could be structured, demonstrating why a more fine grained approach is needed. It presents a rationale for institutional change, by showing how evidence can be seen and understood in new ways.

The paper begins with a review of recent debates around housing problems and policy solutions in the Sydney metro area, and an assessment of their spatial impacts. Next, I review the literature on local housing market analysis, focusing on the methodological approaches used to distinguish submarkets. I demonstrate how cluster analysis could be used to differentiate Sydney's housing submarkets and present the results of this analysis. I explore what the results suggest about housing submarkets, and discuss how these results might inform decisions about a variety of policy instruments.

### **Debates around housing problems and policy in NSW**

Several (often competing) explanations are offered for the growing affordability problem in NSW. The slow pace of development approvals, and lack of appropriately zoned land, are major supply barriers argued by the development industry (Urban Task Force Australia 2010; Johanson 2010; UDIA 2010; Demographia 2010). Others argue that urban growth boundary-related constraints on the supply of Greenfield sites have increased housing prices in Sydney (Commonwealth of Australia 2008; O'Farrell 2011). But although land release has accelerated since the mid-2000s, new housing supply has continued to shrink (NSW Dept of Planning 2009). Consequently, others argue that speculative land holding and unwillingness to sell released land is another contributor to affordability problems (Commonwealth of Australia 2008; Council of Social Services NSW 2010).

Sydney's growing economic inequality is reflected in intensifying income segregation. Rising rents displace tenants from gentrified urban renewal areas, and indebted home buyers in highway-dependent suburbs are vulnerable to changes in interest rates and oil prices (Dodson and Sipes 2008; McGuirk and O'Neill 2002; Searle 2002). In recent years, the NSW Dept of Planning has sought to increase housing supply by simplifying and reforming the development approval process, and is now engaged in attempting to speed the land sales process (NSW Department of Planning 2006; NSW Premier's Office 2010). Limitations on developer contributions have been imposed, in response to criticisms that entry fees and taxes have risen sharply and have not been capitalized into land prices, as economic theory predicts they should (NSW Premier's Office 2010; Pendall 1999).

Efforts to solve one type of barrier often have unanticipated consequences, worsening other barriers. Home buyer subsidies are good examples of this. The First Home Owners' Grant (FHOG) is a Commonwealth initiative, introduced to ease the transition to imposing GST on construction in 2001. Several analyses have provided strong evidence that while the FHOG may change the timing of home purchase it does little to increase affordability, primarily because the untargeted subsidy increases housing prices throughout the market (Martin 2009; Bourassa and Yin 2006; Burke and Hulse 2010). The FHOG was supplemented for a limited period as an economic stimulus measure during the first stages of the global financial crisis of 2008, with an additional supplement for buyers of newly constructed homes. Because most first-time home buyers are at the low end of the market, the concentration of demand likely increased prices in that market segment rather than improving affordability or overcoming barriers to ownership (Martin 2009). But the vast majority of homes purchased were existing homes, and thus the grant may also have had very little impact on stimulating the construction industry (the intent of the \$1 billion package). Instead, it helped support home prices through the first stage of the GFC (Burke and Hulse 2010). As home purchases slumped once the enhanced subsidy ended in June 2010, a new stimulus was introduced – waiver of stamp duty on newly constructed homes (the Home Builder's Bonus).

At the Commonwealth level, supply-side subsidies have been targeted to affordable housing through the National Rental Affordability Scheme (NRAS). The

NRAS is designed to provide incentives to investors in housing that will remain affordable for at least ten years. Typically, the housing is developed and managed by the community housing sector, with funding priorities defined each year. While the priorities provide a way to target particular cohorts of need, the NRAS has not been used to target particular types of housing markets (for instance, housing close to particular sorts of employment concentrations, or in high cost locations where low income renters are vulnerable to displacement).

Regulatory incentives have had more limited application. Planning bonuses such as density increases have been used to offset the costs of lower priced housing in a few demonstration projects (Beer, Kearins and Pieters 2007). Inclusionary zoning (requiring or encouraging developers to set aside a percentage of homes at lower than market prices) is a related regulatory strategy used in a few local government areas. Inclusionary zoning requirements can be mandatory (in which case they generally account for quite a small percentage of total units). Local programs in Green Square, Pyrmont-Ultimo, and Willoughby, set aside much smaller percentages, but also allow developers to make an in-lieu cash contribution (Housing NSW 2010 Mandatory policies; Gilmour 2010; Williams 2000). Consequently, they act more like housing impact fees than traditional inclusionary zoning strategies. Affordable housing has been provided in separate developments by community housing providers rather than being integrated into mixed income buildings. One problem with inclusionary requirements is that they do not necessarily compensate developers for price restrictions, especially in relatively slack markets. It has been difficult to gain acceptance for inclusionary requirements if they impose significant costs on developers (and thus cross-subsidy burdens on other home buyers) (Powell and Stringham 2005; Brunick 2004; Calavita, Grimes, and Mallach 1997).

McGuirk and O'Neill (2002) argue that because the costs and benefits of Sydney's globalization are unevenly distributed across the metro area, metro planning strategies must address spatial inequities if they are not to exacerbate them. The aspatial nature of the major housing supply policies reviewed above has had ambiguous outcomes for the declared goal of increasing the affordable housing supply. Enhanced FHOGs have inflated prices in the market segments (and locations) where affordability should be a

public priority. The structure of well intentioned inclusionary zoning efforts in rapidly densifying redeveloped suburbs has resulted in additional taxes on new high density dwellings to subsidize an under-capitalized social housing sector, but, with a contribution level around 3% of total development costs, this has resulted in little mainstreaming of affordable housing.

Spatial targeting is not always successful. Developers may continue to avoid “difficult development areas,” and location based incentives may have inflationary impacts on local prices. But spatially sensitive policy also avoids many traps that would result in greater waste (by providing subsidies for actions that would have occurred anyway), in perverse incentives (resulting in the opposite of intended consequences), and assistance that is ineffectual because it is spread too thin. We return to these issues in the final section of the paper. The next section reviews research on defining local housing submarkets.

### **Approaches to analysing local housing markets**

Research on housing submarkets originated out of a growing policy focus on how to address particular sorts of market failures in particular places. Housing is a unique type of “commodity” for it is really a bundle of goods rather than an individual good (Galster 1996). Because it is a multifaceted commodity, simple indicators (for example, of housing price) are too limited a basis for spatially differentiated policy decisions. The concept of housing submarkets ties together a variety of elements related to the dynamics of supply and demand.

There are a diversity of approaches to defining housing submarkets; fundamentally, how we define them should be based on how we intend to use those definitions (Bourassa, Hoesli and Peng 2003). One of the key differences is between definitions that focus on the characteristics of individual dwellings, and those that focus on location (Galster 1996). Grigsby (1963) argued that markets are defined by “close substitutability” of dwellings, which segments markets into groups of housing units of similar quality, within which consumers will purchase similar levels of utility. But market segmentation is a complex process, because it is based on the behaviours of both households (consumers of housing) and developers (suppliers of housing), within a

specific set of material constraints on supply (for instance, the availability of land, transport routes, and other spatially defined amenities) (Meens and Meens 2003). Housing submarkets represent a set of economic relationships within a social space defined by non-economic attributes such as racial segregation, information flows, crime rates, and school quality (Kain and Quigley 1975; Burrows and Gane 2006; Bates 2006). Thus, housing markets (like labour markets) have become increasingly fragmented and mosaic-like as cities have expanded, global migration flows have become more complex, and socio-economic inequalities have intensified (Poulsen, Johnston and Forrest 2002).

One approach to defining submarkets uses an hedonic method, modeling the attributes of individual dwellings to identify those that consumers would see as substitutes (in other words, homes of similar quality) (Galster 1996; Bourassa Hoesli and Peng 2003). Most of those analyses, however, have concluded that location plays a major explanatory role. A second approach has been to rely on identifying functional regions, based on migration-sheds, home-work linkages, or real estate agent interviews about information flows (Brown and Hincks 2008). A third approach focuses on statistical techniques to identify commonalities among small spatial units (such as census collection districts), usually through some combination of factor analysis and cluster analysis (Goetzman, Spiegel and Wachter 1998; Burrows and Gane 2006; Bates 2006; Bunker, Holloway and Randolph 2005). This method is closely related to the construction of indices to model socio/spatial structures (such as indices of dissimilarity, residential concentration, and similar) (Poulsen, Johnston and Forrest 2002). An advantage of this last approach is the relative ease of access to data for small spatial units, compared to the volume of detailed information needed for individual units in hedonic analyses. If we accept that broader social and economic conditions are important attributes of “location,” and may serve as a suitable proxy for physical amenities, this approach has some merit.

#### *A methodology for local housing market analysis*

Cluster analysis is a useful tool for identifying similarities among cases on multiple dimensions. Essentially, the clustering process is iterative, comparing cases on several dimensions simultaneously and using hierarchical algorithms to form clusters made up of cases that are closer (more similar) to one another than they are to cases in other clusters

(Aldenderfer and Blashfield 1984). The cluster centroid is defined by the mean value of all cases in the cluster on each dimension. Each case is identified by both its cluster membership and its distance from the cluster centroid (Aldenderfer and Blashfield 1984). Clusters can be validated or tested in several ways. Using cluster membership to test for relationships with variables that were not used in the analysis is a useful way to evaluate the outcomes, because it shows whether the clusters are meaningful.

One of the main challenges is dealing with the statistical problems raised by the relationships among variables. Clearly, areas with high housing prices are more likely to attract wealthier households; housing price and income are correlated, but one cannot be reduced to the other. For instance, some areas have quite high proportions of low income households, but nevertheless have high housing prices. Principle Components analysis offers us a way to avoid this problem, by transforming a set of correlated “real” variables (housing prices, income, age of household head) into a statistically independent set of “artificial” variables, known as factors. The factors are meaningful, because they reflect different combinations of values of real variables, but they avoid the correlation problems that would distort the cluster results by overemphasizing (by double counting) some attributes (Afifi, Clark, and May 2004). Factors are also useful because they summarise a larger number of variables into a more concise form. The principle components calculated as the basis for this analysis are shown in Table 1.

**Table 1: Factors (principle components) extracted**

	Component		
	1	2	3
MEDIAN AGE	-.302	.192	-.769
MEDIAN HOUSE LOAN COSTS	-.017	.869	.002
MEDIAN RENT	-.053	.878	.161
AVERAGE ROOM OCCUPANCY	.596	-.200	.391
PERCENT HOUSES	-.899	-.101	.278
PERCENT APARTMENTS	.903	.112	-.204
MEDIAN FAMILY INCOME	-.052	.917	-.014
PERCENT MOVED LAST 5 YEARS	.825	.202	-.040

PERCENT OVERSEAS MIGRANTS	.572	.284	.332
HOME OWNERSHIP RATE	-.841	.281	.214
EIGENVALUES	3.791	2.665	1.046

Source: Calculated from ABS 2006 Census of Population and Housing data

In this case, ten “real” variables have been transformed into three factors. Together, the three factors explain 75% of variation in the cases analysed. The average variable values associated with each factor are summarized in standardized scores (shown in Table 1), which we can use to understand the combination of characteristics each factor “stands for.” Thus, the first factor shown in Table 1 is associated with places with younger, lower income renters, with more apartments, higher occupancy rates per room, high rates of mobility (and higher proportions of overseas migrants), and lower rates of home ownership. The second factor is associated with places with older, higher income households, with higher rates of home ownership, fewer people per room, and moderate levels of mobility. Factor three is associated with places with younger, owner occupied households, close to average housing costs, with predominately detached homes, with close to average rates of mobility but slightly higher proportions of overseas migrants. Scores close to 0 would be close to average for the entire sample. Each case (CCD) will have a score on each factor: a place could score a high positive on factor 2, and high negatives on factors 1 and 3, or a place could score low negatives on all three factors, for instance. The point of this step in the analysis is to create a small set of uncorrelated but meaningful indicators we can use as the basis for our cluster analysis.

The next step in the analysis is to test out alternative methods of clustering cases, to get a sense of which solution would be most useful. K-means clustering has several advantages when dealing with a large number of cases, but it is important to test several alternative numbers of groups. Too few or too many groups can result in clusters that are too large and undifferentiated or too small and unique. The analyses were tested with from two to seven clusters, and the degree of association with key variables (both those we had used to construct the factors and those we had excluded) was examined to determine the usefulness of each solution. In each case, iterations were continued until

clusters converged. The final solution chosen identified five clusters, ranging in size from 465 to 3,059 CCDs (census collection districts).

## **Findings**

The final clusters are summarized in Table 2. Cluster 1 could be labeled “middle aged affluent home owners”. Overall, residents of these areas had higher incomes and higher housing costs, and were likely to own (43%) or be purchasing (40%) their home. Household sizes were larger on average but occupancy per room was lower. The CCDs in this cluster are characterized by predominately single detached homes with few apartments. The population is relatively stable with lower than average proportions of people who had moved in the last five years, and proportions of people born overseas were close to the average.

Cluster 2 might be summarized as “retirement / social housing havens.” Residents are much older than the average, with low incomes and proportionately low housing costs. Households are small, and are evenly split between owners and renters (among owners, about two thirds own their homes without debt). Of renters, a much higher than average proportion live in social housing. The CCDs in this cluster represent a range of housing types, with somewhat fewer detached homes than average and more row houses and apartments. Turnover rates are close to average, but few migrants are from overseas.

Cluster 3 could be described as the “middle ring moderate income owners.” Median incomes and housing costs are below the average for all CCDs. Households are larger, and they are more likely to be home owners, although only half (35%) of owner households own their homes without debt. Turnover rates are lower than average, and rents are relatively low. The housing stock of these CCDs looks more like that of the first cluster (with 85% of units single detached homes). This is also the largest cluster, including roughly half of all CCDs.

Cluster 4 appears to be made up of “mobile young renters.” Residents of these CCDs are more likely to be younger, with substantially lower incomes than average. Housing costs are somewhat lower than average, but proportionately more burdensome. Room occupancy rates are high. On average, three in four dwellings in these CCDs are apartments, and very few are detached homes. Most households are renters, and turnover

rates are high. A higher than average share of migrants in these CCDs moved from overseas.

Cluster 5 may be summarized as “affluent mobile households with choice.” Median incomes are high, as are housing costs. Households are small, and apartments and row houses predominate. Renters are slightly in the majority, and turnover rates are high. Slightly more than half of owners owe no debt on their homes, similar to the proportion in cluster 1.

Table 2 Final Cluster Centres

	Cluster					Mean
	1	2	3	4	5	
Factor score 1 (young low income renters)	-.72200	-.03704	-.50307	1.77469	1.06900	
Factor score 2 (older higher income owners)	1.10935	-.74404	-.56716	-.52851	.90545	
Factor score 3 (younger median income owners)	.19240	-2.38334	.29419	.58229	-.46862	
Number of cases	1363	465	3059	779	1083	
Median age	38.83	49.37	35.32	31.32	36.01	36.65
Median weekly family income	\$2,067.74	\$1,004.07	\$1,208.07	\$1,070.24	\$2,059.88	\$1,488.41
Median monthly house loan costs	\$2,358.33	\$1,540.21	\$1,655.08	\$1,587.86	\$2,273.55	\$1,880.68
Median weekly rent	\$402.35	\$173.81	\$225.83	\$241.48	\$337.27	\$277.58
Average room occupancy	1.07	1.06	1.13	1.32	1.14	1.14
Average household size	2.98	2.02	2.92	2.36	2.04	2.66
Proportion houses	.865	.477	.853	.139	.151	.634
Proportion row	.085	.172	.097	.108	.201	.118

houses						
Proportion apartments	.047	.314	.041	.740	.638	.237
Home Ownership Rate	.831	.502	.713	.363	.489	.646
Proportion renters in social housing	.029	.321	.166	.093	.048	.122
Proportion moved in last 5 years	.346	.407	.336	.615	.592	.416
Proportion overseas migrants	.128	.050	.078	.243	.166	.119

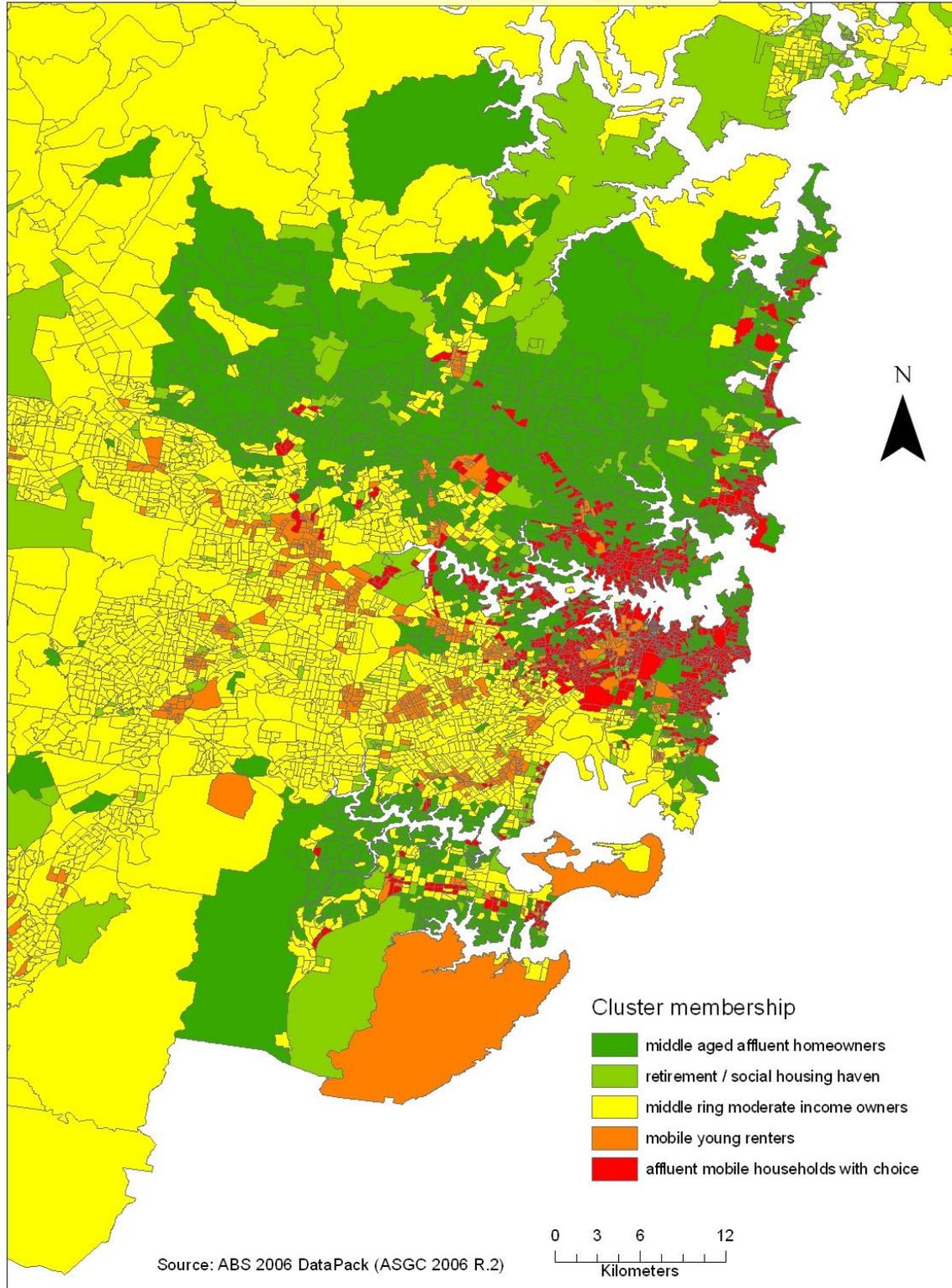
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Source: Calculated based on 2006 ABS Census of Population and Housing

Figure 1 shows the spatial distribution of these clusters. While there is some degree of spatial contiguity for CCDs in the same cluster, the pattern is far finer grained than we might have expected. Some spatial relationships are striking though. “Mobile young renters” are clearly concentrated around rail lines and major stations to the west and southwest. “Affluent mobile households with choice” are concentrated in the gentrified suburbs of the Global Arc and inner city, and along the northern rail line, while “Middle aged affluent homeowners” (unsurprisingly) dominate the more desirable waterfront, Eastern suburbs and North Shore locations. Pockets of retirement and social housing havens are interspersed throughout this fabric. The “middle ring moderate income home owners” cluster extends over the majority of the metro area.

Figure 1: Cluster groupings, Sydney Metropolitan area, 2006

# Cluster Groupings by CCD



Do these clusters offer a useful understanding of the affordability dynamics of local housing markets? Our next step was to analyze variations in key housing market indicators among the five clusters, using a standard one-way ANOVA method, shown in Table 3.

Table 3: Housing Market Indicators

	Middle age affluent homeowners	Retirement / social housing havens	Cluster Middle ring moderate income owners	Mobile young renters	Mobile affluent households with choice	Mean
annual average change in median price (2003- 2010)	3.50	2.48	1.79	3.57	4.28	2.85
change 2003-2005	2.44	3.92	6.63	1.99	2.36	4.37
change 2005-2008	6.42	-2.90	-9.04	2.04	4.52	-1.70
change 2008-2010	14.98	17.76	17.80	21.82	22.78	18.54
rent to sales ratio 2003	2.55	2.91	2.85	2.98	2.94	2.82
rent to sales ratio 2005	2.65	2.96	2.89	3.15	3.07	2.90
rent to sales ratio 2008	3.30	3.99	4.19	4.11	3.81	3.91
rent to sales ratio 2010	3.09	3.79	4.10	3.82	3.39	3.70
Days on market (houses)	60.46	61.30	69.23	63.05	56.09	63.68
Days on market (units)	65.63	66.33	73.17	63.15	56.25	65.96
Average value all new construction 2010 ('000)	\$354	\$265	\$235	\$256	\$373	\$286
Average value new home construction 2010	\$489	\$353	\$282	\$358	\$549	\$380
Average value new unit construction 2010	\$268	\$221	\$195	\$229	\$335	\$237

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Average value of alterations as a proportion of all residential building

29.97      23.85      15.14      23.84      36.77      23.21

Source: NSW Land and Property Authority property transaction data 2003; 2005; 2008; 2010; Domayne.com sales profiles by suburb; ABS Construction statistics 2010

Annual average price changes are based on median sales data reported by the NSW Land and Property Management Authority by postal area (medians were converted to Statistical Local Area equivalents using an average weighted median technique). Clusters 1, 4, and 5 have seen strong growth in sales prices on average (middle aged affluent home owners, mobile young renters, and mobile affluent households with choice). Homeowners and investors in these three clusters have benefited from strong demand for housing in these waterfront, inner city and rail-accessible locations. The retirement / social housing havens have seen respectable annual growth overall, with prices recovering from the downturn between 2005 and 2008 with strong 2008-2010 period growth (possibly related to new demand stimulated by the FHOG enhancements). But half of Sydney's CCDs have experienced a different trajectory. After strong growth from 2003 – 2005, middle ring moderate income homeowner CCDs saw median sales prices decline by more than 9% between 2005 and 2008, a period of economic expansion but also interest rate increases. The trend reversed and growth was in line with other markets from 2008 to 2010, likely reflecting the impact of sharp reductions in interest rates, combined with the effects of stimulus spending. With a high proportion of moderate to lower income indebted home purchasers, these markets may be far more vulnerable to interest rate swings than areas in clusters 1, 4, or 5. Over time, rents in the middle ring suburbs have moved out of line with average rent to value ratios in the metro area, which has likely put upward pressure on rental affordability (these CCDs offered relatively lower median rents in 2006).

“Days on market” is another indicator of the relative strength of demand in a local market. Long periods between listing and selling a property indicate a slack market with lower demand (or, low demand at the asking price). Cluster 5 CCDs have much shorter than average marketing periods, providing further support for the existence of a very tight market in these locations. Cluster 3 has longer than average marketing periods, supporting other indicators that point to a slacker market. The average value of new construction follows a similar pattern, with Cluster 5 attracting the most expensive new dwellings and Cluster 3 the least expensive. The margin on units developed in Cluster 3 is likely much narrower; minimum current construction costs are likely to exceed the \$195,248 average value of new units (NHSC 2010). An index of the value of

expenditures on alterations and upgrading as a percent of all expenditure on residential building shows a concentration of investment in the gentrifying areas of Cluster 5 CCDs (and above-average spending in Cluster 1), in contrast to much lower rates of upgrading investment in Cluster 3 CCDs.

### **Policy implications**

Sydney's fragmented housing submarkets pose contrasting challenges for resolving the metropolitan area's housing supply problems. The "middle ring moderate income owner" cluster offers a less appealing development environment, with slacker demand, lower capital appreciation, and greater vulnerability to housing cost changes. Development costs for new housing may not be supported by sales prices, especially if recent stimulus-led increases reverse or lapse. Sharp increases in interest rates could precipitate further slackening of demand, price declines, and increased mortgage stress. Clearly, there is substantial variability within this large cluster and not all CCDs will be equally vulnerable, but the areas in this group share features that suggest there could be spillover effects from weaknesses in neighbouring housing markets.

While the "retirement / social housing haven" cluster has lower median family incomes and a larger gap between incomes and housing costs, market trends in these neighbourhoods have been more stable and a much lower proportion of owners would be vulnerable to interest rate increases. Rental options are also stabilized by the high proportion of social housing in these locations, although home ownership may be far out of reach for current renters.

The "mobile young renter" cluster has a similar gap between median incomes and housing costs, but here housing cost burdens are more likely to be managed by increasing occupancy. At an average of more than 1.3 people per room, overcrowding is a significant problem. In the medium term, severely overcrowded housing will raise quality and safety concerns. There is substantial unmet demand for affordably priced housing in these accessible but less amenity-rich locations. This unmet demand has kept investment and price appreciation at high levels. But future investment and additions may be constrained by the availability of redevelopable land.

Clusters 1 and 5 have more affluent households on average, and indicators point to thriving housing markets in these amenity-rich areas. The “mobile affluent households with choice” cluster in particular poses the opposite challenges to that of the “middle ring moderate owner” cluster: the problem is to avoid over-speculation and continued rapid appreciation which may not be sustainable. In addition, this cluster includes some of the most accessible locations, where the remaining affordable housing stock is under pressure from redevelopment and high rates of upgrading.

Some existing housing policy tools have a role in meeting these challenges, if they are carefully targeted. Inclusionary zoning is well suited to maintaining an affordable housing stock in the rapidly redeveloping “mobile affluent households with choice” clusters (and to some extent the “middle aged affluent homeowners” cluster). In these locations, development margins are wide, and well designed regulations and offsets could make limited price housing feasible without cross-subsidies from other households. Waivers on parking requirements, density bonuses, and different standards of interior finish could reduce costs. Urban redevelopment land is limited, and in particular the larger parcels in public ownership offer an opportunity to impose requirements while still leaving developers with acceptable margins. However, inclusionary requirements will be more effective if they must be met in-kind rather than through in-lieu fees. The central rationale for such a policy is to replace affordable housing lost to redevelopment, to capitalize on the value of an accessible location, and to retain a measure of social and economic integration in rapidly appreciating areas. In-kind contributions could involve land provision to community housing providers as well as set asides of units within new developments.

But inclusionary zoning is not appropriate everywhere: it would be ineffectual and counter-productive in the slacker markets of the “middle ring moderate income owners” cluster, and would place greater pressure on market affordability in clusters 2 and 4. However, new subsidized rental housing under the NRAS scheme would be a very appropriate strategy in the overcrowded and relatively high-priced rental markets of the “mobile young renters” cluster. Accessibility is high in these locations but affordability is worsening. These locations are already appealing to investors, and new affordable rental housing in these locations could be priced well below market rates, capitalizing on

expectations of continued strong appreciation. Currently, the NRAS is not designed to preserve affordability for very long, and added value might be negotiated in future iterations of the program in the strong markets typical of this cluster.

“Middle ring moderate income owner” neighbourhoods require a combined approach, to stabilize and support effective demand, and provide protection against interest rate swings (for existing as well as new owners). Current home buyer subsidies are poorly designed to address these problems. As we argued above, the FHOG is too blunt an instrument to increase purchasing power because its effects are dissipated across all home prices within first time buyer segments of the market. A place-targeted support to make up the gap between development costs and sales prices in lower value neighbourhoods would be a more effective way to compensate for the weakness of effective demand in those locations. A subsidy delivered through a soft second mortgage to home buyers (rather than a direct capital subsidy to developers) could improve both development feasibility and home ownership opportunities. In addition, mortgages that offer more predictability and reduce vulnerability to interest rate swings could serve current as well as future owners, supporting prices and thus stabilizing markets. There is relatively little experience with competitively priced fixed rate mortgages in Australia, but there are strong arguments that reducing exposure to interest rate swings can stabilize housing prices (Tsatsaronis and Zhu 2004). In the US, lower income first home buyers (and buyers in distressed neighbourhoods) have access to fixed below market interest rate loans from participating banks, which are funded by tax exempt bonds issued by state governments. While such a strategy would represent a considerable innovation, it would be especially valuable in the middle ring suburbs identified here. However, incentives such as these would be counter productive in neighbourhoods with very strong appreciation (clusters 1, 4, and 5).

## **Conclusions**

This paper has investigated one approach to modeling the structure of Sydney’s housing submarkets, and illustrated how a spatially differentiated picture might inform a spatially sensitive metropolitan housing policy. The submarkets identified were associated with different sorts of housing affordability problems, ranging from rising costs in the most

accessible locations to interest rate vulnerability elsewhere. Using identical policy interventions across all markets is likely to have perverse effects, as tight markets are overheated, further increasing displacement and over inflation, while slack markets continue to languish. The preceding section provided illustrations of spatially targeted interventions to address affordability problems in particular submarkets. Without targeting, incentives are more likely to be used in locations that maximize developer returns rather than affordability (or other public goals).

A closer link between sub market analysis and incentives relies on current and transparent housing market indicators. Reaching agreement on benchmarks that would trigger eligibility, and providing adequate evidence for those benchmarks, poses political and institutional challenges. A commitment to using public funds strategically, and justifying supply- and demand-side supports based on evidence and analysis, are essential preconditions for this institutional shift. How that shift may be accomplished is a subject for future research.

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## Welcome from the Congress Chair

In my role as Chair for WPSC2011 and on behalf of The University of Western Australia, as the host institution, my colleagues from ANZAPS as the host planning schools region, and GPEAN as the overall convenors of the WPSC conference series we all look forward to welcoming you to Perth, Western Australia.



The 2011 World Planning Schools Congress marks the 10th anniversary of this major international academic event which was first held in Shanghai in 2001 and Mexico City in 2006. This year's WPSC also marks the 10th anniversary since the signing of the Shanghai Statement and the establishment of the Global Planning Education Association Network (GPEAN), the organisation that oversees the WPSC and the Dialogues in Urban and Regional Planning book series published by Routledge.

GPEAN is a virtual and voluntary academic organisation that seeks to promote urban and regional planning education and research and foster international links between and across its member organisations. These organisations currently include:

- Association of Collegiate Schools of Planning (ACSP) [USA]
- Association of Canadian University Planning Programs (ACUPP)
- Association of European Schools of Planning (AESOP)
- Latin American Association of Schools of Urbanism and Planning (ALEUP)
- National Association of Urban and Regional Post-graduate and Research Programs (ANPUR) [Brazil]
- Australia and New Zealand Association of Planning Schools (ANZAPS)
- Association for the Development of Planning Education and Research (APERAU) [Francophone Nations]
- Asian Planning Schools Association (APSA)
- Association of African Planning Schools (AAPS)

As with previous WPSC events this year's congress incorporates the annual academic conferences held by AESOP and ANZAPS and as result of this there will be a large turnout of delegates from across Europe, Australia and New Zealand. We also have a large number of delegates from across all the other planning schools regions.

WPSC2011 will feature papers/presentations across 20 different tracks. Abstracts submitted to the conference were subject to review by the 40-plus Track Co-Chairs drawn from across the member associations of GPEAN. In addition, a large number of papers have gone out to external reviewers.

All submitted full papers, peer-reviewed and non-peer reviewed, will feature on an official WPSC2011 CD-Rom which will have an ISBN number. Registered delegates will received a free copy of the CD-Rom. Colleagues unable to attend WPSC2011 and anyone else interested in the WPSC2011 CD-Rom of papers/presentations will also be able to obtain copies from the Congress Chair for a small fee to help cover administration and postage costs – full details will appear on the conference website in due course.

**Paul J. Maginn**, PhD MPIA  
Associate Professor/Programme Coordinator  
Urban & Regional Planning  
The University of Western Australia  
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