

## **5th Australasian Housing Researchers' Conference**



**17-19 November 2010, University of Auckland, New Zealand**

### **A marathon not a sprint – a case study of the residential legacy of the Sydney Olympic Games**

**Andrew Tice**

City Futures Research Centre, Faculty of the Built Environment, University of New South Wales, NSW  
2052, Australia; e-mail: a.tice@unsw.edu.au

Phone: +61 (02) 9385 6041; fax: +61 (02) 9385 5935

**Hazel Easthope**

City Futures Research Centre, Faculty of the Built Environment, University of New South Wales, NSW  
2052, Australia ;e-mail: hazel.easthope@unsw.edu.au

Phone: +61 (02) 9385 6041; fax: +61 (02) 9385 5935

### **A marathon not a sprint – a case study of the residential legacy of the Sydney Olympic Games**

#### **Abstract**

Higher density is increasingly used as a catch all in Sydney to satisfy a plethora of planning assumptions including (but not limited to) future demand shaped by decreasing household sizes and promotion of public transport use through compact city design and transport oriented developments. Many of these assumptions are based on simplistic apartment resident profiles which belie the observed complexity of the existing apartment market in the city. The paper explores this complexity through an analysis of the new (and developing) high density market being built on the former Sydney Olympic Park site. Whilst the development is couched in the stated assumptions the realised demand profile is evidenced to be changing into one that is considerably more diverse, including lower income families and evidence of international investment processes. The paper concludes with a discussion on the how these findings could be utilized to inform more socially inclusive regeneration programmes in both brownfield and greyfield sites.

**Key words:** Higher Density, Brownfield redevelopment, demand

## Introduction

Many of the current debates surrounding the development of a higher density future for Australian cities have been informed by observed trends in declining household size and the use of increased density to promote increased public transport patronage. First this paper evidences these debates, and then locates them as assumptions in the metropolitan planning strategies. Moving on from this the paper then identifies that, at the level of the city, the residential profile of those living in higher density developments is far broader and more complex than those assumed within the planning frameworks.

In part this range of complexity is not particularly surprising if viewed from the macro level. Given that higher density developments comprise over a quarter (25.7%, ABS Census 2006) of the residential stock in Sydney it could well be that these profiles simply reflect the complexity within the wider population. However, previous research (Randolph & Tice, 2010) indicated that a high level of profile mixing could be observed at the local level as well.

In order to test the level of mixing further the main section of the paper uses a case study of the developing profile of residents living in, and moving to, the new higher density market being created on the site of the 2000 Sydney Olympic games. Through this analysis the paper identifies three different dynamics shaping the profile of the site. Firstly, that a component is conforming to the broader planning assumptions concerning the demand for higher density housing. Secondly, that a separate form of demand, which does not conform to the assumptions, is being drawn from a surrounding older residential sub-market. Thirdly, that recent trends in residential property investment and immigration policies is also serving to shape the local market's functionality. Whilst the findings of the case study are site specific and not necessarily replicated in other locations (even within Sydney) the level of complexity identified raises questions over the applicability of planning based on broad assumptions about expected residential demand profiles.

## Planning assumptions about apartment residents

Australia's cities have historically been dominated by a high proportion of detached houses. The population grew rapidly in the post-WWII years as a result of government policy and "the majority of growth in all the cities (all of it after 1971) occurred by geographic expansion rather than by increased population density in established areas", and was concentrated in the suburbs of the capital cities (Troy, 1995, p. 2). Australian cities are also dominated by owner occupied properties (71.3% of dwellings) and private rental (23.5% of dwellings) with a very small social rental sector (5.2% of dwellings) (ABS, 2006). While Australia is a 'nation of homeowners', the tenure breakdowns for apartments are quite different, the majority being privately rented. Only 33% of apartments are owner occupied, compared with 80% of detached houses (see Table i).

**Table i: Tenure by dwelling type, Australia 2006 (source: ABS 2006 Census)**

	Owner Occupied	Private Rented	Social Rented	
<b>Separate House</b>	80.4%	16.3%	3.3%	100.0%
<b>Attached House</b>	51.3%	36.8%	12.0%	100.0%
<b>Apartment</b>	32.8%	55.5%	11.7%	100.0%
<b>Other</b>	68.6%	30.4%	1.0%	100.0%

Over the last few decades, urban policy in Australia has changed significantly. In particular, concerns have increasingly been raised about ‘suburban sprawl’ and its assumed negative impacts (Parliament of Australia, 1992, Newman and Kenworthy, 1998, Parliament of NSW, 2003, Major Cities Unit, 2010, p. 87). In response, urban planners have focused on higher density forms of housing as a solution to the problems generated by residential urban growth (Bunker and Holloway, 2007, Forster, 2004, Healy and Birrell, 2004, Searle, 2007). In essence, this means a significant shift from low-density greenfield development on the urban fringe towards higher density brownfield developments.

Metropolitan development strategies of the five major Australian cities all include plans for increasing urban consolidation (NSW Department of Planning, 2005, Planning SA, 2010, Queensland Government, 2009, Victorian Department of Sustainability and Environment, 2002, WA Planning Commission, 2004). There have been a number of justifications given for this policy shift, including assumed improvements in access to jobs and services and the greater environmental sustainability due to decreased automobile use.

The validity of these assumptions has been debated extensively, with a focus on the assumed pros and cons of higher density residential development (e.g. Newman, 2005, Rescei, 2005) relating to infrastructure provision, transport use and environmental sustainability (e.g. Breheny, 1995, Dey *et al*, 2007, Jenks *et al*, 1996 and 2000, Neuman, 2005, Perkins *et al*, 2009, Trubka *et al*, 2009).

Coupled with the shift towards urban consolidation in the Australian context has been a shift not only towards higher density dwellings, but also towards smaller dwellings. Almost 40% of the apartment market is comprised of one and two bedroom properties, in comparison to less than 10% of the detached dwelling market (ABS, 2006). This shift to smaller dwellings is justified in planning documents with reference to changing household structures. For example, Sydney’s metropolitan plan points out:

The trend to smaller households is partly driven by the ageing of the population, which tends to result in more single and two person households. This will inevitably lead to a greater demand for smaller housing with good access to shops, transport and services such as health. Increasing affluence and more single and young people living alone are also major contributors to the increased demand for housing. These changes in household type and therefore occupancy rates mean that total demand for housing will be greater than population growth and a wider mix of housing types will be required (NSW Department of Planning, 2005, p. 24).

Indeed, the overall number of single person households in Australia increased by 93.6% between 1981 and 2001 (ABS, 2006). Policies prioritising smaller dwellings based on smaller household sizes are underpinned by the ‘mismatch’ argument, which had already been adopted by Australian researchers in the 1970s (Batten, 1999). This argument holds that there is a mismatch “between the available [dwelling] stock and the size of households to the extent that there is significant underutilisation and under-occupancy of housing” (Batten, 1999, p. 137). This orthodoxy has been challenged by a number of academics (Batten, 1999, Maher, 1994, 1995, Easthope *et al*, 2010) and empirical evidence suggests that smaller households want to retain their housing space (Judd *et al*, 2010, Wulff *et al*, 2004, Yates, 2001). We join Gleeson and Sipe (2006, p. 2) in arguing that in Australia:

[p]oliticians, professions and institutions have overreacted to major demographic shifts – notably the growth of smaller households, population ageing – and have assumed that they are no longer central priorities for politics and policy.

## **A more complex picture?**

Previous analysis of Sydney’s apartment population undertaken by the authors (Randolph & Tice 2010; Easthope *et al*. 2010) has identified five major submarkets of apartment residents in the city. Based on a factor analysis of 2006 census data covering twenty-eight socio-economic variables (including age,

household type, tenure, income and employment type) and extracted at the ABS Collector District (CD) level (typically comprising 250 households), the authors generated five factors that explained 83% of the total variance within the apartment population in greater metropolitan Sydney. Table ii provides an overview of the dominant characteristics of each factor group.

**Table ii: Attributes of five major factor groups of apartment residents (source: ABS 2006 Census)**

	<b>Dominant household type</b>	<b>Dominant age range</b>	<b>Dominant income range</b>	<b>Dominant tenure</b>	<b>Dominant countries of birth</b>
<b>Battlers</b>	Families with children		Low income (<A\$50,000 common)	Rental and ownership	Australia, China, India, Vietnam
<b>Economically Engaged</b>	Singles and couples	Young adults through to early middle-age	Medium to high income (>A\$90,000 common)	Rental	
<b>Apartment Elite</b>	Couples	Over 50	High to very high income (>A\$130,000 common)	Rental and ownership	Australia
<b>Residentially Retired</b>	Singles	Over 65		Ownership	Australia and United Kingdom
<b>Achieving Education</b>	Singles and group households	Under 25		Rental	China, India and Korea

Note: Blank squares indicate no dominant attribute.

This research found that the economically engaged were the most statistically prevalent group in the global factor analysis, but the most dominant group in terms of indicative population size was the Battlers (refer to Randolph & Tice, 2010 for more detailed explanation).

Whilst these submarkets had distinct individual geographies, the majority of the Apartment Elite and Achieving Education groups lived in inner-city areas for example, while the majority of the Battler group lived in the middle suburbs (Randolph & Tice 2010; Easthope et al. 2010), they also overlapped quite considerably. This finding indicates that as well as reflecting complexity of form at the macro level the residential profile of higher density may be increasingly variegated at the more micro level as well.

## **Sydney Olympic Park case study**

With the overview of Sydney's apartment market in place the paper now focuses on one of the key areas of high density development, the former Sydney Olympic Park site. The site is comprised of two suburbs, Newington (which in part is comprised of the former Olympic village) and Homebush Bay (see figure i). Formally the location of heavy industry, brickworks and the State Abattoir amongst others residential

renewal began in the mid 1990's in the suburb of Newington and was characterised by a low to medium density mix of free standing (detached) houses and low rise apartment buildings (see figure ii). Post games the entirety of the site was handed to the Sydney Olympic Park Authority (SOPA) established as a statutory body of the NSW Government under the *Sydney Olympic Park Act 2001*. Whilst the Authority retains a certain amount of autonomy from the NSW Government, both in day-to-day activities and also longer term goal setting, it is important to realise that these activities are still framed and defined by strategic directions put in place by agencies of the NSW Government, specifically the Department of Planning.

In the 2005 Metropolitan Strategy and articulated in the West Central Subregion plan the site itself is identified as a Specialised Centre “*that perform(s) a vital economic and employment roles across Sydney*” (Metropolitan Strategy, p.92) and assessed to have the capacity for 6,000 new dwellings (West Central Subregion Draft Strategy). Returning to points raised previously over how the Metropolitan Strategy has articulated future, assumed, consolidated housing demand, it is perhaps unsurprising that the contemporary residential offer being constructed on the site has taken the form of higher density apartment blocks (see figure iii), usually of 7 stories or more.

**Figure i: Olympic Park context (source: Google Earth and ABS)**



To evidence this change in the profile of residential development on the site table iii details the stock mix on the site in 2001 and 2006, with the 2001 profile being largely comprised of properties built for the Olympic Village in Newington. During the inter-censal period the provision of all main property types increased although the greatest increase was comprised of larger blocks of flats and apartments (those over 4 storeys). The vast majority of houses (95% of all built) were located in the suburb of Newington although the distribution of increase in Flats comprised of 4 or more storeys was more equitable with 455 (44.6%) new units in Newington and 565 (55.4%) in Homebush Bay.

**Table iii: Profile of property development on the SOP site (source: ABS 2001/ 2006 Census)**

<b>Year</b>	<b>Houses (all forms)</b>	<b>Flats (under 4 Storeys)</b>	<b>Flats (over 4 Storeys)</b>	<b>Total Flats</b>	<b>Total Stock</b>
<b>2001</b>	343	292	286	578	921
<b>2006</b>	1,047	440	1,306	1,746	2,793
<b>Total Increase</b>	704	148	1,020	1,168	1,872
<b>Percentage Increase</b>	205%	51%	357%	202%	203%

**Figure ii: Previous residential development in Newington**



**Figure iii: Current residential development on SOP site**



To consider whether this reorientation of the residential property mix may influence the profile of site's household profile a special table request was submitted to the ABS for the profile of the populations living in flats or apartments in the two suburbs in 2001 and 2006. Thus the figures reported in the following analysis on are specific to those living in the higher density developments, rather than simply representing a population living in locations where higher density has been built; a crucial difference for understanding the influence location may play in shaping housing demand. Table iv provides an overview of the numbers of persons and households by built form.

**Table iv: Change in persons and households on SOP site (source: ABS 2001/2006 Census)**

Year	Total persons	Total households (excluding lone Persons and group households)	Total households in flats (excluding lone persons and group households)
2001	3,465	921	353
2006	6,337	2,536	867
<b>Total increase</b>	2,872	1,615	514
<b>Percentage increase</b>	83%	175%	146%

One of the most striking changes in the profile of households living in apartments around the SOP site has been the substantial growth in the overall number of Families with Children, at the expense of all other household forms (see table v). To place this change in context across the Sydney Metropolitan area Families with Children living in apartments fell from 22% of the high density population in 2001 to just 16% in 2006.

**Table v: Change in household type (apartment population) within the SOP site (source: ABS 2006 Census)**

	2001	2006	Change
<b>Couple family with children</b>	13%	31%	18%
<b>Couple family without children</b>	46%	36%	-9%
<b>Multiple family</b>	0%	1%	0%
<b>Lone person</b>	30%	25%	-5%
<b>Group household</b>	11%	7%	-4%

Whilst Families with Children now represent over one-third of the overall population in apartments within the SOP site, smaller household forms for example Families without Children (typically two person households) and Lone Person remain the *overall* dominant form. This is probably due to the prevalence of smaller property forms (one and two bed units) being developed. Unsurprisingly the increase in the overall proportion of Families with Children has also increased the overall percentage of Children living in the reference locations (table vi)

**Table vi: Change in the percentage of children within the SOP site (source: ABS 2006 Census)**

	SOP		Sydney	
	2001	2006	2001	2006
<b>0-4 year-olds</b>	6.3%	6.5%	5.6%	5.5%
<b>5-14 year-olds</b>	8.9%	10.6%	7.5%	6.3%
<b>Overall</b>	15.2%	17.1%	13.1%	11.8%

Given the size of the relative population (young children), this represents a significant demographic change within a very small period of time. In terms of proportional population growth for those aged

under 15 compared to overall population growth, the number of children living in SOP increased by 11% compared to a decline of -9% for the Sydney Metropolitan area overall.

This finding indicates that there are substantially different drivers affecting the demand for apartments within the SOP locations compared to those shaping the demand across Sydney in general.

The overall trend of household incomes (table vii) indicates that there has been a considerable shift in household incomes in the SOP reference area over the period. Particularly noticeable is the growth in lower (below A\$650 per week) income households from 13% to 26% compared to an overall decline in households earning below this threshold in Sydney as a whole (for comparison Sydney's median household income was A\$1,154 per week in 2006).

**Table vii: Change in household income profile (source: ABS 2006 Census)**

Household income	SOP		Sydney	
	2001	2006	2001	2006
<b>A\$1-\$350</b>	8%	10%	16%	13%
<b>A\$350-\$650</b>	5%	16%	15%	13%
<b>A\$650-\$1,000</b>	12%	15%	21%	18%
<b>A\$1,000 - \$1,400</b>	16%	17%	21%	17%
<b>A\$1,400 - \$2,000</b>	34%	18%	16%	16%
<b>A\$2,000 - \$3,000</b>	18%	20%	9%	16%
<b>A\$3,000 +</b>	7%	5%	2%	7%

Coupled with this there also appears to have been a substantial hollowing out of higher earning households (\$1,400-\$2,000 per week), declining by 16% over the period. This is a rather confusing finding as this kind of income range is usually associated with dual income households (for example couple families), the exact household form that has increased by the greatest amount over the period (table v).

Table viii demonstrates that a considerable shift occurred in the geography of migration to the SOP site. The influence of direct overseas migrants to the site is notable (and will be returned to later on) the other is the shift in the moves from neighbouring locations. In 1996-2001 the top contributing location was Strathfield, which is situated due southeast of the site, in 2001-2006 it was Auburn, situated due southwest of the site. Whilst both, undoubtedly, underline the important influence of local demand it should be noted that this shift in focus also served to alter the form of demand. To underline this, Strathfield's median household income was (in 2001) A\$1,148 per week, whilst Auburn's median was A\$748.

**Table viii: Changing pattern of migration to SOP site (source: ABS 2006 Census)**

Location	1996-2001	2001-2006
<b>Auburn</b>	3.2%	30.5%
<b>Baulkham Hills</b>	1.9%	2.6%
<b>Burwood</b>	2.5%	1.2%
<b>Canada Bay</b>	4.4%	4.9%
<b>Strathfield</b>	24.3%	2.8%
<b>Parramatta</b>	2.3%	3.1%
<b>Inner Sydney</b>	7.2%	9.6%

<b>Southern Sydney</b>	2.2%	2.9%
<b>Northern Sydney</b>	5.9%	8.2%
<b>Other Western Sydney</b>	5.5%	7.4%
<b>South West Sydney</b>	3.0%	3.9%
<b>Central Coast</b>	0.4%	0.7%
<b>Other NSW</b>	2.9%	2.9%
<b>Other Australia</b>	5.8%	5.7%
<b>Overseas</b>	21.9%	11.5%
<b>Not stated</b>	6.6%	2.1%
<b>Total</b>	100.0%	100.0%

## Economic activity and employment

Whilst the trajectory of household incomes (table vii) could appear to indicate a decline in overall earning capabilities this in itself isn't directly related to unemployment. Table ix demonstrates that in 2006 only 2% of the economically active population living on SOP were unemployed, compared to 6% of the Sydney population.

**Table ix: Change in economic activity rate within the SOP site (source: ABS 2006 Census)**

	<b>SOP</b>		<b>Sydney</b>	
	<b>2001</b>	<b>2006</b>	<b>2001</b>	<b>2006</b>
<b>Economic activity</b>				
<b>Employed (%)</b>	93%	98%	93%	94%
<b>Unemployed (%)</b>	7%	2%	7%	6%
<b>% Not in labour force</b>	19%	17%	26%	24%

Also of note is that the percentage of the adult population not in the Labour Force. This has remained considerably lower than the overall rate across Sydney and suggests that not only are there fewer adults excluded from the Labour Force (for example those suffering from a long term limiting illness, or retirees) living within the SOP reference area but also that adult groups who can be excluded from the Labour Force at different life stages (for example students in further education or mothers caring for children) are engaging in some form of paid employment as well.

Whilst participation in the Labour Force has increased there appears to have been a certain level of deskilling within the range of employment types (table x). Over half of the jobs (52%) held by workers in the SOP reference area can be classified as "Higher Earning" (Managers, Professionals and Associate Professionals), or occupations related to the knowledge economy. This has decreased from 60% in 2001 compared to a 2% increase across Sydney.

**Table x: Change in occupation groupings within the SOP site (source: ABS 2006 Census)**

	<b>SOP</b>		<b>Sydney</b>	
	<b>2001</b>	<b>2006</b>	<b>2001</b>	<b>2006</b>
<b>Economic activity</b>				
<b>Higher-earning occupations</b>	60%	52%	49%	51%
<b>Middle-earning occupations</b>	28%	31%	30%	29%
<b>Lower-earning occupations</b>	11%	16%	21%	20%

As with the changes in household income there has also been a disproportionate increase in “Lower Earning” (Intermediate Production / Transport Workers, Elementary Clerical / Sales and Service Workers and Labourers) Occupations within the SOP reference area in comparison to Sydney’s apartment market as a whole, an increase of 5% compared to a decrease of 1%. It is suggested that these two occurrences are interrelated.

**Figure iv: Overall changes across occupation categories, 2001 – 2006 (source: ABS 2006 Census)**

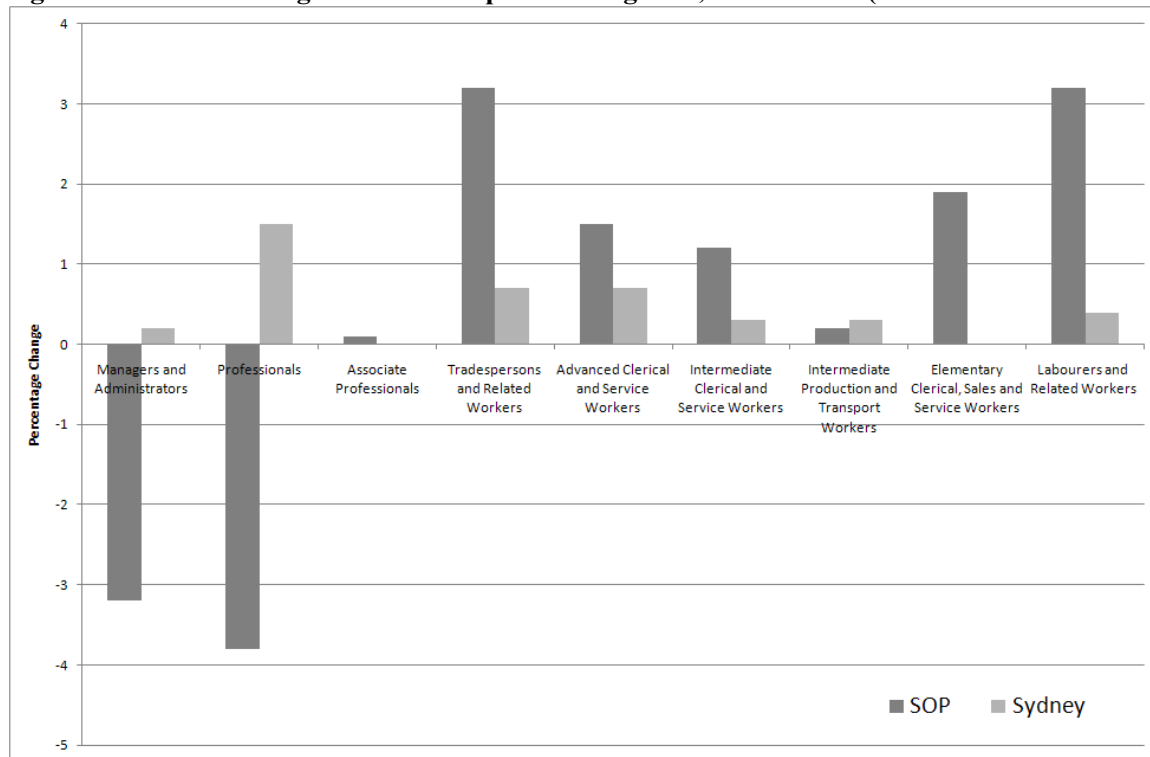


Figure iv further illustrates this shift; of particular note is the almost 4-percentage point decline in the presence of Professional employment. A further point to note is that the increases in both the Middle and Lower Earning Occupations appear to be being driven by people engaged in the construction industry (skilled Tradespersons and Labourers); although the presence of lower earning employment linked to the service economy has growth as well.

Whilst this growth in the number of lower earning employed residents potentially indicates a shift in relationship that SOP area has with the Sydney economy over half of the employment is still within the higher earning occupations.

## Tenure and price dynamics

Whilst the observed decline in the overall proportion of higher earning occupations and related income profiles might be indicative of a residential market undergoing some form of change in demand this is not borne out in any notable changes to the tenure profile of the site. Indeed, as table xi demonstrates SOP retains a marginally higher level of owner occupation than seen for the Sydney apartment market as a whole.

**Table xi: Change in tenure profile within the SOP site (source: ABS 2006 Census)**

Tenure	SOP		Sydney	
	2001	2006	2001	2006
<b>Owner occupation</b>	40%	41%	38%	40%
<b>Rented: real estate agent</b>	59%	59%	63%	60%

Since owner occupation remains quite high, the other possibility is that the property offer is becoming relatively cheaper in order to reflect the change in income capacities. To further test this potential market realignment Table xii presents data on the net resale discount. Over the period 2001-2008, 3,927 new properties were built in and around SOP, and 918 were traded at least twice (once as new and then again subsequently). By matching sales over this period a pattern of price decreases can be seen. For example, those properties bought as new in the period 2001-2002 subsequently achieved a resale price (on average) some \$22,000 (around 5%) less if resold in 2003.

Subsequent decreases include declines in properties traded three or more times, so these values should be treated as net decreases across the entirety of the stock provided over the period. The trajectory of the prices appears to be conforming to Grigsby's (1963) classic conceptualisation of "filtering", although the activity in the case study area is particularly striking given that it has experienced rapid decreases over a relatively short period of time. The discounted value of the resale properties, coupled with the declining price point could indicate that developers are providing new product throughout the area that is becoming more aligned to increasing lower income demand.

**Table xii: Net resale loss on properties built after 2001 (source: © NSW Land and Property Management Authority 2010)**

	Net average loss
<b>2003</b>	-\$21,582
<b>2004</b>	-\$16,113
<b>2005</b>	-\$56,218
<b>2006</b>	-\$36,176
<b>2007</b>	-\$50,790
<b>2008</b>	\$0
<b>2009</b>	-\$50,000

Whilst this might indicate an ongoing demand for higher density (at a reduced price point) it should also be noted that the level of turnover within the new build market (resale properties as percentage of total new build) is extremely low. As stated only 918 new build properties were resold during the period; this is a turnover rate of a little over 3% per year; the period turnover rate (stock sold as percentage of total dwellings) for the entire Australian market was 9.5%.

However, as demonstrated previously the SOP residential offer is comprised of a greater number of rental properties than owner occupied. In order to consider this component weekly rent needs to be considered. This can be undertaken by analysis of rental bonds lodged at the NSW Office of Fair Trading Rental Bond Board (OFT). Under the NSW Landlord and Tenant (Rental Bonds) Act (1977) almost all rental

properties must have their bond (as damage deposit) held by the OFT, for means of assurance, and typically this amount is equivalent to 4 weeks rent.

**Table xiv: Profile of the private rented sector in 2008 (derived from NSW Rental Bond Board information)**

<b>Bedrooms</b>	<b>NEWINGTON</b>	<b>HOMEBUSH BAY</b>	<b>SOP combined</b>
1	1	165	166
2	261	342	603
3	73	59	132
4	7	0	7
5	37	57	94

Concerning table xiv, the Newington component of the SOP site was developed prior to the games and the Homebush Bay component is more representative of the dwelling profile being developed in the post games period. The five bedroom units are, largely, dual occupancy maisonette style houses with a front door at ground level and two stories and can be considered distinct from the dominant profile of two bedroom apartments.

As table xv demonstrates, properties of a similar size in Newington achieved a lower rent than those in Homebush Bay. In part this may be due to newer properties attracting a premium. However, since these newer properties share both similar location characteristics to those in Newington and, as evidenced, a similar demand profile there is the case to be made that Homebush Bay may see a decrease in rents overtime and become more comparable to those in Newington. This process, as born out in the decreases witnessed in the resale value of the properties (table xii), again suggest that in purely economic terms the SOP market is finding its relationship to local demand.

**Table xv: Weekly rent of properties by number of bedrooms in 2008 (derived from NSW Rental Bond Board information)**

	<b>NEWINGTON</b>	<b>HOMEBUSH BAY</b>
<b>1 Bed</b>	A\$300	A\$300
<b>2 Bed</b>	A\$340	A\$380
<b>3 Bed</b>	A\$450	A\$500

Since development of SOP is ongoing it may be useful to consider more recent trends (post 2006), the following uses the NSW register of Strata lots to analyse current patterns of tenure. The register contains information on age of development, sales date and, crucially the address of the unit owner. By comparing the actual address of the unit to the address of the owner an assessment can be made as to whether the unit is owner occupied (the two addresses are the same) or if the unit is rented (the two addresses differ). Table xvi presents the tenure profile derived from this exercise.

**Table xvi: SOP Tenure profile derived from NSW Register of Strata Units (source: © NSW Land and Property Management Authority 2010)**

	<b>2009</b>	<b>2010</b>
<b>Owner-occupied</b>	41.7%	43.5%
<b>Rented</b>	58.3%	56.5%

The derived tenure profile largely appears to conform to that observed from the 2001 and 2006 Census, although with marginal increases in the number of owner occupied properties. One potential reason for this could be the influence of the Federal Government’s increase in the funds made available under the First Home Owner Grant (FHOG) for new build properties in response to the Global Financial Crisis in late 2008.

To assess this possibility, the tenure profile of units sold between October 2008 and March 2010 is presented in table xvii. The sales pattern is broadly similar to the 2010 overall tenure profile, thus indicating that the marginal up lift in owner occupation was probably related to specific targeting of FHOG monies.

**Table xvii: Derived tenure profile of properties sold during FHOG period within the SOP site (source: © NSW Land and Property Management Authority)**

	<b>As %</b>
<b>Owner</b>	43.3%
<b>Renter</b>	57.0%
<i>... Of which owned by a company</i>	37.8%

Table xiv also reports on the type of investor, which can be derived from the Strata Register as business organisations are identified separately from private individual investors, and indicates that over one-third (37.8%) of sales to investors were to registered businesses. The vast majority of these properties (88%) were singular sales, in other words each company only purchased one property suggesting that these companies have relatively small-scale ambitions. Across the entirety of the data the pattern is similar with 660 properties being held by investors registering themselves as a business and 570 of these (86.3%) being a singular incidence of business name appearing.

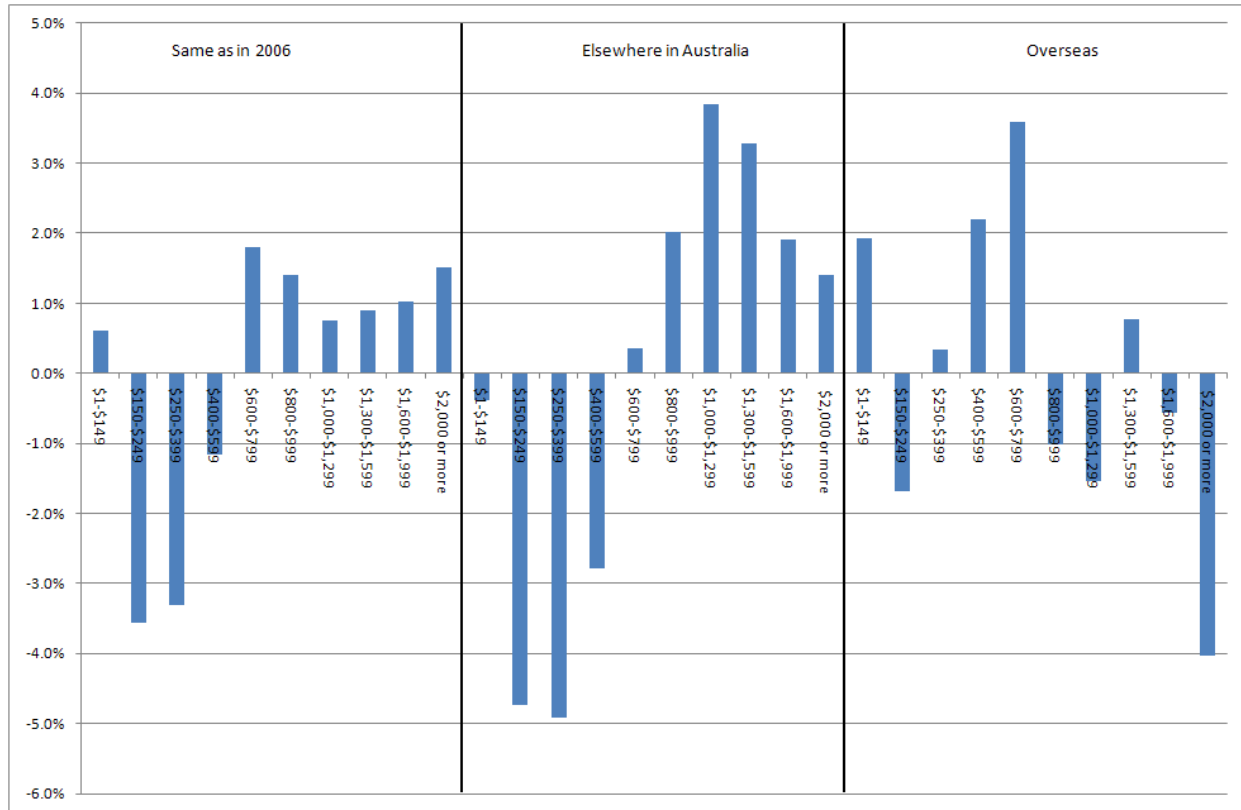
Due to data confidentiality a fuller discussion cannot be entered into concerning the profile of these businesses however the majority of them are choosing to use a (local) real estate agent as their first point of contact; in comparison the “mum and dad” style investors usually register their home address. This finding suggests that contemporary trends in property investment, at least on SOP, are becoming more commercially, and potentially internationally, orientated. Further research could be undertaken to assess how this dynamic of the rental market works, its size and scale, and for how long the properties held are going to be rented out.

### **Discussion: Dynamics of demand**

In light of these different processes, demonstrated in both population and property dynamics, it is useful to return to the profile of migration to the site and introduce an income component.

**Figure v: Income profile of SOP residents by location 5 years previous expressed as % of similar populations in NSW (source: ABS 2006 Census, custom table)**

Figure v provides an interesting insight into some of the processes described above, especially in the



context of the observed shift in occupational structures. Those persons who were living on SOP in 2001 (left hand box) have an income profile that was marginally greater than the entire population of NSW who did not move in the inter-censal period (2001-2006). Those persons moving to SOP during the inter-censal period (central box) from elsewhere in Australia had significantly *higher* incomes than others moving around Australia; although it should be noted that a cohort of this group may have been engaged in international migration to Australia in the period prior to 2001. Those moving to SOP who were previously living overseas in 2001 (right hand box) had significantly *lower* incomes than similar overseas migrants.

In light of the observed changes in population composition (increasing numbers of families), potential discounting of resale units and the apparent development of a newer form of property investor it is hard to ascertain one overall story for the games residential legacy. However, it should be stressed that these three dynamics are not mutually exclusive; they exist and interact on the SOP residential market conterminously.

Whilst one factor, the increasing numbers of children, does raise questions over the applicability of higher-density developments as places for young families (see Easthope and Tice 2010) it also acknowledges and reaffirms previous discussions (Yates 2001) concerning the conflation of property size and price. Smaller households *may* have lower incomes, but lower income *family* households also need somewhere to live.

Further to this the role of policies directing skilled overseas migration cannot be overlooked as a formative driver shaping newly created housing markets. Both figures iv and v relate to a period of time

in which, due to numerous processes shaping skilled overseas migration, “[m]any [of the persons arriving in Australia via these visa types] secured work at the cost of severe deskilling, including large numbers clustered in clerical, manufacturing or sales employment” (Hawthorne (2010), p.13); an effect observed in figure iv. Birrell (2006) make the point that the average weekly earnings of these persons was A\$641; an effect that can be seen in figure v.

Whilst further research would be needed to explore whether these macro migration processes are indeed the same ones that shaped the micro housing market outcomes observed (and not just a form of the ecological fallacy) there never-the-less remains the interrelated activity of apparent commercialisation in the private rental market (table xiv). These findings also raise the question of whether a component of the SOP residential market has also been shaped to provide a longer term secure rental opportunity for a deskilled overseas migration market.

## Conclusion

The analysis has demonstrated that the former Olympic Park’s residential future is still in a state of flux. On the one hand there is evidence of a future pattern of occupation more aligned to the creative-knowledge economy (with associated smaller households) aims and goals laid out in the Authority’s annual reports (Sydney Olympic Park Authority Annual report 2004-05, p.15); which themselves are aligned with those in the current Metropolitan Strategy. On the other, the site also appears to be providing a better residential offer for the more socially mobile households from neighbouring suburbs, enabling them to trade up into newer and more attractive properties.

The analysis also demonstrates the complexity of urban housing markets; specifically that planning for single or mono-type demand profiles produces myopic outcomes. Whilst there is evidence of the planned (expected) population being attracted to the site (single and couple households) the influence of proximity of similar property orientated demand profiles (the battler market in the older apartments in Auburn) cannot be overlooked. Further to this, and in the context of the broader influences of globalisation, the way properties are invested in, and how this creates the potential for formal or informal housing markets for lower income workers also needs to be better understood. Whilst the level of direct overseas migration to the site declined during the period, it still remains a substantial formative component of the overall dynamic.

In conclusion, the findings outlined in this paper return to the issues raised by Randolph and Tice (2010) concerning the spatial discontinuity of urban housing markets. Whilst this previous work identified the fragmented nature (in terms of social profile) of higher density markets at the micro spatial level, the research presented here demonstrates that this discontinuity of demand has a temporal aspect as well. First the resident profile largely took the form assumed in the planning documents and the Authority’s annual reports. Secondly, it shifted to a resident profile shaped by the profile of apartment residents in surrounding markets (as prices and rents decreased). Thirdly, influenced by different investment and migration policy strategies, an international dynamic has come into play.

These differing profiles of demand have been more evident because of the nature of the development. The SOP site was, to all extent and purposes, a residential *tabula rasa*; prior to renewal it had never been part of the Sydney housing market despite being surrounded by suburban expansion. Brownfield sites of this nature are becoming limited and attention is increasingly turning to existing residential locations to provide additional capacity. Newton (2010) has coined the term “greyfield” for such locations, and has conducted considerable research into how such renewal could be operationalised. However, he couches and sites the main demand dynamic for such renewal within the dynamic of population ageing:

Baby-boomers are potentially poised to instigate one major final impact on Australia’s cities as they look for appropriate places and spaces to live in post-retirement. Places that are not well-

supplied and that will be mostly sought are those located as close as possible to the neighbourhoods with which they are currently familiar. (p.99)

Whilst the baby boomer cohort may be one of the key funding resources to facilitate renewal it should also be noted that such greyfield locations are not *tabula rasa*, but are already a functioning component of the wider urban milieu. As evidenced in this paper, the existing apartment market is not made up solely of downsizing empty nesters and young singles, as might be implied by such academic and planning discourses and there is a significant disparity between such discourses and the actual apartment population.

Greyfield locations have matured over time, and whilst they may not be exhibiting the state of flux seen in the SOP case study, will have developed a range of functionalities (housing for families and lower income workers). Such embedded functionalities perform an essential role within the wider urban form. This raises the question of whether a central component of future metropolitan planning for housing demand should be more focused on the identification of these embedded functionalities and the social process that have and are constructing them, and considers working with those that provide benefit and seeking to alter those that do not. In this context recent debates concerning both the micro-structures of housing market formation (Watkins, 2008) and the identification of the transformative functionality of deprived locations in the UK (Robson et al, 2008) offer some insight into how such research programmes could be developed in the Sydney context. In particular Robson et al's focus on patterns of movement may provide a fertile area of further research. The future of the greyfield suburbs is not just one constructed by the baby-boomer generation but is also embedded in the patterns of all who are moving to these suburbs, and the process by which they reshape them.

## Reference list

- Australian Bureau of Statistics (ABS) 2006, *Census of Population and Housing*. Available from:  
<http://www.abs.gov.au>.
- Australian Bureau of Statistics (ABS) 2008, *3222.0 Population Projections Australia 2006 to 2102*.  
Available from: <http://www.abs.gov.au/ausstats/abs@.nsf/mf/3222.0>
- Birrell, B 2006, 'Implications of Low English Standards among Overseas Students at Australian Universities', *People and Place*, vol. 14, no. 4, p. 53.
- Breheeny, M 1995, 'The Compact City and Transport Energy Consumption', *Transactions of the Institute of British Geographers*, vol. 20, no. 1, pp. 81-101.
- Bunker, R & Holloway, D 2007, 'How Far and in What Ways Is Sydney's New Metropolitan Strategy Likely to Be Implemented?', *Australian Planner*, vol. 44, no. 1, pp. 26-33.
- Dey, C, Berger, C, Foran, B, Foran, M, Joske, R, Lenzen, M, Wood, R & Birch, G 2007, *Household Environmental Pressure from Consumption: An Australian Environmental Atlas*. Available from:  
<http://www.acfonline.org.au/uploads/res/WaterWindCh9Dey.pdf>
- Easthope, H & A., T 2010, 'Kids in Apartments: Implications for the Compact City', in *European Network of Housing Researchers 22nd International Housing Research Conference*, Istanbul.
- Easthope, H, Tice, A & Randolph, B, in *The Desirable Apartment Life? Refereed paper presented at the 4th Australasian Housing Researchers Conference*, Sydney.
- Forster, C 2004, *Australian Cities: Continuity and Change*, Oxford University Press, Melbourne.
- Fuerst, J & Petty, R 1991, 'High-Rise Housing for Low-Income Families', *Public Interest*, vol. 103, pp. 118-30.
- Gleeson, B 2007, 'Child-Friendly Cities', in *Urban 45: New Ideas for Australia's Cities*, eds. R Atkinson, T Dalton, B Norman & G Wood, RMIT and Hobart: University of Tasmania, Melbourne.
- Gleeson, B & Sipe, NG 2006, *Creating Child Friendly Cities: Reinstating Kids in the City*, Taylor & Francis, New York.
- Grigsby, W 1963, *Housing Markets and Public Policy*, University of Pennsylvania Press, Philadelphia.
- Hawthorne, L 2010, 'How Valuable Is Two-Step Migration? Labor Market Outcomes for International Student Migrants to Australia', *Asian and Pacific Migration Journal*, vol. 19, no. 1, pp. 5-36.
- Healy, E & Birrell, B 2004, *Housing and Community in the Compact City*, Australian Housing Research Institute, Melbourne.
- Jenks, M & Burgess, R (eds.) 2000, *Compact Cities: Sustainable Urban Forms for Developing Countries*, Spon Press, London.

- Jenks, M, Burton, E & Williams, K 2000, *The Compact City: A Sustainable Urban Form*, E & FN Spon, London.
- Judd, B, Olsberg, D, Quinn, J, Groenhart, L & Demirbilek, O 2010, *Dwelling, Land and Neighbourhood Use by Older Home Owners*, Australian Housing and Urban Research Institute, Melbourne.
- Maher, C 1984, *Residential Mobility within Australian Cities*, Australian Bureau of Statistics, Canberra.
- Major Cities Unit, Infrastructure Australia & Australian Government 2010, *State of Australian Cities*.
- Neuman, M 2005, 'The Compact City Fallacy', *Journal of Planning Education and Research*, vol. 25, no. 1, p. 11.
- Newman, P & Kenworthy, JR 1998, *Sustainability and Cities: Overcoming Automobile Dependence*, Island Press, Washington.
- Newton, PW 2010, 'Beyond Greenfield and Brownfield: The Challenge of Regenerating Australia's Greyfield Suburbs', *Built Environment*, vol. 36, no. 1, pp. 81-104.
- NSW Department of Planning 2005, *City of Cities: A Plan for Sydney's Future*. Available from: <http://www.metrostrategy.nsw.gov.au/>.
- NSW Department of Planning 2007, *Subregional Planning – West Central Subregion Centres and Corridors*. Available from: <http://www.metrostrategy.nsw.gov.au/LinkClick.aspx?fileticket=MZAx2piD-xQ%3d&tabid=77>.
- Ohlin, J 2003, *A Suburb Too Far? Urban Consolidation in Sydney*. Briefing paper no. 04/2003, Parliament of New South Wales, NSW Parliamentary Library Research Service.
- Parliament of Australia 1992, *Patterns of Urban Settlement: Consolidating the Future? Report of the House of Representatives Standing Committee for Long-Term Strategies*, Australian Government Publishing Service, Canberra.
- Perkins, A, Hamnett, S, Pullen, S, Zito, R & Trebilcock, D 2009, 'Transport, Housing and Urban Form: The Life Cycle Energy Consumption and Emissions of City Centre Apartments Compared with Suburban Dwellings', *Urban Policy and Research*, vol. 27, no. 4, pp. 377-396.
- Planning South Australia 2010, *The Plan for Greater Adelaide*. Available from: <http://www.dplg.sa.gov.au/plan4adelaide/html/plan.cfm>.
- Queensland Government 2009, *South East Queensland Regional Plan 2009-2031*.
- Randolph, B 2006, 'Children in the Compact City: Fairfield as a Suburban Case Study', in *Second National Conference on Creating Child Friendly Cities*, Australian Research Alliance for Children and Youth, Sydney.
- Randolph, B & Holloway, D 2005, *A Social Profile of Households in Higher Density Housing in Fairfield*, City Futures Research Centre, University of New South Wales, Sydney.

- Robson, B, Lympelopoulou, K & Rae, A 2008, 'People on the Move: Exploring the Functional Roles of Deprived Neighbourhoods', *Environment and Planning A*, vol. 40, no. 11, pp. 2693-2714.
- Searle, G 2007, *Sydney's Urban Consolidation Experience: Power, Politics and Community*, Urban Research Program, Griffith University Brisbane, Brisbane.
- Sydney Olympic Park Authority 2005, *Annual Report 2004-05*.
- Troy, P 1995, 'Introduction', in *Australian Cities: Issues, Strategies and Policies for Urban Australia in the 1990s*, ed. P Troy, Cambridge University Press, Cambridge.
- Trubka, R, Newman, P & Bilsborough, D 2008, *Assessing the Costs of Alternative Development Paths in Australian Cities*, Curtin University Sustainability Policy Institute, Perth. Available from: [http://sustainability.curtin.edu.au/local/docs/Curtin\\_Sustainability\\_Paper\\_0209.pdf](http://sustainability.curtin.edu.au/local/docs/Curtin_Sustainability_Paper_0209.pdf)
- Watkins, C 2008, 'Microeconomic Perspectives on the Structure and Operation of Local Housing Markets', *Housing Studies*, vol. 23, no. 2, pp. 163-177.
- Wulff, M, Healy, E & Reynolds, M 2004, 'Why Don't Small Households Live in Small Dwellings? Disentangling a Planning Dilemma', *People and Place*, vol. 12, no. 1, pp. 58-71.
- Yates, J 2001, 'The Rhetoric and Reality of Housing Choice: The Role of Urban Consolidation', *Urban Policy and Research*, vol. 19, no. 4, pp. 491-527.

