Are there indicators that can be used as predictive precursors to identify gentrification within an area?

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Abstract

Gentrification has been the subject of much research over the last 50 years. Some of the literature has attempted to identify signs of gentrification. However, there is a gap in the literature as there is limited research on early indicators of gentrification. This study attempts to identify early indicators of gentrification for two reasons. Firstly, some property investors strive to buy into areas that are in the early stages of gentrification so as to accelerate their wealth creation. Secondly, this type of research can better inform town planners and local government so as to be proactive in facilitating the change brought about by gentrification through policy initiatives and the appropriate allocation of resources. This study uses quantitative methodology to assist in the identification of early gentrification indicators. The study involves the use and comparison of ABS census and real property data of three inner city suburbs of Adelaide. These suburbs include a gentrifying suburb, Torrensville. This is benchmarked against a nearby non-gentrifying suburb, Brooklyn Park and a suburb that has already gentrified, Unley. This investigation reveals four indicators that an area is in the early stages of gentrification: decrease in the percentage of people aged 18 years and under, decrease in the proportion of couples without children, increase in the percentage people that lived at a different address five years ago and an increase in the proportion of females working in professional occupations. This research has contributed to the body of knowledge by confirming findings of other studies and adding a new dimension to the identification of gentrification through the analysis of real property data.

Project submitted to the University of South Australia in partial fulfilment of the requirements for the degree of Masters of Urban and Regional Planning. The work embodied in this project is the result of original research and has not been submitted previously for a higher degree to this or any other University or institution.

TABLE OF CONTENTS

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I would also like to acknowledge CoreLogic for access to their real property data.

LIST OF FIGURES

LIST OF TABLES

CHAPTER 1 - INTRODUCTION

Purpose of the Research

The subject of gentrification has been researched over many decades. This process was first documented by Ruth Glass in 1964. She observed an influx of 'gentry' – the affluent and educated class – buying and renovating Georgian and Victorian terraces in the West End of London (Shaw, K 2008, p. 1697).

Academics have proposed theories as to why gentrification occurs. Two of the most noted theorists are Neil Smith (1979, 1982, 1986, 1987a, 1987b) and David Ley (1980, 1981, 1986, 1987). Neil Smith attempted to explain gentrification as supply orientated and based it on economics (production theory) whereas David Ley offered an alternate explanation that was based on demand and culture (consumption theory)(Bridge, 2011, p.575). It is now generally accepted that gentrification cannot be explained by either using just one or the other theory (Hamnett, 1991).

Stages of gentrification were recognised in the late 20th century. These were classified as the 'marginal stage, early stage' and 'final stage'. The stage model has been questioned by some (Rose 1996; Lees 2003b; Van Criekingen and Decroly 2003) as it is not necessary for all suburban areas to progress through all the stages (Shaw, K 2008, p.1704).

Indicators of gentrification have been identified in Australia and internationally. These include numerous demographic, housing and population factors. Gentrification and displacement in Greater London was measured by Atkinson (2000). Studies in the United State of America have been undertaken by researchers such as Galster and Peacock (1986), Wyly and Hammel (1999), Heidkamp and Lucas (2006) and Kolko (2010). Australian studies have been conducted in a wide range of cities. Wendy Shaw (2006) researched loft living in Sydney, Wulff and Lobo (2009) explored Melbourne's core and inner suburbs. Blair Badcock conducted extensive research on gentrification in Adelaide over a 30 year period, from 1966 to 1996.

So far as Adelaide is concerned, the literature on gentrification begins and ends with Badcock's work (1966 – 1996). Badcock and many of the researchers mentioned have recognised stages of gentrification and identified indicators of gentrification. However, there is a gap in the literature as no study has yet identified the early indicators of gentrification, in particular in Australian suburbs. This research will attempt to fill this gap.

Research Question

Are there indicators that can be used as predictive precursors to identify gentrification within an area?

Aims:

1. To identify gentrification indicators used by other researchers and apply these to the Adelaide suburbs of Brooklyn Park, Torrensville and Unley.
2. To integrate and synthesise property factors such as median house price, size of house and size of land to the list of indicators commonly used by other researchers so as to determine if these property factors are reliable indicators.
3. To apply and evaluate the capacity of these indicators as tools which can be used to help predict gentrification within an area.

Research Methods and Methodology

Some qualitative research has been undertaken in the study of gentrification. Of particular note is the research by Heidkamp and Lucas (2006) in Portland, Maine where they observed such factors as the number of specialty food stores aimed at high income earners and the presence of luxury cars in the neighbourhood.

However, in the main, the research used to determine gentrification has been of a quantitative nature.

Badcock and Cloher (1981) used the deviation from the mean to gauge movement in the types of occupation, population and housing tenure within the inner suburbs of Adelaide. This information was collated using Australian Bureau of Statistics (ABS) data over a number of Census periods, from 1966 to 1996. Badcock and Cloher also used the average house price to determine the movement in property prices over time.

In a study of gentrification within Newcastle, Rofe (2000) also analysed ABS data, in particular change in certain occupations and education levels.

A very comprehensive study of demographic and housing factors as indicators of gentrification was conducted by Wulf and Lobo (2009) in Melbourne. They considered 28 different indicators, ranging from population characteristics and household income to dwelling structure and housing tenure.

In overseas studies such as those conducted by Heidkamp and Lucas (2006) in Portland, Maine, Ley (1993) in a variety of Canadian cities, Wyly and Hammel (1999) in various cities in the United States of America and Atkinson (2000) in London, they all used census data to help identify gentrification in an area.

Based on studies undertaken in the past, in particular that of Badcock's research in Adelaide, which is where this research is taking place, this study will be using quantitative methodology to assist in the identification of early gentrification indicators. The study will use descriptive statistics to report on the data in an attempt to identify and quantify any indicators which may emerge.

The research will involve analysing and comparing ABS census data and property statistics of a gentrifying suburb, Torrensville. This will be benchmarked against a non-gentrifying suburb, Brooklyn Park and a suburb that has already gentrified, Unley.

The study has selected Torrensville and Brooklyn Park as the literature shows that two of the precursors to gentrification are proximity to the Central Business District (CBD) and historical homes (built before World War 2). Galster and Peacock (1986) in their study in Philadelphia identified historical housing and proximity to the CBD as two key elements that must be present for gentrification to take place. Kolka (2010) and Wholey (2009) also recognised historical housing as a prerequisite to gentrification.

Torrensville and Brooklyn Park are neighbouring suburbs, in the inner west of Adelaide and approximately three to four kilometres from the CBD. They are similar in distance from the CBD but where they differ is the type of housing stock. Brooklyn Park has very few historical homes whereas Torrensville was first developed over 100 years ago and it still retains much of its original housing.

The suburb of Unley has been selected as another benchmark as the Unley area was identified in the early studies conducted by Badcock as a region in gentrification:

> The first signs of incipient gentrification in Adelaide appeared in the early 1970's ….. House price data from the Valuation Division confirm that for a short time in the early 1970's, inner zone LGAs like Kensington and Norwood, St. Peters and Unley offered young professional home buyers a $A2-3000 price advantage over middle status suburbs on the suburban fringe (Tea Tree Gully, Happy Valley) (1989, p. 140).

The study will use two benchmark suburbs for a number of reasons. To begin with, the demographic and property features of a non-gentrified suburb need to be determined. Secondly, it needs to be identified what are the demographic and property features of a suburb that has completed the

gentrification process. This will give the study a virtual start and end point. Finally, the suburb undergoing gentrification, Torrensville, needs to have the demographic and property features analysed so as to determine if any of these features are more prominent in the early stages of gentrification and can therefore be used as predictive tools to help in the identification of an area undergoing gentrification.

Data Collection Methods

The data for the research will be sourced from the ABS Census of Population and Housing and CoreLogic.

ABS Census data will be analysed over a 10-year period, from 2001 to 2011. The census data for 2001, 2006 and 2011 is freely available. CoreLogic (formerly known as RP Data) is a private organisation which buys information from the South Australian Land Titles Office, including information on the properties that have sold. The details that are available on properties that have sold include date of sale, sale price, size of land and building and year of construction. This data is available from 1993 to the present day. The researcher has free access to this data due to his role as a Property lecturer.

The demographic, housing and property data that has been analysed in other research is outlined in the table below.

Table 1- Indicators of Gentrification

Indicators to be used in this study	Studies that have used these indicators
People	
Male/Female	Badcock,
Total Population	Badcock, Wulf and Lobo, Wholey
Age	
Median Age	Wholey, Wulf and Lobo
Under 19	Kolka (Under 18 years of age)
Over 65	Wulf and Lobo, Galster and Peacock, Kolka

Levels of Education	Rofe, Heidkamp and Lucas
Bachelor Degree	Weller and Hulten
Graduate Diploma and Graduate Certificate	
Postgraduate Degree	
Country of Birth	Badcock, Wulf and Lobo, Atkinson, Galster and Peacock, Wyly and Hammel, Kolka, Wholey
Australia	
Born Overseas	
Occupation	Badcock, Rofe, Wulf and Lobo, Weller and Hulten, Heidkamp and Lucas, Wyly and Hammel, Atkinson
Professionals	
Median Household Income	Wulf and Lobo, Weller and Hulten, Galster and Peacock, Ley, Heidkamp and Lucas, Wyly and Hammel, Kolka
Number of Households	Kolka
Families	Wulf and Lobo
Couple family without children	Badcock
Couple family with children	
One parent family	
Other family	
Total families	
Dwelling Structure	Galster and Peacock, Wulf and Lobo
Separate house	
Semi-detached, row or terrace, townhouse	
Flat, unit, apartment	
Total dwellings	

Housing Tenure	Badcock, Wulf and Lobo
Owned outright	Galster and Peacock, Heidkamp and Lucas, Wholey
Owned with a mortgage	
Rented	Kolka
Average House Price	Badcock, Rofe, Weller and Hulten, Ley
Renting from State/Territory Housing Authority	Badcock

Based on the literature and findings of other research, the indicators to be measured in this study are based on - People, Place, Education, Occupation, Households and Families and Housing. Additional real property data to be analyses includes – Median House Price, Median Land Area, Median House Size and the Number of House Sales.

Significance of Research and Relevance to Planning

As stated earlier, gentrification has been the subject of much research over the last 50 years. However, this will be one of the first studies attempting to identify the early indicators of gentrification and the first study of its kind to undertake this research in Adelaide.

Aspects of town planning involve land use and the interaction between people and place. Gentrification is a process that can transform underutilised land, which is generally avoided by people, and assists in the land attaining its highest and best use by redeveloping it to a more pleasing environment for residents to live, work and play.

The study will contribute intellectually to the debate on gentrification but it will also serve as a predictive and practical tool for the private and public sector. Some private property investors strive to buy into areas that are improving so as to accelerate their wealth creation. Identifying the early indicators of gentrification can better inform planners and local government as to which areas are undergoing this transformative process and provide the opportunity to be proactive in facilitating this change through policy and the appropriate allocation of resources.

This research will to add to the body of knowledge on gentrification. The researcher is able to combine his Property background, skills and experience with his Planning knowledge to incorporate a wider range of factors than has been included in past studies in an attempt to measure and quantify the early indicators of gentrification in Adelaide suburbs.

Limitations and Delimitations

There are a number of limitations of the study which are outside the control of the researcher. Firstly, the ABS data is not always consistent in the way it is reported over time. For example, in the years 2006 and 2011, median weekly household income is stated as a single figure e.g. $578. In 2001, median weekly household income is stated in ranges e.g. $500 to $599, $600 to $699. This will make an accurate analysis of this particular factor quite challenging.

There are also a number of delimiting factors which have been set by the researcher. It will be difficult to generalise the findings and apply them nationally or internationally as this study only involves three Adelaide suburbs. Due to the low number of suburbs in this study, it may not be possible to relate the findings to other suburbs within the Adelaide metropolitan area. However, it is the intention of the researcher to apply this research methodology to other South Australian and Australian suburbs in subsequent studies.

Ethical Considerations

The researcher submitted a Human Research Ethics Application. This study does not involve the use of humans or animals, nor were any interviews, questionnaires or surveys conducted. The researcher foresees that this research will be exempt and the application does not need to go through the full approval process. However, no formal notification was received from the Human Research Ethics Committee prior to submitting this research.

CHAPTER 2 - LITERATURE REVIEW

Introduction

The topic of gentrification has been researched extensively. Articles on gentrification include international perspectives as is detailed by Galster and Peacock (1986), Atkinson (2000), Helms (2003), Kolko (2010), Wyly and Hammel (1999) and Heidkamp and Lucas (2006).

Australian academics have also addressed many aspects of gentrification. Shaw, K (2008) provides an overview of gentrification through time and place. Shaw, W (2006) writes on the effects of gentrification in some of Sydney's inner-city suburbs. Rofe (2000, 2004, 2009) details the gentrification process in the once industrial city of Newcastle in New South Wales. Bounds and Morris (2006) focus on the gentrification of the inner-city suburbs of Pyrmont and Ultimo. Gentrification in Melbourne has been explored by Wulff and Lobo (2009), O'Hanlon and Sharpe (2009) and Weller and Hulten (2012).

Of particular interest is the work undertaken by Badcock (1981, 1991, 2001, 2007) on gentrification in the inner-city suburbs of Adelaide between 1966 and 1996. Badcock conducted extensive analysis on neighbourhood change in these areas during this 30-year period and also provided some reasoning for the changes.

This research will continue from Badcock's work and will analyse the gentrification of Adelaide suburbs from 2001 to 2011. In particular, the aim is to try and identify any factors which can be used as leading indicators of gentrification.

What is gentrification?

Definitions have evolved through time but the term was first coined by British sociologist Ruth Glass in 1964. She observed an influx of 'gentry' – the affluent and educated class – buying and renovating Georgian and Victorian terraces in the West End of London (Shaw, K 2008, p. 1697).

In the article, Shaw also quotes Neil Smith's definition (1982):

> By gentrification I mean the process by which working class residential neighbourhoods are rehabilitated by middle class homebuyers, landlords and professional developers. I make the theoretical distinction between gentrification and redevelopment. Redevelopment involved not rehabilitation of old structures but the construction of new buildings on previously developed land. (p.139)

Rofe (2009, p.293)) defines gentrification as 'the economic and social upgrading of inner city environments, facilitated by a transition in their residential profile'.

Rofe (2000, p. 56-57) also highlights the two broad theories behind gentrification in his paper. One is production driven (Smith, 1979a; 1979b; 1987, Badcock, 1989). This theory focuses on the supply of new property in an area by generally large scale developers. An Adelaide example of this is Newport Quays, St. Clair and the new Bowden Village. The alternate theory is a consumer led process (Ley, 1980; 1994; 1996; Jager, 1986; Mills, 1988; 1993). This theory focuses on the residents as consumers and the upgrading in the main of existing housing. Local examples include Norwood, Unley and Semaphore.

Present day authors such as Bounds and Morris (2006, p.100) acknowledge Hamnett (2000) that to understand the gentrification process in the modern era it is necessary to combine the consumption and production side explanations.

Stages of gentrification

Gentrification has also been identified by some authors as progressing through stages.

Shaw, K (2008, p. 1704) outlines the classic stage model. It begins with the 'marginal stage' where well educated but low income earners such as graduates and the 'creative class', rent and share the unrenovated inner-city dwellings. This leads into the 'early stage' where higher income and cultured professionals move in and buy their homes and renovate so as to enhance their lifestyle. Next, the area is discovered by those with even more money and some developers and investors buy into the area so as to renovate and sell for a profit. In the final stage, the renovated buildings are put back on the market for sale at prices that the wealthy can afford.

Lees (2000) takes this one stage further and considers an additional stage, 'super-gentrification'. This is the transition in an area from the focus on existing dwellings to the development of large scale luxury apartment buildings (Rofe 2004, p. 200).

This stage model has been questioned by some (Rose 1996; Lees 2003b; Van Criekingen and Decroly 2003) as it is not necessary for all neighbourhoods to progress through all the stages (Shaw, K 2008, p.1704).

Indicators of gentrification

Many authors have attempted to identify indicators of gentrification in Australian and overseas suburban neighbourhoods.

Atkinson (2000) measured gentrification and displacement in Greater London. He measured the change in a seven demographic factors over a 10 year period. The factors included; Working Class, Unskilled Labour, Households Privately Renting, Ethnicity, Unemployed, Elderly and Lone Parents. Two of the key indicators of gentrification in an area were the decrease in those people considered to be working class and a decrease in the number of elderly people (p.162-163). The indicators used provide a useful guide for this research but more indicators could have been incorporated into the study such as the percentage of children and professionals.

An early study conducted in Philadelphia by Galster and Peacock (1986) used just 13 indicators based on people and place. These are Income, Elderly, Black, Foreigners, Owner Occupied, Age, Housing Structure, Proximity to CBD, High Income, Proximity to a University, Proximity to a Historical District and Proximity to a Park. Galster and Peacock state 'how one defines gentrification crucially affects which and how many tracts are identified as having undergone gentrification' (p. 333-334). They conclude that multiple definitional criteria need to be used, some of which may have not been incorporated in their study of Philadelphia (1986, p.334). This research concurs with their statement on how gentrification should be defined.

Kolko (2010) conducted research in US cities to try and determine why low-income neighbourhoods gentrify. His study was conducted over a 20 year period and concluded that areas most likely to gentrify were those that were close to the CBD, had older housing stock and were situated adjacent neighbourhoods whose residents earnt a relatively high income. Kolko stated that the best indicators of gentrification were; the increase in the number of households, increase in the number of dwellings and changes in demographics (2007, p. i).

Wyly and Hammel (1999) also studied gentrification in a number of cities in the United States of America and concluded that the level of income and the growth in income were useful predictors but the single best indicator of gentrification was the change in the education profile (1999, p. 729-731).

Research undertaken by Heidkamp and Lucas (2006) in Portland, Maine showed that the best indicators of gentrification were; change in the percentage of owner occupiers, change in the percentage of people living below the poverty line, change in the percentage of people employed in technical, managerial and professional occupations and change in median household income (2006, p, 122). Of particular note was the use of observation and extensive qualitative research as they also

incorporated factors such as; evidence of renovations and extensions, newly cobbled streets specialty food stores aimed at high income earners and the presence of expensive cars in the neighbourhood.

Heidkamp and Lucas also cite Ley's research (1993) in Canadian cities which show that predictors of gentrification include; mean monthly rent, dwelling value, median household income, size of households, distance to the CBD and proximity to places of white collar employment, parks, expensive suburbs and the waterfront (p. 102).

Numerous Australian studies have also been conducted into gentrification of suburban neighbourhoods.

Badcock & Cloher (1981), who studied the inner-western suburbs of Adelaide, lists 10 demographic factors but limits them to just occupational groups. He identifies changes in absolute terms and by percentage in the number of people in the following occupations; Administrative, Professional and Technical related workers, Professional and Community Services, Business Services, Clerical Workers, Skilled Trades, Transport and Communication, Semi-skilled, Unskilled Service Workers and Unskilled Labourers. He compares the change in the neighbourhood with the deviance from the metropolitan norm.

The comparison between the metropolitan region and the research area is a useful measuring tool. However, the researcher is of the opinion that the research was limited in its scope as it only analysed occupations. In addition to this, Badcock makes reference to the Southern European influence in the gentrification process (1981, p.52) which the researcher doesn't fully agree with. He stated that the Southern Europeans had a great commitment to home ownership and improving their homes. As I am of Southern European descent and having grown up in the inner-western suburbs, I concur with the Southern European almost obsession with home ownership but I did not witness the same sort of enthusiasm to improving their homes. In his research, Badcock uses the average house price instead of median house price to measure the change in house prices over time. This is not general practice in property research as the average can be distorted by very high and/or very low prices. The median is considered a more appropriate measure.

It is pleasing to see that in a later article, Badcock (2001) incorporated additional demographic indicators to determine the change in the area from 1966 to 1996. These included; Males, Females, Total Workforce, Country of Origin, and Housing Tenure (Owner Occupied, Private Rental and Government Rental). He discovered that unlike gentrification in the North American

neighbourhoods, 'owner-occupiers have not increased in number at the expense of tenants' (2001, p. 1565).

In Badcock's most recent article (2007) on Adelaide gentrification he stated that the following variables were very useful indicators of rejuvenated suburbs; households with both partners working, childless and people under forty years of age (2007, p. 327).

Whereas Badcock used a time span of 30 years, Rofe (2000) conducted his research on the gentrification of Newcastle over a 10 year period. Rofe used many indicators in his research. Rofe considered occupation status, as did Badcock but Rofe also incorporated educational and training qualifications into his analysis. Rofe notes that the number of highly educated persons in professional positions increases during the gentrification process (2004, p. 196-197). Similar to Badcock, Rofe measured change in property price using the average and not the median, which as previously discussed, is not common practice in property research.

One area that the researcher doesn't fully agree with Rofe is where he states 'rising property values directly influence average rental costs' (2000, p. 63). This is not necessarily the case. A tenant won't usually pay more in rent just because the property is more expensive. A property's value is largely based on the land component. A property could be very expensive as it is on a large block of valuable land. This attribute appeals to someone who wishes to buy the property as an owner occupier. A tenant who wishes to rent the property is not as interested in the size of the land; they are more interested in the size of the home and its location.

In a gentrification study conducted in the inner-west suburbs of Melbourne, Weller and Hulten (2012) found that the percentage of professionals, people holding bachelor degrees, and median weekly household income all increased significantly in gentrifying areas (2012, p. 31).

In their study of gentrifiers in Melbourne's core and inner suburbs, Wulff and Lobo (2009) use a very comprehensive range of approximately 30 housing and population indicators. The groupings they use include: Household Income, Dwelling Structure, Household Type, Housing Tenure, Median Weekly Rent, Median Age, Country of Birth and just one indicator of Occupational Status. This study focused on households and living arrangements whereas more traditional studies have focused on class and occupation. Wulff and Lobo concluded that an increase in the number of young singles to the inner-city suburbs was a dominant indicator of gentrification (2009, p. 329). In the opinion of the researcher, this was one of the best studies for this study as it was based in Australia and used a wide variety of indicators.

Summary

As stated earlier, gentrification has been the subject of much research, both here and internationally. During this time, definitions of gentrification have changed from originally being based on a production model, then moving to a consumption model. However in more recent times, researchers have come to understand that gentrification cannot be explained by using just one model as not all neighbourhoods gentrify in the same way and for the same reasons.

Through the literature, stages of gentrification have been identified and expanded upon. In more recent times, Rofe (2004, p. 200) notes that Lees has penned an additional stage, known as 'super-gentrification'.

The researcher's interest is with the early stages of gentrification, in particular the indicators that show gentrification is occurring. As the researcher will be focusing on Adelaide suburbs, it is the work of Badcock that is of particular interest. Badcock researched gentrification in the inner western suburbs of Adelaide from 1966 to 1996; the researcher plans to continue from this research and start the analysis from 2001.

Badcock initially focused on indicators only related to occupation but then expanded his study to include gender, country of origin and housing tenure. As the researcher has a property background and many years of experience in researching the property market, the researcher will incorporate further aspects of property to help determine if an area is gentrifying. The property factors to be included are changes in median house price, changes in the size of houses and change in the size of the land. These factors will be measured in addition to the change in demographics of the area that have been used by other researchers, as outlined in this review.

CHAPTER 3 - ANALYSIS AND DISCUSSION

3.1 PEOPLE

Females

% of Females				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001	50.6%	49.8%	51.1%	50.8%
2006	50.1%	49.6%	51.6%	50.8%
2011	49.2%	50.3%	52.2%	50.6%

No. of Females				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001	2,065	1,857	1,750	744,934
2006	2,148	1,868	1,850	769,130
2011	2,222	1,944	2,031	809,354

Females - % change				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001				
2006	-1.0%	-0.4%	1.0%	0.0%
2011	-1.8%	1.4%	1.2%	-0.4%
2001-2011	**-2.8%**	**1.0%**	**2.2%**	**-0.4%**

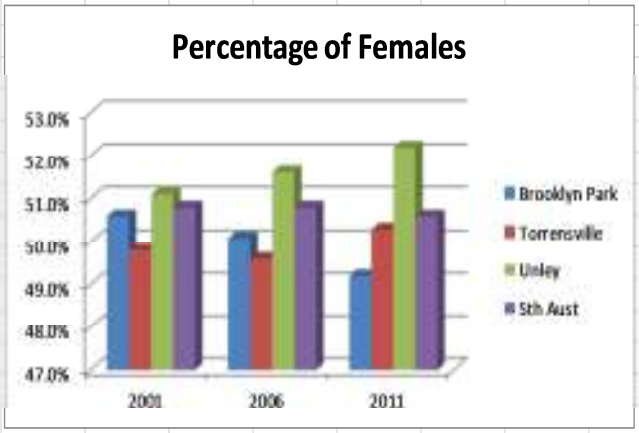


Figure 1- Percentage of Females

In 2001, Torrensville had more men than women living within its boundaries. This is in contrast to Brooklyn Park, Unley and South Australia.

Between 2001 and 2011, South Australia experienced a slight fall in the percentage of women living in the state; from 50.8% to 50.6%. Brooklyn Park experienced the largest percentage fall with only 49.2% living in this suburb by 2011, compared to 50.6% in 2001. Unley's proportion of females increased, from 51.1% to 52.2%. The gentrifying suburb of Torrensville also experienced an increase in the proportion of females, from 49.8% to 50.3%.

These findings are consistent with a number of those studies undertaken in Adelaide. Baker (1997) found that an increasing number of females (pursuing professional careers) were contributing to the demand for terraces and townhouses in inner Adelaide. Badcock (2001) confirmed that the number of females in inner Adelaide was increasing, at a time when total

population in inner Adelaide was decreasing. In London, Lyons (1996) noticed an increasing number of women amongst the gentrifiers.

Based on the research conducted by Baker, Badcock and Lyons in Adelaide and this study, it leads the researcher to consider another factor; that is the presence of female professionals as an early indicator of gentrification.

This indicator is detailed in the Occupation section.

Age – 18 and Under

18 and Under - %				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001	18.6%	19.4%	17.9%	25.1%
2006	17.1%	20.3%	19.3%	23.9%
2011	17.7%	18.3%	19.1%	23.1%

18 and Under - Number				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001	761	729	617	368,575
2006	732	765	690	361,652
2011	800	706	741	369,250

18 and Under - % change				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001				
2006	-8.1%	4.6%	7.8%	-4.8%
2011	3.5%	-9.9%	-1.0%	-3.3%
2001-11	**-4.8%**	**-5.7%**	**6.7%**	**-8.0%**

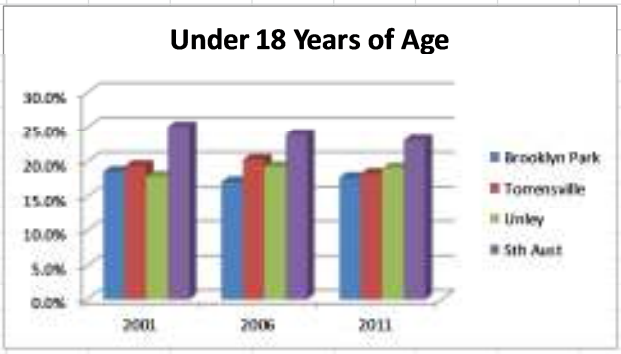


Figure 2- Under 18 Years of Age

The percentage of the population that is 18 years old or younger has remained much lower in the inner city suburbs of Unley, Brooklyn Park and Torrensville as compared to the state throughout the period 2001 to 2011. The percentage of the South Australian population that was aged 18 years old or younger in 2001 was 25.1%. The percentage of this younger population in the inner city suburbs as of 2001 was 17.9% (Unley), 18.6% (Brooklyn Park) and 19.4% (Torrensville). In 2011, the percentage of the younger population in South Australia decreased to 23.1%. In Brooklyn Park, the percentage of young people decreased as well, from 18.6% to 17.7%. The gentrifying suburb of Torrensville also experienced a decrease; from 19.4% in 2001 to 18.3% in 2011. Even though the suburb of Unley experienced an increase in the number and percentage of young people during this ten year period, from 17.9% to 19.1%, the percentage of young people in Unley was still below that of South Australia in 2011.

Torrensville had the highest proportion of children 18 years and under in 2001 and 2006 but by 2011, the total number of young people decreased. In contrast, the non-gentrifying suburb of Brooklyn Park experienced an increase in the number of young people, as did the gentrified suburb of Unley. Over this ten year period, Torrensville experienced the largest decrease in children 18 years and younger of the three suburbs in the study.

This reflects Kolka's (2010) findings that the percentage of children under 18 falls in gentrifying neighbourhoods. This is also consistent with the other findings in this research that shows Torrensville had the greatest increase in families without children from 2001 to 2011 when compared to the other two suburbs and the state.

3.2 PLACE

Different residential address

Different residence 5 years ago - %				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2006	38.1%	31.1%	45.1%	36.2%
2011	38.4%	35.6%	43.1%	36.0%

Different residence 5 years ago - Number				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2006	1,560	1,099	1,519	516,435
2011	1,641	1,304	1,578	540,596

Different residence 5 years ago - % change				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2006-2011	0.8%	14.5%	-4.4%	-0.6%

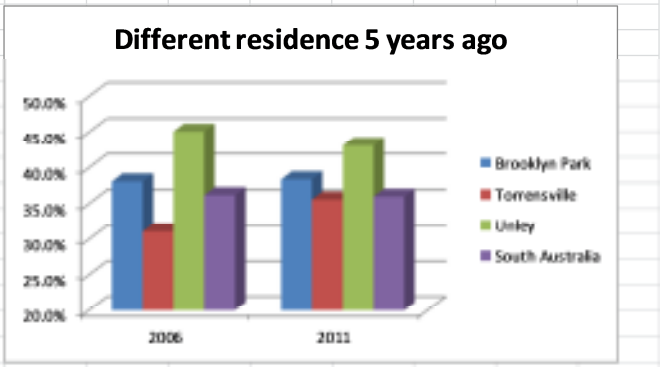


Figure 3- Different residence 5 years ago

In 2006, the gentrifying suburb of Torrensville had the most stable population when compared to the other two suburbs and the state average. In Torrensville, 31.1% of the population lived at a different address five years ago. The state average was 36.2% and Brooklyn Park had 38.1% of its residents living in a different location five years ago. Unley had the most mobile population as 45.1% of its residents lived somewhere else five years ago.

In 2011, there was a slight increase in the mobility of the residents of Torrensville but Torrensville still had the most stable population; 35.6%. The state average was 36.0% and Brooklyn Park had 38.4% of its population residing at a different address five years ago. In 2011, there was less movement of residents changing their place of abode from Unley in 2011 as compared to 2006. Nevertheless, Unley again had the most mobile population as 43.1% of its residents lived at a different address in 2006 as compared to 2011.

The literature is inconclusive when it comes to using mobility/displacement as a measure of gentrification. In relation to overseas studies, Buzar et al (2007), examined studies on gentrification in European cities and found little work had been done on the connection

between mobility patterns and gentrification. However, Atkinson's study (2000) in Greater London demonstrated that displacement was associated with gentrification.

Australian research has also been undertaken in relation to displacement/gentrification. Shaw (2008) notes that some researchers argue that 'displacement is not as significant as it once was (Butler 2003; Hamnett 2003) or was thought to be (Freeman 2005; Freeman and Braconi 2002)'. Shaw (2008) also notes that some researchers 'suggest that displacement does occur but is not a negative, for example, Vigdor (2001) …'.

Weller and Hulton (2012) also note the wide variety in the literature as to 'whether gentrification causes the voluntary or involuntary displacement of low-income residents … '(p. 26). Bounds and Morris (2006) discuss the variance in results of other research including Hamnett (2000), Sassen (1991) and Wilson (1996). Bounds and Morris (2006) state that in the early stages, displacement was caused by gentrification as these areas were predominately occupied by an elderly, industrialised workforce. However, they argue that if displacement is occurring in modern Australia, it is not the traditional working class moving out but marginal households.

Along with the literature noted above, this analysis is inconclusive as to whether displacement/ mobility are correlated with gentrification.

Firstly, displacement suggests an involuntary move. The ABS figures do not qualify whether people moved voluntarily or were forced to move. Secondly, other research cited in this report shows that residents moved out of the area. This only shows people moving address. Some people that moved could have relocated to another dwelling within the same suburb.

However, of interest is the fact that the gentrifying suburb of Torrensville maintained the most stable population throughout the ten year period but the rate of mobility was increasing during this time. It is also interesting to note that Unley, the gentrified suburb, had a decrease in population mobility from 2006 to 2011 (-4.4%).

More research over a wider area needs to be conducted to determine whether population mobility is correlated with gentrification. One scenario could be that mobility increases during gentrification and then the population becomes more stable and less inclined to move once the suburb has completed the gentrification process.

Australian Born

% of Australian Born				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001	69.2%	63.5%	72.3%	75.4%
2006	63.0%	62.4%	70.7%	74.0%
2011	58.7%	63.4%	69.3%	73.3%

No. of Australian Born				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001	2,824	2,368	2,477	1,099,585
2006	2,701	2,348	2,533	1,120,080
2011	2,648	2,451	2,694	1,170,788

Australian Born - % change				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001				
2006	-9.0%	-1.7%	-2.2%	-1.9%
2011	-6.8%	1.6%	-2.0%	-0.9%
2001-2011	**-15.2%**	**-0.2%**	**-4.1%**	**-2.8%**

Figure 4- Born in Australia

The proportion of Australian born residents in each of the three suburbs was lower than that of the state throughout the ten year period. In 2001, Brooklyn Park (69.2%), Torrensville (63.5%) and Unley (72.3%) all had a lower percentage of residents born in Australia as compared to the South Australian average of 75.4%. By 2011, the proportion of Australian born residents dropped in each of the three suburbs, and in the state of South Australia. Brooklyn Park's proportion of Australian residents decreased the most (15.2%). Unley's percentage of Australian born residents dropped by 4.1%. The decrease in the proportion of Australian residents in Brooklyn Park and Unley was more than that of the state (2.8%). However, the gentrifying suburb of Torrensville had the most stable proportion of Australian born residents. During the ten year period from 2001 to 2011, the percentage of Australian born residents fell by only 0.2%.

Badcock (2001) and Wulff and Lobo (2009) also used birth place as an indicator of gentrification.

Badcock (2001) found that the number (not necessarily proportion) of people born overseas decreased in inner Adelaide between 1966 and 1996. In particular, the number of southern Europeans living in this area more than halved. This is reflective of the immigration trend during this time. There was a very large intake of migrants, especially from southern Europe,

in the 1950's and 1960's. Many of these newly arrived migrants settled in the inner western suburbs of Adelaide.

Wulff and Lobo (2009) found that there was a higher proportion of people born overseas in the gentrifying areas of inner Melbourne compared to the greater Melbourne metropolitan area.

This research helps to confirm the findings of Wulff and Lobo (2009) which show that a higher proportion of people born overseas (conversely a lower proportion of people born in Australia) reside in gentrifying areas. As Torrensville experienced the lowest decline in Australian born residents, a relatively stable population of Australian born (or overseas born) residents could be used as an early indicator of gentrification but more research would need to be conducted to verify this.

3.3 EDUCATION

Bachelor Degree

% of Bachelor Degree				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001	6.0%	9.5%	18.7%	6.5%
2006	8.5%	11.4%	21.2%	8.0%
2011	12.4%	14.1%	23.0%	9.5%

No. of Bachelor Degree				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001	244	355	642	95,840
2006	364	428	761	120,980
2011	558	546	894	152,185

Bachelor Degree - % change				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001				
2006	41.7%	20.0%	13.4%	23.1%
2011	45.9%	23.7%	8.5%	18.8%
2001-2011	**106.7%**	**48.4%**	**23.0%**	**46.2%**

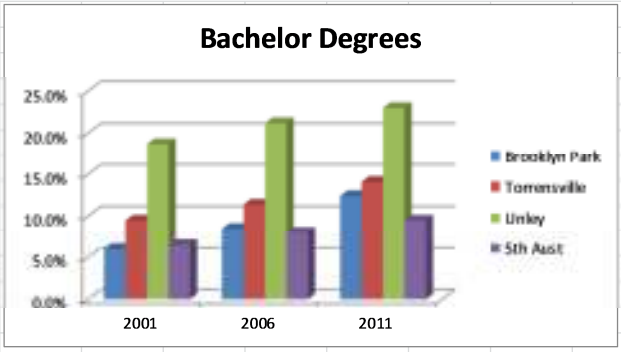


Figure 5- Bachelor Degrees

During the ten year period from 2001 to 2011, the percentage of the population with a bachelor degree increased in South Australia. In 2011, there were approximately 60,000 more people in South Australia with a bachelor degree as compared to 2001. In percentage terms, this was an increase of 46.2%. When analysing the suburbs, Unley had the smallest increase (23.0%) in the number of people holding a bachelor degree. However, this increase is from a relatively large base as in 2001, the proportion of the population holding a bachelor degree in Unley was approximately three times as much as that of Brooklyn Park and twice as much as Torrensville.

However by 2011, the changes in the number of people holding a bachelor degree in Brooklyn Park and Torrensville were quite significant. Torrensville experienced a 48.4% increase and Brooklyn Park had more than double the number of people with a bachelor degree; there was an increase of 106.7%. Despite the marked increases in Brooklyn Park and Torrensville, Unley maintained the highest proportion of people with bachelor degrees.

This result is similar to the study conducted in Melbourne by Weller and Hulten (2012) that showed the area undergoing gentrification experienced a greater increase in the proportion of 15 to 64 year olds who held a bachelor degree than the wider Melbourne metropolitan area.

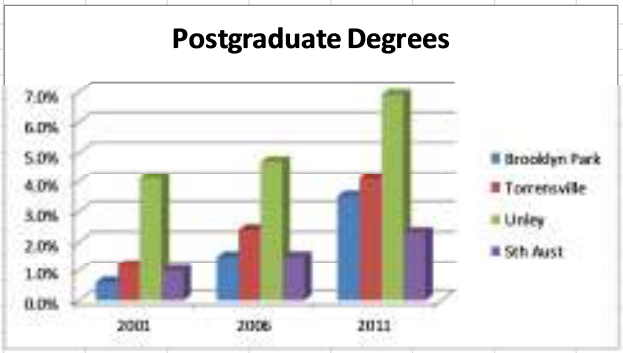
The increase of 106.7% holding a bachelor degree in Brooklyn Park is extraordinary but there could be two reasons for this. Firstly, the Adelaide College of Divinity (ACD) was established on what were the grounds of the Brooklyn Park campus of Salesian College. This occurred soon after Salesian College closed in 1996. According to the Adelaide College of Divinity, it offers diplomas, degrees and postgraduate qualifications. A Registered Training Organisation offering postgraduate degrees would have attracted more people to the suburb who already held a bachelor degree and wished to gain postgraduate qualifications. Secondly, a Youth Hostel was opened on the old Salesian College campus in 1999 to accommodate country, interstate and international tertiary students, according to the Salesians of Don Bosco. This also could have increased the number of people living in Brooklyn Park who already held a bachelor degree and were seeking to gain a postgraduate degree.

Postgraduate Degree, Graduate Diploma or Graduate Certificate

% of Postgraduate Degree				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001	0.6%	1.2%	4.1%	1.0%
2006	1.5%	2.4%	4.7%	1.5%
2011	3.5%	4.1%	6.9%	2.3%

No. of Postgraduate Degree				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001	25	46	140	15,748
2006	66	90	169	22,896
2011	158	157	269	36,000

Postgraduate Degree - % change				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001				
2006	150.0%	100.0%	14.6%	50.0%
2011	133.3%	70.8%	46.8%	53.3%
2001-2011	**483.3%**	**241.7%**	**68.3%**	**130.0%**



% of Grad Dip or Grad Cert				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001	0.9%	1.3%	2.8%	1.0%
2006	1.1%	1.5%	2.8%	1.1%
2011	1.2%	1.7%	3.3%	1.3%

No. Grad Dip or Grad Cert				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001	36	47	87	14,351
2006	46	55	99	16,100
2011	56	64	129	20,273

Grad Dip or Grad Cert - % change				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001				
2006	22.2%	15.4%	0.0%	10.0%
2011	9.1%	13.3%	17.9%	18.2%
2001-2011	**33.3%**	**30.8%**	**17.9%**	**30.0%**

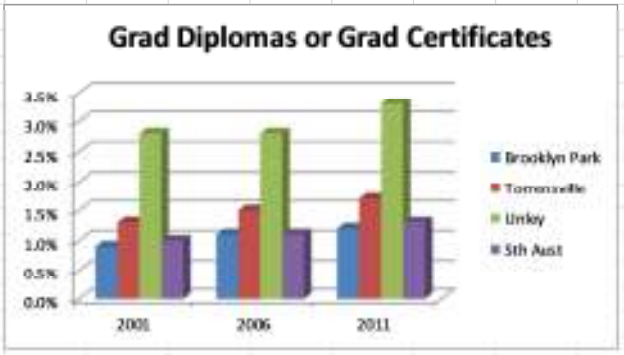


Figure 6- Postgraduate Degree, Graduate Diploma or Graduate Certificate

The situation in relation to postgraduate degrees, graduate diplomas or graduate certificates is very similar to that of bachelor degrees.

The suburb of Unley had the smallest increase in the percentage of the population that held postgraduate degrees, graduate diplomas or graduate certificates. However during this ten year period, Unley continued to maintain the highest levels of people with postgraduate degrees, graduate diplomas or graduate certificates.

Torrensville had the second highest increase of the population holding a postgraduate degree (241.7%) and the second highest increase of the population holding a graduate diploma or graduate certificate (30.8%). These increases were greater than the state average for postgraduate degrees (130.0%) and graduate diplomas or graduate certificates (30.0%). However, it was Brooklyn Park that showed the greatest increases in people holding postgraduate degrees and graduate diplomas or graduate certificates.

Brooklyn Park's population with postgraduate degrees increased a remarkable 483.3% and the population with graduate diplomas or graduate certificates increased by 33.3%.

As mentioned earlier, the extraordinary increase in the numbers of people with a higher educational qualification could be attributed to the establishment of the Adelaide College of Divinity and Youth Hostel in Brooklyn Park in the late 1990's.

These results confirm the findings of a number of studies. Rofe (2000) observed an increase in the number of persons with tertiary qualifications in the gentrifying suburbs of Newcastle East and Cook's Hill. The size of the population with more than four years of college education was also observed to increase in gentrifying areas by Lipton (1977), Maher (1978), Clay (1979), Gale (1979), Hamnett and Williams (1980) and Ley (1986).

Due to the possible effect on the high number of educated people living in Brooklyn Park as a result of the establishment of the Adelaide College of Divinity and the Youth Hostel in this suburb, the researcher is unable to confirm the statement by Wyly and Hammel (1999) that education is the single best indicator of gentrification. The inclusion of another non-gentrifying suburb(s) would have been valuable in this instance.

3.4 OCCUPATION

Professionals

% of Professionals				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001	13.2%	20.5%	35.0%	16.9%
2006	15.2%	23.6%	35.0%	18.4%
2011	18.4%	25.9%	38.3%	19.6%

No. of Professionals				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001	242	325	663	107,132
2006	296	394	700	127,152
2011	399	490	799	145,127

Professionals - % change				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001				
2006	15.2%	15.1%	0.0%	8.9%
2011	21.1%	9.7%	9.4%	6.5%
2001-2011	**39.4%**	**26.3%**	**9.4%**	**16.0%**

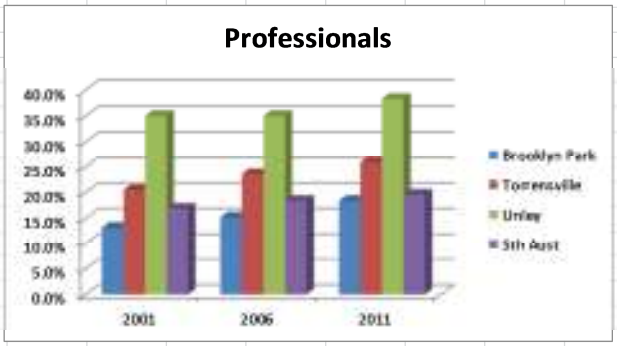


Figure 7- Professionals

The percentage of people working in a professional occupation in all three suburbs and South Australia increased during the period 2001 to 2011. In 2001, the percentage of professionals living in South Australia was 16.9%. Torrensville (20.5%) and Unley (35.0%) each had higher proportions of professionals than the state. Conversely, Brooklyn Park (13.2%) had a lower proportion of professionals when compared to the South Australian average in 2001.

However by 2011, all three suburbs had a higher proportion of professionals than the state. Brooklyn Park had the highest increase during this ten year period. Brooklyn Park's percentage of professionals increased by 39.4%. Torrensville experienced an increase of 26.3%. Unley had the lowest increase of all three suburbs and the state, 9.4%. However, Unley's proportion of professionals remained at a relatively high level throughout this ten year period; almost double that of South Australia.

The increase in the percentage of professionals in an area has been identified as an indicator of gentrification by numerous researchers. Badcock (2001) identified an increasing

proportion of ‘upper white collar’ workers in inner Adelaide between 1966 and 1966. Upper white collar workers were defined as professionals, executives, managers, technical and administrative workers and those in professional services. Rofe (2000) detailed an increase in the number of professionals in Newcastle East and Cook’s Hill from 1986 to 1996. Wulff and Lobo acknowledged a high level of people in professional and managerial positions in gentrifying areas of inner Melbourne. Weller and Hulten (2012) detected a higher increase in the proportion of people in professional and managerial positions in the gentrifying area of Maribyrnong (inner western Melbourne) when compared to the greater Melbourne metropolitan area during the five-year period from 2001 to 2006. Heidkamp and Lucas (2006) concluded that the percentage of people employed in professional, technical or managerial occupations is one of the key variables in identifying gentrification.

In relation to this research, the percentage of professionals in the gentrifying suburb of Torrensville increased by more than the state average and that of the gentrified suburb of Unley but the non-gentrified suburb of Brooklyn Park experienced a much greater increase in the percentage of professionals.

Based on Brooklyn Park outperforming Torrensville in relation to the increase in the percentage of professionals, this indicator may not provide conclusive evidence as to its usefulness as an indicator of gentrification, when compared to the findings in other research outlined above.

However, the proportion of females in professional occupations could be a more reliable indicator.

Occupation – Female Professionals

% of Female Professionals				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001	15.9%	21.7%	36.0%	19.9%
2006	17.3%	28.1%	34.2%	21.5%
2011	22.1%	30.5%	39.3%	23.1%

No. of Female Professionals				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001	134	165	336	57,204
2006	160	217	344	68,999
2011	219	267	418	80,513

Female Professionals - % change				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001				
2006	8.8%	29.5%	-5.0%	8.0%
2011	27.7%	8.5%	14.9%	7.4%
2001-2011	**39.0%**	**40.6%**	**9.2%**	**16.1%**

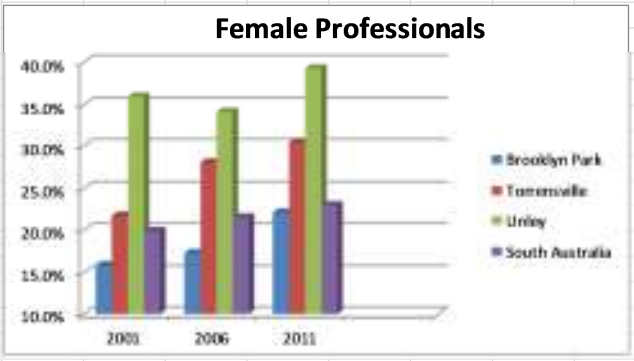


Figure 8- Female Professionals

The proportion of females working in a professional occupation in all three suburbs and South Australia increased during the ten year period from 2011 to 2011. Brooklyn Park maintained the lowest percentage of females in a professional occupation throughout this time period; 15.9% in 2001, 17.3% in 2006 and 22.1% in 2011. Out of the four areas in the study, South Australia was next in ranking above Brooklyn Park in relation to the proportion of females working in a professional occupation; 19.9% in 2001, 21.5% in 2006 and 23.1% in 2011. Torrensville's proportion of female professionals was higher than that of South Australia; 21.7% in 2001, 28.1% in 2006 and 30.5% in 2011. Despite a small decrease in 2006, Unley maintained the highest levels of females in a professional occupation during this ten year period; 36.0% in 2001, 34.2% in 2006 and 39.3% in 2011.

Unley had the highest percentage of female professionals but experienced the smallest overall increase from 2001 to 2011. Unley's proportion of female professionals increased by 9.2%, whilst the state's increase was 16.1%. Brooklyn Park's proportion of female professionals increased by 39.0% but the gentrifying suburb of Torrensville experienced the greatest increase, 40.6%.

Badcock (2001) noted an increasing proportion of females in the workforce in the inner suburbs of Adelaide. Baker (1997) identified the increasing presence in inner Adelaide of

single women pursuing professional careers in the city. Lyons (1996) recognised a greater number of women amongst the gentrifiers.

Although the findings on the increase in professionals may not have been as decisive in this research as the findings of other research already stated, the increase in females in professional occupations could be a better early indicator of gentrification. This is based on the 40.6% increase in the gentrifying suburb of Torrensville, which was the greatest increase of all three suburbs and the state. However, more work needs to be done in this area before a conclusion can be reached.

3.5 HOUSEHOLDS AND FAMILIES

Number of Households

Number of Households -Total				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001	1,955	1,548	1,508	567,074
2006	1,940	1,539	1,549	583,950
2011	1,943	1,585	1,651	619,041

Number of Households -Total - % change				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001				
2006	-0.8%	-0.6%	2.7%	3.0%
2011	0.2%	3.0%	6.6%	6.0%
2001-2011	**-0.6%**	**2.4%**	**9.5%**	**9.2%**

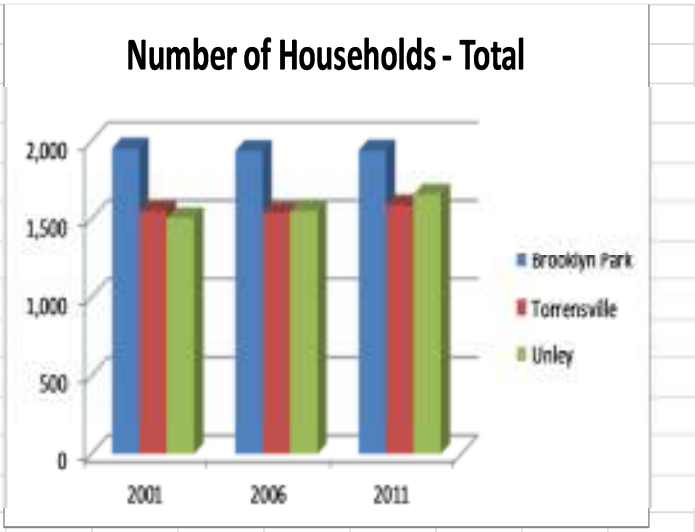


Figure 9- Number of Households

The number of households in South Australia increased by 9.2% from 2001 to 2011. This is a significant increase when compared to Brooklyn Park (0.6%) and Torrensville (2.4%) but the rate of increase in Unley (9.5%), was greater than that of the state. In 2001, the number of households in Unley was below that of Torrensville. However, due to the relatively high rate of increase in Unley over this ten year period, the number of households in 2011 exceeded that of Torrensville.

As mentioned earlier, the gentrifying suburb of Torrensville had a relatively small increase in households. Even though the increase was not as great as Unley or South Australia, this helps confirm the findings of Kolko (2010) who stated that a key feature of gentrifying neighbourhoods was that the number of households increased.

The researcher is of the opinion that an increase in the number of households is directly connected to the increase of supply of housing. During this ten year period, Unley's growth in total occupied dwellings (4.4%) exceeded that of Brooklyn Park (-2.4%) and Torrensville (-

1.3%). In addition to this, Unley's increase in flats, units and apartments (19.7%) was significantly higher than that of Brooklyn Park (13.4%), Torrensville (-7.6%) and South Australia (1.1%). Unley experienced the greatest increase in the number of occupied dwellings, which has had a significant influence on the increase in the number of households.

Families

Couple Families without Children

Couple Families Without Children - %				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001	42.6%	35.2%	45.4%	38.7%
2006	41.6%	36.2%	42.5%	40.0%
2011	41.6%	37.5%	43.2%	40.6%

Couple Families Without Children - Number				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001	440	347	401	153,753
2006	434	349	383	162,909
2011	465	369	421	174,668

Couple Families Without Children - % change				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001				
2006	-2.3%	2.8%	-6.4%	3.4%
2011	0.0%	3.6%	1.6%	1.5%
2001-2011	**-2.3%**	**6.5%**	**-4.8%**	**4.9%**

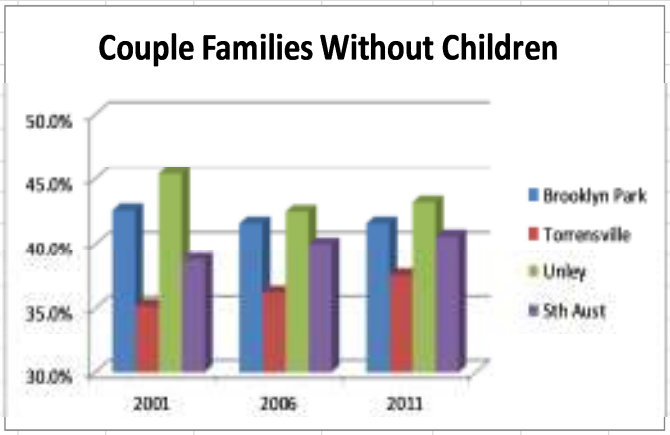


Figure 10- Couple Families Without Children

In 2001, the percentage of couple families without children was lowest in the gentrifying suburb of Torrensville. As can be seen from the graph above, the gap between Torrensville and the other suburbs was significant in 2001 but by 2011, even though Torrensville still had the lowest percentage of couple families without children, the gap had narrowed. This is as a result of Torrensville experiencing the largest increase in couple families without children

(6.5%) compared to the suburbs where the percentage of couple families without children decreased; Brooklyn Park (-2.3%) and Unley (-4.8%).

This result is similar to the findings of Wulff and Lobo (2009) in their study of Melbourne where they observed that the gentrification process was resulting in areas becoming child-free spaces. In their study, this was driven by young singles living alone or sharing and young childless couples. This research is not as fine-grained as the Melbourne study conducted by Wulff and Lobo which also considered the ages of the couples but the results are very similar; there are less children living in gentrifying areas. This outcome is further confirmed with an earlier result in this research which shows that Torrensville experienced the greatest decrease in the number of people aged 18 and under in comparison to the other suburbs.

One Parent Families

One Parent Families - %				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001	17.0%	19.2%	12.5%	15.6%
2006	18.8%	19.2%	11.8%	16.1%
2011	18.2%	17.3%	12.1%	16.3%

One Parent Families - Number				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001	176	189	110	62,133
2006	196	185	106	65,605
2011	204	170	118	70,082

One Parent Families - % change				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001				
2006	10.6%	0.0%	-5.6%	3.2%
2011	-3.2%	-9.9%	2.5%	1.2%
2001-2011	**7.1%**	**-9.9%**	**-3.2%**	**4.5%**

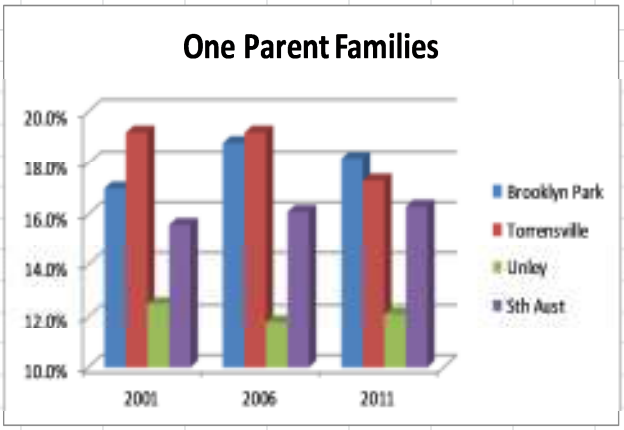


Figure 11- One Parent Families

In 2001, Torrensville had the highest percentage of one parent families (19.2%) compared to Brooklyn Park (17.0%), Unley (12.5%) and South Australia (15.6%). By 2011, the non-gentrifying suburb of Brooklyn Park had the highest percentage of one parent families (18.2%), the expensive suburb of Unley had a small decrease in one parent families of 0.4% and South Australia's proportion of one parent families increased from 15.6% to 16.3%. The gentrifying suburb of Torrensville experienced the largest decrease of one parent families out of the three areas in the study, from 19.2% to 17.3%, a fall of almost 10% (-9.9%).

The Wulff and Lobo study, published in 2009, has some similarities with the percentage of one parent families in this study but there are also some striking differences.

Wulff and Lobo observed that the population of single parents in the inner suburbs was decreasing. They classed the inner suburbs as suburbs of 'revitalisation gentrification'. This is true for the gentrifying suburb of Torrensville which experienced a decrease in one parent families of 9.9%. Interestingly, the neighbouring but non-gentrifying suburb of Brooklyn Park experienced an increase in one parent families.

According to the Wulff and Lobo study, in 2006 the inner suburbs of Melbourne had 5.5% of their families as one parent families. In the inner core suburbs, which underwent 'new-build gentrification', the percentage was even lower at 5.0%. This is in stark contrast to the much higher levels of one parent families living in the inner suburbs of Adelaide. In 2006, the one parent family proportions were; Brooklyn Park (18.8%), Torrensville (19.2%) and in the more expensive suburb of Unley, 11.8%.

One reason behind this discrepancy could be the affordability factor. A one parent family is more likely to be able to afford to live closer to the CBD in Adelaide than Melbourne as the median price/rent of property is lower in the inner suburbs of Adelaide as compared to the inner suburbs of Melbourne. This would very much be the case if the one parent family was on social security payments as the social security payment would be the same in either city but the rent/property price would be relatively higher in Melbourne.

The researcher is hesitant to reliably conclude that a decrease in one parent families is an early indicator of gentrification due to the small number of gentrifying suburbs in this study. However, based on the results in Torrensville and the findings of the Wulff and Lobo study, more research is warranted to confirm this.

Families – Summary

In the section on Families, two sub-groups have been considered; couple families without children and single parent families. Although the sample in this study is relatively small, the decrease in single parent families and the increase in couple families without children are similar to the findings of Wulff and Lobo (2009) who studied gentrifying areas of inner Melbourne.

3.6 HOUSING

Occupied Private Dwellings

Total Occupied Dwellings

No. of Total occupied private dwellings				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001	1,989	1,605	1,582	584,042
2006	2,039	1,586	1,616	609,911
2011	1,942	1,584	1,651	619,037

Total occupied private dwellings - % change				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001				
2006	2.5%	-1.2%	2.1%	4.4%
2011	-4.8%	-0.1%	2.2%	1.5%
2001-2011	**-2.4%**	**-1.3%**	**4.4%**	**6.0%**

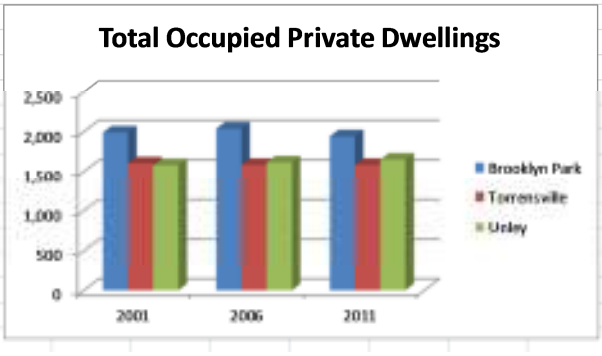


Figure 12- Total Occupied Private Dwellings

During the ten year period from 2001 to 2011, the number of total occupied private dwellings in South Australia increased by 6.0%. The percentage of total occupied private dwellings also increased in Unley, by 4.4%. However, the percentage of total occupied private dwellings fell in both Torrensville (-1.3%) and Brooklyn Park (-2.4%).

The fall in the number of total occupied private dwellings in the inner western suburbs of Brooklyn Park and Torrensville is in contrast to the findings of Badcock (2001). In his study of inner Adelaide between 1966 and 1996, Badcock determined that total occupied private dwellings increased in number.

The decrease in the total occupied dwellings in the gentrifying suburb of Torrensville also conflicts with the findings of Kolko (2010) in a selection of American cities which showed gentrification is accompanied by a growing housing stock.

A decrease in dwellings of 47 in Brooklyn Park and 21 in Torrensville is quite minor over this ten year period. It could be said that the total housing stock has remained fairly stable in both of these suburbs from 2001 and 2011.

The researcher is of the opinion that an increase in dwellings is highly dependent on the town planning regulations. The relatively insignificant change in the number of dwellings in both of these suburbs could largely be attributed to restrictive zoning.

In 2015, the zoning rules changed in large parts of Brooklyn Park and Torrensville and medium to high density is now encouraged in certain areas, especially along main roads such as Henley Beach Rd. However, during 2001 to 2011, the zoning was quite restrictive and the Council, through its planning regulations, did not encourage the demolition of old dwellings and construction of new dwellings. The Council wanted to retain the character of these two suburbs, especially Torrensville which has a high proportion of historical/character homes.

During the same period, Unley saw a large increase in the number of dwellings, especially flats and units through the planning policies of the Unley Council which encouraged medium density development.

Even though the results of this study seem to go against the findings of Badcock (2001) and Kolko (2010), the lack of increasing housing stock in Brooklyn Park and Torrensville could be attributed to restrictive planning policies in these two suburbs.

Housing Tenure

Owned Outright

% Owned Outright				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001	35.6%	41.8%	37.0%	39.8%
2006	29.4%	36.9%	30.9%	33.7%
2011	29.2%	34.0%	32.2%	32.8%

No. Owned Outright				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001	709	671	586	232,619
2006	600	585	499	205,435
2011	566	538	532	203,281

Owned Outright - % change				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001				
2006	-17.4%	-11.7%	-16.5%	-15.3%
2011	-0.7%	-7.9%	4.2%	-2.7%
2001-2011	**-18.0%**	**-18.7%**	**-13.0%**	**-17.6%**

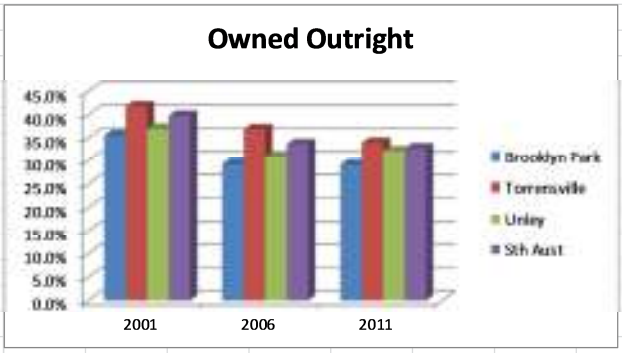


Figure 13- Owned Outright

In 2001, the percentage of homes owned outright in the state of South Australia was 39.8%. Both Brooklyn Park (35.6%) and Unley (37.0%) had home ownership rates below that of the state. However, Torrensville's home ownership rate (41.8%) was the highest out of the state and the other two suburbs. In 2006, relative home ownership rates remained the same; Torrensville maintained the highest home ownership rate (36.9%). Brooklyn Park (29.4%) and Unley (30.9%) maintained home ownership rates below that of the state's home ownership rate (33.7%). By 2011, the gentrifying suburb of Torrensville remained the area with the highest home ownership rate (34.0%). The state had the next highest home ownership rate (32.8%) and Unley (32.2%) and Brooklyn Park (29.2%) had the lowest home ownership rates.

Over the ten year period, home ownership rates decreased in South Australia and in the three suburbs under analysis. Unley's decrease in the home ownership rate was the lowest with a drop of just 13.0% between 2001 and 2011. The decline in home ownership rates in

the state was 17.6% and the decrease in home owners in Brooklyn Park (18.0%) and Torrensville (18.7%) saw the greatest decline.

Owned with a Mortgage

% Owned with a Mortgage				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001	18.9%	20.6%	22.4%	29.1%
2006	23.3%	24.5%	28.2%	33.5%
2011	26.7%	27.9%	28.2%	35.3%

No. Owned with a Mortgage				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001	375	330	354	169,968
2006	476	388	455	204,075
2011	519	442	465	218,402

Owned with a Mortgage - % change				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001				
2006	23.3%	18.9%	25.9%	15.1%
2011	14.6%	13.9%	0.0%	5.4%
2001-2011	**41.3%**	**35.4%**	**25.9%**	**21.3%**

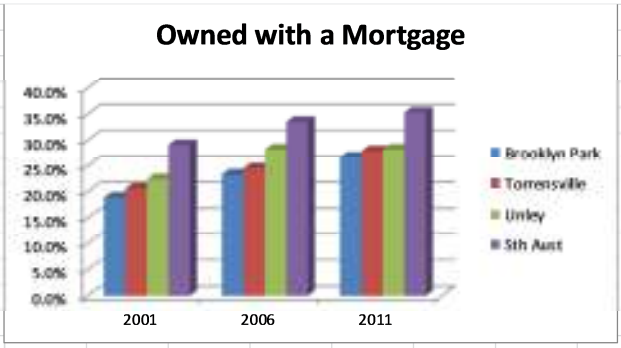


Figure 14- Owned with a Mortgage

In 2001, the percentage of dwellings owned with a mortgage was lowest in the non-gentrifying suburb of Brooklyn Park. Next highest was Torrensville (20.6%) and then Unley (22.4%). The state had the highest percentage of dwellings owned with a mortgage (29.1%). In 2006, the relative rates of mortgage holders remained the same; Brooklyn Park with the lowest rate (23.3%), then Torrensville (24.5%). Unley (33.5%) had the highest rate of the suburbs and the state had the highest percentage of dwellings owned with a mortgage (33.5%). In 2011, the state remained as the area with the highest percentage of mortgage holders, followed by Unley (28.2%), Torrensville (27.9%) and Brooklyn Park (26.7%) remained the area with the lowest percentage of mortgage holders throughout the ten year period.

Between 2001 and 2011, the proportion of dwellings owned with mortgages increased. The suburbs all had increases higher than that of the state (21.3%). Out of the suburbs, Unley (25.9%) had the smallest increase, followed by Torrensville (35.4%) and Brooklyn Park (41.1%) experienced the greatest increase.

Rented

% Rented				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001	40.5%	30.2%	33.5%	24.9%
2006	38.3%	32.0%	35.6%	25.6%
2011	39.6%	35.1%	37.4%	27.9%

No. Rented				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001	806	485	530	145,689
2006	780	507	576	156,288
2011	768	556	617	172,727

Rented - % change				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001				
2006	-5.4%	6.0%	6.3%	2.8%
2011	3.4%	9.7%	5.1%	9.0%
2001-2011	**-2.2%**	**16.2%**	**11.6%**	**12.0%**

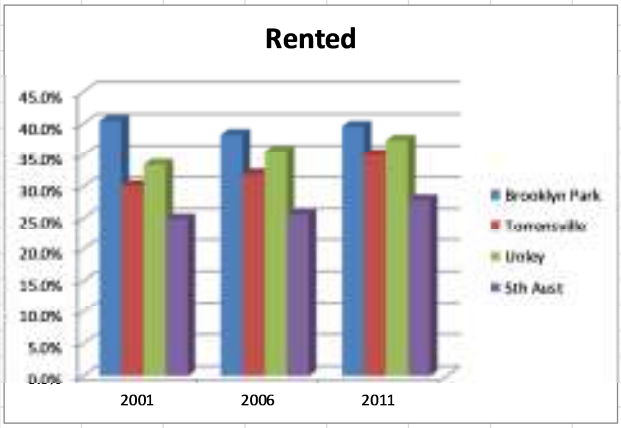


Figure 15- Rented

In 2001, the state had the lowest percentage of dwellings that were rented (24.9%). Out of the three suburbs, the gentrifying area of Torrensville had the lowest percentage of rented dwellings (30.2%), followed by Unley (33.5%) and Brooklyn Park had the highest percentage of rented dwellings. In 2006, the relative rates of rented dwellings remained the same; the state (25.6%) had the lowest percentage, followed by Torrensville (32.0%), (Unley 35.6%) and Brooklyn Park had the highest percentage of rented dwellings (38.3%). In 2011, the state remained as the area with the lowest proportion of rented dwellings (27.9%). Out of the suburbs, Torrensville also maintained the lowest proportion of rented dwellings (35.1%), followed by Unley (37.4%) and Brooklyn Park (39.6%) maintained the highest proportion of rented dwellings.

Between 2001 and 2011, the percentage of rented dwellings increased in the state by 12.0%. Torrensville had the greatest change of all three suburbs with an increase in rented dwellings of 16.2%. Unley's proportion of rented dwellings also increased, by 11.6%. However, Brooklyn Park's proportion of rented dwellings decreased by 2.2%.

Housing Tenure – Summary

Much of the literature refers to home ownership rates as an indicator of gentrification. Heidkamp and Lucas (2006) recognise that the percentage of the population living in owner-occupied housing is one of the key variables in identifying gentrification. Kolko (2010) also identifies the level of home ownership as a key characteristic. Wholey (2009) states:

> Tenure plays an important role in gentrification. Because renters are not personally invested in their household unit, they generally do not place high importance on the physical upgrading of their households. Owners, on the other hand, place a much higher importance on the upkeep of their house and thus, areas with large amounts of renters would be expected to have lower levels of gentrification. (p.5)

Shaw (2008) noted that there was a transition from renters to owner occupiers in gentrifying areas.

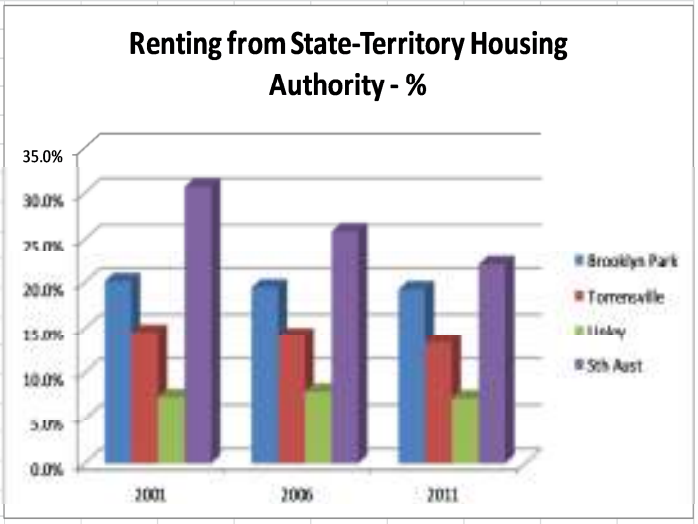
At first glance, the results in this study may seem to contradict the findings of other authors stated above. So far as home ownership rates are concerned in the three suburbs and the state, they all experienced declining rates of home ownership. This decline in home ownership rates (and subsequent increase in dwellings owned with a mortgage) could be attributed to the housing boom which South Australia experienced between 2001 and 2003. A steady decline in interest rates until mid-2002, along with easier access to home finance during this period encouraged people to borrow money, which resulted in more people taking out a mortgage to either upgrade their existing home or buy a property.

Except for Brooklyn Park, all areas experienced an increase in the proportion of dwellings that were rented. In line with Wholey's statement above, Brooklyn Park has a relatively high proportion of renters and has seen little or no gentrification. However, the decline in the proportion of rented dwellings in Brooklyn Park could be attributed to the very large reduction in semi-detached, row and terrace dwellings and townhouses between 2001 and 2011; a decrease of 46.4%. As most of these smaller types of dwellings are rented (Waxman 2002), a reduction in this type of stock will subsequently result in a lower number of rental properties.

Renting from State-Territory Housing Authority

Renting from State-Territory Housing Authority - %				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001	20.2%	14.6%	7.4%	30.7%
2006	19.5%	14.2%	8.0%	25.9%
2011	19.3%	13.3%	7.3%	22.0%

Renting from State-Territory Housing Authority - % change				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001				
2006	-3.5%	-2.7%	8.1%	-15.6%
2011	-1.0%	-6.3%	-8.8%	-15.1%
2001-2011	**-4.5%**	**-8.9%**	**-1.4%**	**-28.3%**



Renting from State-Territory Authority - Total				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001	163	71	39	44,686
2006	152	72	46	40,475
2011	148	74	45	37,965

Renting from State-Territory Authority - % change in total				
Area	Brooklyn Park	Torrensville	Unley	Sth Aust
2001				
2006	-6.7%	1.4%	17.9%	-9.4%
2011	-2.6%	2.8%	-2.2%	-6.2%
2001-2011	**-9.2%**	**4.2%**	**15.4%**	**-15.0%**

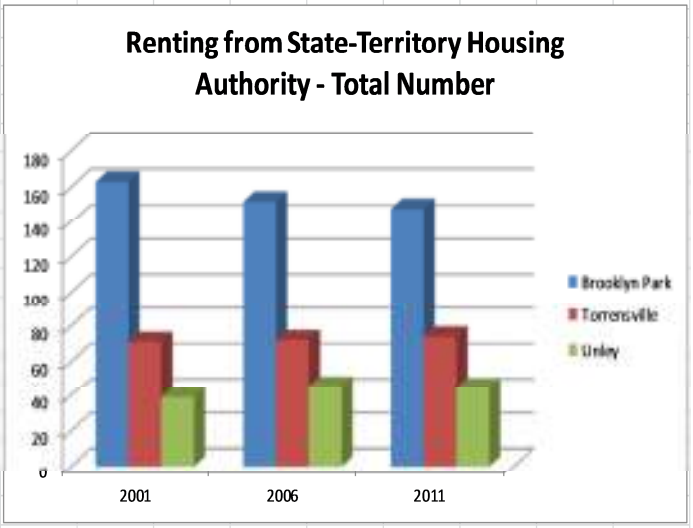


Figure 16- Renting from State-Territory Housing Authority

The public housing rental stock in South Australia has been diminishing at a relatively fast pace. In 2001, 30.7% of all households that were in rental accommodation were renting from the state housing authority, known as the South Australian Housing Trust (SAHT). Ten years later, 22.0% of households were renting from the SAHT. This is a decrease of 28.3%.

The situation in the suburbs under review has not seen as a dramatic decrease in the number of households renting from the SAHT.

Unley, which is one of the more expensive suburbs in Adelaide, has a limited stock of government housing. In 2001, only 7.4% of households were renting from the SAHT and this fell marginally in 2011 to 7.3%.

In Brooklyn Park, the non-gentrifying suburb, there was a 4.5% decrease in households renting from the SAHT during this ten year period; from 20.2% in 2001 to 19.3% in 2011.

The gentrifying suburb of Torrensville had the greatest change of all three suburbs in the number of households renting from the SAHT. In 2001, 14.6% of all households that were renting were in government housing. In 2011, this fell to 13.3%. In total, there was a decrease of 8.9% during this ten year period.

The relatively small number of government housing stock in each suburb needs to be considered when attempting to draw conclusions. For example, in a suburb with several thousand people, Unley only had 45 SAHT homes in 2011. Torrensville had slightly more at 74 dwellings. Even though Torrensville experienced a decrease in the percentage of households renting from the SAHT, the total number of dwellings actually increased slightly, from 71 in 2001 to 74 in 2011. At first there might seem to be an error in the data with an increase in the number of stock and a corresponding decrease in the percentage renting from the SAHT but during this ten year period, the total number of people renting (including private and public housing) increased from 30.2% to 35.1% of all households.

The decrease in public housing in South Australia is considerably higher than the inner suburbs of Brooklyn Park, Torrensville and Unley. As noted by Badcock (2001), during the period from 1966 to 1996, the South Australian government was focusing its attention on the middle and outer ring suburbs for the revitalisation, demolition and selling of government housing stock. Suburbs where this occurred include Mitchell Park, Sturt, Kilburn South, Westwood (Mansfield Park, Angle Park, Ferryden Park, Woodville Gardens, and Athol Park) and Hawkesbury Park, which is located in Salisbury North (Kupke, 2008). These are all middle and outer suburbs of Adelaide.

When comparing the relatively small percentage of public housing tenants in the inner city suburbs compared to a wide area such as South Australia, it is in stark contrast to the findings of Wulf and Lobo (2009). The revitalised and gentrified suburbs of Melbourne had a

far greater percentage of public housing tenants than the Melbourne Statistical Division; 8.0% compared to 2.8%. This in part can be explained by the different strategies used by South Australian and Victorian state governments in the supply of public housing. In Victoria, there are pockets of very high concentrations of high rise public housing in the inner city suburbs e.g. Flemington, Collingwood and North Melbourne, whereas these high density public housing dwellings do not exist in Adelaide.

In part, due to the small number of public housing dwellings in Torrensville (71 to 74), the research is unable to come to a reliable conclusion as to the correlation between households renting from state-territory housing as an indicator of gentrification. A greater sample size, such as a greater number of suburbs, could provide a deeper insight into the connection between public housing and gentrification.

Median House Price

Median House Price			
Area	Brooklyn Park	Torrensville	Unley
2001	$155,000	$196,000	$293,750
2006	$301,250	$365,000	$505,000
2011	$420,000	$490,000	$760,000

Median House Price - % change				
Area	Brooklyn Park	Torrensville	Unley	Adelaide
2001				
2006	94.4%	86.2%	71.9%	72.8%
2011	39.4%	34.2%	50.5%	36.3%
2001-2011	**171.0%**	**150.0%**	**158.7%**	**135.4%**

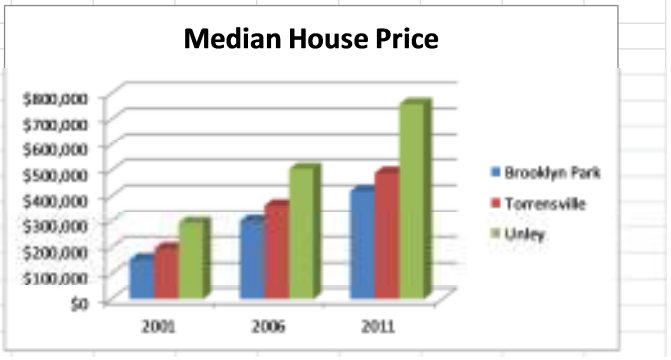


Figure 17- Median House Price

In 2001, the suburb with the lowest median house price was Brooklyn Park ($155,000). Torrensville was the next most expensive suburb ($196,000) and Unley was the most expensive suburb ($293,750). During the ten year period, the ranking remained unchanged with Brooklyn Park the cheapest suburb and Unley the most expensive suburb.

What did change were their relative median house prices. Whilst Adelaide experienced an increase in median house price of 135.4% during this ten year period, the three inner city suburbs all experienced growth greater than that of Adelaide. Torrensville median house price increased by 150.0%, Unley increased by 158.7% and Brooklyn Park experienced the greatest rate of growth, 171.0%.

This greater rate of increase in house prices was also detected by the study undertaken by Weller and Hulten (2012) where they found the house prices in the inner suburbs of Melbourne grew at a faster rate than in other parts of the city.

The use of dwelling value as an indicator of gentrification has been used by a number of researchers. Ley (1993) used it as an indicator in his research of Canadian cities. Badcock and Cloher (1981) recognised movement in house price as a measure of change within a

housing submarket in an urban neighbourhood. Rofe (2000) also included this measure in his research in Newcastle.

However, Badcock and Cloher (1981) and Rofe (2000) used average price, rather than median price. The median is the preferred measure in property as the average can easily be distorted by a relatively small number of property sales, which is often the case at the suburb level.

The researcher refined the sales data by only including properties that existed at the start of the research period, 2001. Including properties that were built after 2001 would not have given a true indication of the gentrification of the original area. This is particularly true in Brooklyn Park where a major residential development was undertaken on the old Salesian College grounds soon after 2001 which resulted in the construction of approximately 70 large high quality homes. Including the sales of these new executive quality properties would not have resulted in an accurate measure of capital growth in Brooklyn Park.

As can be seen from the above data, Brooklyn Park had the greatest capital growth of all the suburbs and exceeded that of the state. However, this data may not be reliable due to the relatively few sales at the end of the study period. As will be seen later in this section, the number of property sales fell significantly in 2011, especially Brooklyn Park. Brooklyn Park had 44.2% less sales in 2011 as compared to 2001. A relatively low number of sales can skew property data due to the heterogeneous characteristic of housing.

Median Land Area

Median Land Area (sqm)			
Area	Brooklyn Park	Torrensville	Unley
2001	714	644	447
2006	693	696	480
2011	670	666	480

Median Land Area - % change			
Area	Brooklyn Park	Torrensville	Unley
2001			
2006	-2.9%	8.1%	7.4%
2011	-3.3%	-4.3%	0.0%
2001-2011	-6.2%	3.4%	7.4%

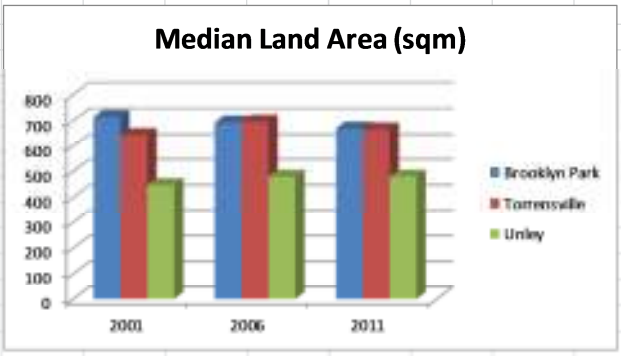


Figure 18- Median Land Area

Median land area was originally included in the study as the researcher wished to determine whether some of the increase in median house price could be attributed to an increase in the size of the land of property being sold. There should be a very high correlation between median land size and median house price. Generally speaking, a larger block of land will sell at a higher price than a smaller block of land, if all other attributes are the same.

In comparison to the growth in median house price, the relatively small changes in median land area have had minimal impact on median house prices. What is of interest is that the only area where median land area decreased was in Brooklyn Park but it had the greatest increase in median house price. This anomaly could be explained by a number of factors. A few of them are listed below.

- The quality of the houses that were sold improved at a greater rate in Brooklyn Park as compared to the other two suburbs or the state.
- There was an increase in the size of the homes sold in Brooklyn Park.
- The uplift in prices due to the new residential development in Brooklyn Park had a ripple effect and improved the value of nearby existing homes in Brooklyn Park.
- Unreliable data due to relatively few house sales in Brooklyn Park.

Size of land as an indicator of gentrification has not been used in other gentrification studies that have been sourced by the researcher. It was originally thought that this real property data could provide a further insight into the movement of house prices as a result of

gentrification. However, based on the data above, the change in median land area cannot be used as an indicator of gentrification.

Median House Size

Median House Equivalent Area (sqm)			
Area	Brooklyn Park	Torrensville	Unley
2001	122	120	150
2006	124	130	158
2011	113	123	170
Median House Equivalent Area (sqm) - % change			
Area	Brooklyn Park	Torrensville	Unley
2001			
2006	1.6%	8.3%	5.3%
2011	-8.9%	-5.4%	7.6%
2001-2011	**-7.4%**	**2.5%**	**13.3%**

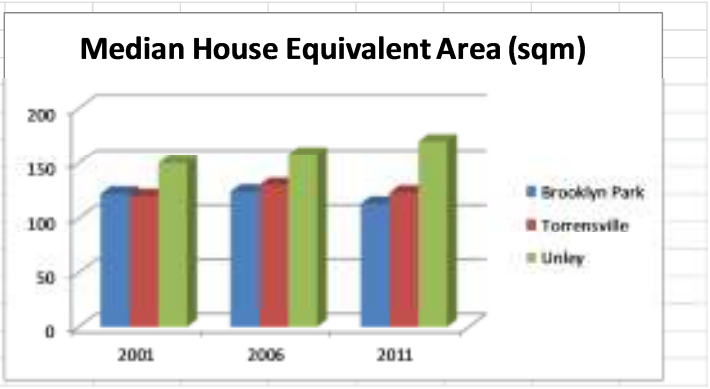


Figure 19- Median House Size

As with median land area, median house size was originally included in the study as the researcher wished to determine if some of the increase in median house price could be attributed to an increase in the size of the houses being sold. Other than the location of the property, the size of the land and size of the house are the two biggest determinants of house prices.

Similar to the findings with median land area, the relatively minor changes in median house size have not had a great impact on median house prices. Once again, an anomaly has arisen with the Brooklyn Park data which shows median house size decreased at the time when Brooklyn Park had the greatest capital growth, as measured by median house price. These anomalies could be explained by factors stated in the earlier section.

Wholey (2009) used median rooms as an indicator in the study conducted in Chicago. The reasoning was that smaller houses have more potential for upgrade, which is commonly undertaken in gentrifying areas. Whilst it was initially felt that a change in median house size could be connected to a change in median house price, due to a number of factors which were outlined previously, mainly the relatively small number of house sales, this is an unreliable indicator.

Number of House Sales

Number of House Sales			
Area	Brooklyn Park	Torrensville	Unley
2001	43	52	57
2006	44	40	53
2011	24	36	38

Number of House Sales - % change			
Area	Brooklyn Park	Torrensville	Unley
2001			
2006	2.3%	-23.1%	-7.0%
2011	-45.5%	-10.0%	-28.3%
2001-2011	**-44.2%**	**-30.8%**	**-33.3%**

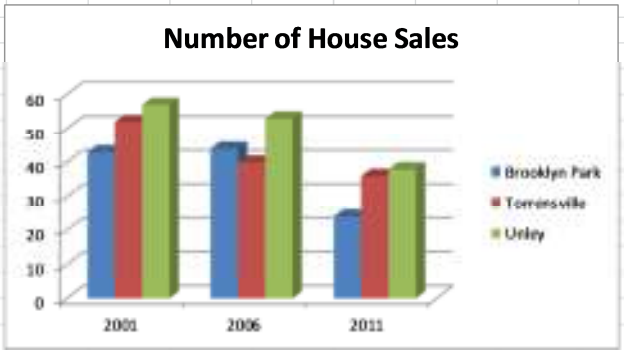


Figure 20- Number of House Sales

The number of house sales was initially included in the study as to help determine the reliability of the real property data. If there are too few sales, the data cannot be seen as reliable.

During the property boom which started in 2001, there were a relatively high number of house sales. Unley had 57 sales, Torrensville 52 and Brooklyn Park had the lowest number of sales, 43. In 2006, after the property boom had concluded, there was a drop in the number of house sales in Unley (53) and Torrensville (40). There was one extra sale in Brooklyn Park in 2006 as compared to 2001. In 2011, which was a period in the Australian property market where consumer confidence was low and property prices were falling, each of the three suburbs had their lowest number of sales; Unley (38), Torrensville (36) and Brooklyn Park (24).

Due to the varying number of sales in the ten year period, especially in 2011, it is difficult to formulate accurate conclusions in relation to the real property data. In depth statistical analysis could be undertaken but this type of analysis is beyond the scope of this study.

CHAPTER 4 - CONCLUSION

Demographic Data

Based on the two People indicators measured, the decrease in the proportion of children aged 18 years and under could be an early indicator of gentrification as the decrease in the gentrifying suburb of Torrensville was the greatest out of the three suburbs.

When contrasting the two Place indicators, it is the change in people living at a different residential address five years ago that seems the most reliable. Torrensville experienced the greatest movement of people compared to the other two suburbs and the state. No conclusion has been drawn whether this movement has been voluntary or involuntary through displacement but this could be an area for further research.

Although Education has been identified as an indicator by Rofe (2000), Weller and Hulten (2012) and Heidkamp and Lucas (2006) and described as the best indicator of gentrification by Wyly and Hammel (1999), the establishment of the Adelaide College of Divinity in the suburb of Brooklyn Park during the research period of 2001 to 2011 may have distorted the figures and results. This Registered Training Organisation (RTO) may have attracted a disproportionate number of students to Brooklyn Park, especially those with undergraduate degrees wishing to undertake postgraduate studies.

Occupation is considered a key indicator of gentrification both in Australia and internationally. Rofe (2000), Badcock (2007), Wulff and Lobo (2009) and Weller and Hulten (2012) recognised its importance in their Australian studies. Atkinson (2000), Wyly and Hammel (1999) and Heidkamp and Lucas (2006) also stated the significance of occupation in detecting gentrifying neighbourhoods. One aspect of occupation that other studies have not recognised is to monitor the change in the proportion of female professionals. Torrensville experienced a notable increase of 40.6% when the whole state experienced an increase of 16.1%. This warrants further investigation before it could be classified as a reliable indicator of the beginning stages of gentrification as based on the reading undertaken by the researcher, no other study has quantifiably measured this indicator.

Three factors were considered under the heading ‘Households and Families’. Only one of these factors produced results that were both reliable and consistent with that of other research, namely Wulff and Lobo (2009) and Badcock (2007). Wulff and Lobo’s research,

which was conducted in Melbourne, witnessed an increase in childless couples in gentrifying areas. This is similar to the findings of Badcock's (2007) research in Adelaide which found that childless couples were increasing in rejuvenated areas.

Housing Data

A number of factors were measured in relation to Housing including the total number of dwellings, proportion of households renting from a state/territory authority and housing tenure.

The period between 2001 and 2004 saw a marked improvement in the property market all around Australia, including suburban Adelaide. This may have distorted a number of results, as there was a large increase in the number of properties built, new mortgages and property prices were increasing rapidly.

In light of this, Torrensville experienced the greatest increase in the percentage of properties that were rented when compared to the other two suburbs and the state. However, the researcher is hesitant to conclude that this is a reliable early indicator as this result seems to be contrary to the findings of others.

Shaw (2008), Wholey (2009), Kolko (2010) and Heidkamp and Lucas (2006) all recognise the importance of home ownership in detecting gentrification. However, it is the increase in home ownership, not an increase in rented households which was experienced in Torrensville, which is the key indicator.

Real Property Data

Due to the knowledge and experience of the researcher in property and investment, a further dimension was added to the study of gentrification; the analysis of real property data. It was originally perceived that real property data such as changes in house or land size, as well as increases in median house price might be able to be used as early indicators of gentrification. As mentioned above, the property market between 2001 and 2004 was

undergoing what some writers would refer to as a 'property boom'. This sort of activity in the property market can distort results, especially at the suburb level where there is a relatively small number of sales compared to the quantity of sales at the local council, regional or state level.

In addition to the 'property boom' during 2001 to 2004, the Australian property market was further disrupted by an economic downturn in September 2008, the Global Financial Crisis (GFC). The GFC was the catalyst for state and federal governments to stimulate the property market in the anticipation of preventing the economy going into recession. The stimulus measures such as an increase first home owner assistance and a reduction in interest rates by the Reserve Bank Australia (RBA) encouraged people to buy homes and take out mortgages. This was the case until 2011 when the stimulus money ran out and property markets all over the country saw prices fall and a large reduction in the number of properties sold.

Despite the lack of reliable evidence that the real property data factors tested in this study could be used as early indicators of gentrification, the researcher is of the opinion that real property data should be incorporated into further studies of gentrification so as to provide a more holistic view of the physical and social aspects of gentrification.

A Final Word

The research question that was originally asked was:

- Are there indicators that can be used as predictive precursors to identify gentrification within an area?

Based on this investigation, in conjunction with the findings of research cited in other studies, there are some indicators that could be used as predictive precursors. This is when the results are compared to a neighbouring non-gentrifying suburb, a gentrifying suburb and the state average. The four indicators are:

- The greatest decrease in the people aged 18 years and under.
- The greatest increase in couples without children.

- The greatest increase in the people that lived at a different address five years ago.
- The greatest increase in the percentage of females working in professional occupations.

This research has identified a gap in the literature in an attempt to identify early indicators of gentrification. In addition, a multi-dimensional approach was used as real property indicators were incorporated in this study. It has contributed to the body of knowledge by confirming the findings of other gentrification studies and it has also provided suggestions for wider research.

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