Measuring Social Interaction and Social Cohesion in a High Density Urban Renewal Area: The Case of Green Square

Hazel Easthope & Nicole McNamara
City Futures Research Centre, University of New South Wales

Abstract: Positive social interactions and social cohesion are central to the success of large-scale residential redevelopments. Significant research effort internationally has recognised this in focusing on developing research tools to measure social interaction and cohesion in urban renewal sites dominated by social housing properties, typically in suburban areas. Less attention has been given to these issues in areas dominated by private housing, or in areas with high-density housing.

This is a significant omission given the promotion of compact city policies around the world. Local and state governments have an interest in understanding, and benchmarking, social interaction and social cohesion in new private high-density residential areas, but have few appropriate tools available. Information collected in a tailored survey of social interaction and social cohesion could inform local land use planning, community development interventions, infrastructure investment and open space and public domain planning.

This paper discusses the development of a survey tool designed to measure social interaction and cohesion in a high-density urban renewal area in Sydney, and presents selected results of a pilot of that tool. Conclusions are drawn about the potential implications of the survey findings for the effective planning of service provision for residents living in high-density brownfield urban renewal areas in Australia.

Introduction

Urban consolidation and urban renewal are key policy objectives for all major Australian cities. This paper discusses the development of a survey tool designed to explore the ways in which people relate to each other within a high-density environment, the barriers that prevent them from engaging in community life, and the opportunities for planning and urban design to create more supportive conditions for community interaction and cohesion. Given the extent of urban renewal activity underway and forecast in Australia, a survey tool developed for assessing social outcomes from urban renewal projects is likely to have broader national relevance.

Positive social interactions and social cohesion are central to the success of all large-scale residential redevelopments. Significant research effort internationally has recognized this through developing research tools to measure social interaction and community cohesion in urban renewal sites dominated by social housing properties, typically in suburban areas. However, less attention has been given to these issues in areas dominated by private, medium, and high-density housing. This is a significant omission given the promotion of compact city policies around the world (OECD 2012). Local and state governments have an interest in understanding and benchmarking social interaction and community cohesion in these new residential areas, but have few appropriate tools available.

Information collected in a tailored survey of social interaction and community cohesion in higher-density urban renewal sites could inform local land use planning, community development interventions, infrastructure investment and open space and public domain planning. The primary aim of this project was to develop a survey tool to collect information on social interaction and social cohesion not available through standard data sources, which could be implemented regularly to enable comparisons over time, and replicated in other locations (with some minor adaptations) to allow for benchmarking between areas. The survey tool was developed and piloted in the Green Square area (the area) within the City of Sydney Council (COS) in Sydney, Australia.

The following section clarifies the use of the terms social interaction and social cohesion at the neighbourhood level, and the components of social interaction and cohesion that can be considered in a survey tool. This is followed by a discussion of the concept of social sustainability and the role of the neighbourhood in academic debates on social cohesion. The paper then discusses social interaction and cohesion in mixed-use brownfields development contexts. The study area is then introduced and a description given of how the survey tool was developed, followed by a summary of selected pilot survey findings. The paper concludes with a discussion of the potential implications of the survey
findings for the effective planning of service provision for residents living in high-density brownfield urban renewal areas in Australia.

Social interaction and cohesion

Before designing a survey tool on the nature of community, it is important to be clear about what information that survey is designed to collect. The use of ‘community’ in planning practice has been the subject of much critique. For example, Talen (2000:172) states:

The problem, for planners, is that the notion of community is easily misinterpreted and misapplied, and planners have not exhibited any particular sign that their use of the term is well thought out.

Talen (1999:1369) argues that there are two dimensions to social aspects of urban areas. These are “level of neighbouring” and “psychological sense of community”. She explains that research on level of neighbouring focuses on measuring levels of social interaction. Social interaction refers to all types of interactions that occur between people. These can be verbal or non-verbal, friendly or threatening, and brief or long-lived. Social interaction can occur between individuals and groups and interactions can be oppositional or cooperative. Social interaction is an essential and important part of human life. Research by Holt-Lunstad et al. (2010:14), for example, demonstrates people with adequate social relationships have a 50% greater likelihood of survival compared to those with poor social relationships. This is comparable with the effect of quitting smoking, and is more influential than other risk factors for mortality, including obesity and physical inactivity. Research on psychological sense of community, in contrast, focuses on measuring the affective components of neighbourhood social life including shared emotional connections, neighbourhood or place attachment, membership, influence, reinforcement and sense of place (Talen 1999:1369-1370).

Similarly, Manzo and Perkins (2006:335) note that there has been little recognition in community planning literature on the importance of the affective components of neighbourhood social life:

Typically literature on place attachment focuses on individual feelings and experiences and has not placed these bonds in the larger, socio-political context in which planners operate. Conversely … community planning literature emphasised participation and empowerment, but overlooks emotional connections to place. Yet these attachments can motivate cooperative efforts to improve one’s community.

It is therefore important to consider both social interaction and sense of community. While social interaction is a relatively uncontested concept, the same cannot be said for psychological sense of community, community cohesion and the associated concept of social cohesion. While ‘social cohesion’ is now a widely used term in academia and policy domains, its meaning is often unclear. As Hulse and Stone (2007:117) note:

the … concept of social cohesion has been invoked … in the public policy debates in North America, Europe and Australasia … It is clear that there is no one definition as a policy concept and, as yet, no agreed upon indicators, despite determined development work by a number of authors.

An example of this work is Jenson’s (1998) five dimensions of social cohesion which have been adapted by numerous authors. These are: belonging, inclusion, participation, recognition and legitimacy. Whilst these are useful starting points for exploring social cohesion, they do not define or encapsulate the concept. More recently Jenson (2010) has developed her conceptualisation of social cohesion to recognise that it is a “hybrid” concept in the sense described by Bernard (1999:2):

‘hybrid’ because these constructions have two faces: they are, on the one hand, based, in part and selectively, on an analysis of the data of the situation, which allows them to be relatively realistic and to benefit from the aura of legitimacy conferred by the scientific method; and they maintain, on the other hand, a vagueness that makes them adaptable to various situations, flexible enough to follow the meanderings of political action from day to day.

As such, definitions of social cohesion commonly change depending on the context in which they are used.

Kearns and Forrest (2000) identify five dimensions of social cohesion, which play out at different scales, from the neighbourhood to the city and beyond. These are: i) common values and a civic culture; ii) social order and social control; iii) social solidarity and reductions in wealth disparities; iv) social networks and social capital; and v) territorial belonging and identity.

\[1\] For a more detailed examination of the concept of social capital, see Forrest and Kearns (2001).
In developing the survey we were interested to consider all aspects of social interaction and social cohesion outlined here. While Talen’s (1999) distinction between research on levels of neighbouring and the psychological sense of community provides a useful model, her descriptions of the components of psychological sense of community indicate that many are influenced by the nature of social interactions, just as social interactions can be influenced by social cohesion. Similarly, Kearns and Forrest (2000) incorporate social networks within their definition of social cohesion. Rather than separate the two concepts, it is thus pertinent to deal with them simultaneously.

**Social sustainability**

Concurrent with these debates exists another influential debate about the importance and nature of social sustainability. The concept of social sustainability allows for the consideration of the importance of social interaction and cohesion for the sustainability of communities. This has been particularly popular amongst public policy makers as it resonates with the concepts of environmental and economic sustainability.

Social sustainability is a contested and complex concept (Dempsy et al. 2009). Bramley and Power (2009:31) argue that social sustainability refers simultaneously to individual quality-of-life issues and to the collective functioning of society. A comprehensive definition of social sustainability including both these dimensions is provided by Barron and Gauntlett (2002:11):

Social sustainability occurs when the formal and informal processes, systems, structures and relationships actively support the capacity of current and future generations to create healthy and liveable communities. Socially sustainable communities are equitable, diverse, connected and democratic and provide a good quality of life.

The focus of social sustainability on conditions that enable positive outcomes for people and communities is important. While the concepts of social interaction and cohesion provide useful tools for enabling a consideration of the nature of community, not all forms of social interaction necessarily result in positive outcomes. Social interactions can be threatening and oppositional and social cohesion can result in some groups of people forming in opposition to others (Forrest & Kearns 2001; Jupp et al. 2007). A consideration of social sustainability thus encourages a focus on how forms of social interaction and social cohesion can be facilitated to encourage the development of equitable, diverse, connected and democratic communities.

**The neighbourhood as a site of social interaction and community cohesion**

Our survey of social interaction and social cohesion focused on a collection of neighbourhoods. Given this explicit geographical focus, it is important to recognise the role of the neighbourhood in influencing debates on social cohesion.

In the 1920s and 1930s (Knox & Pinch 2010), theorists from the Chicago school of sociologists argued that the nature of social cohesion had changed fundamentally. They described a shift from people having “unambiguous priorities linked to local communities and shared goals” (White & Wyn 2004:187) to the current focus on individualism, “self-enlightenment and self-liberation” (Beck & Beck-Gernsheim 2002:38). Or as Bauman (2001: 152) explains, the shift has been from inherited or acquired identities related to one’s place of birth or social standing to a focus on ‘identification’ and individualism.

Specifically concerning the Green Square urban renewal area, Ziller (2004) argues that the common practice of planners treating the community as place-based is problematic. The focus on place-based communities, she argues, is in contrast to the findings of sociological neighbourhood studies that have demonstrated that many social and economic networks are not place-based. Ziller (2004:465) argues that planning should “proceed on the basis that communities of interest and attachment are more important than communities of place and that relative equality is the key to health and social wellbeing.”

While community should not be thought of as entirely place-based, this does not mean that place no longer holds any importance. Discussions about the impact of globalisation on the importance of local communities recognise that while globalisation encourages broader social networks, it may also make familiar neighbourhood landmarks “take on greater significance as sources of comfort and security” (Forrest & Kearns 2001). Recognition that local places remain important in a globalised world leads Forrest and Kearns (2001) to argue that “the local neighbourhood remains important as a source of social identity but ... many other sources partly dependent upon our individual and collective time-geographies and action-spaces” exist. We agree that local places are important, but must be
considered within the broader social context, as people’s social ties may extend beyond the neighbourhood.

Despite this conceptual turn away from the importance of the neighbourhood for social cohesion and interaction, researchers continue to undertake studies on neighbourhood social cohesion and interaction. In the UK, Forest and Keams (2001:2133) explain "a primary reason for the renewed interest in neighbourhoods in contemporary policy debate is a concern with ... the social consequences of an increasing concentration of disadvantaged people in particular parts of cities.” This focus is potentially problematic because it has resulted in “an emphasis on what disadvantaged areas may lack rather than what apparently successful neighbourhoods may possess” (Forrest & Keams 2001:2138).

In Australia, the US, UK, and much of Western Europe, recent research has focused on the implications of large-scale urban renewal in areas previously identified as disadvantaged and “the demolition, upgrading or sale of ... social rented housing and the construction of new, more costly owner-occupied or private rented housing” (Kleinhans 2004, see also SEU 2000). Many larger-scale urban renewal projects have taken place in social housing estates. The HOPE VI program in the US (Goetz 2010; Popkin et al. 2004) and the Sydney suburb of Bonnyrigg (Liu & Pinnegar 2011) are notable examples of large housing estates undergoing urban renewal. Additionally, urban renewal state agencies (such as the Redfern-Waterloo Authority in NSW and the Subiaco Redevelopment Authority in WA) have been set up to manage major urban renewal projects. With significant government investments, public accountability of these projects is necessarily high. Evaluative research of these projects concentrated on the financial viability of their operations through cost-benefit analysis (Groenhart 2010: 88) and social outcomes for former residents (e.g. Popkin et al. 2004). Despite this extensive research on social interaction and cohesion, relatively little research on social interaction and social cohesion has been undertaken in urban renewal areas that have been built not in previously disadvantaged areas, but rather in brownfield areas previously dominated by industrial uses.

**Urban consolidation through mixed-use development in brownfields**

More than 13 million Australians, two-thirds of Australia’s urban population, are concentrated in five cities. These cities’ metropolitan development strategies all promote urban consolidation as the best approach to housing a growing urban population and increasing numbers of small households (NSW DOP, 2010; QLD DIP, 2009; SA DEPLG, 2010; VIC DPCD, 2008; WA DOP, 2010). Together, these development strategies require the provision of over 1.5 million new dwellings in existing urban areas over the next 25-30 years.

In many cases, urban consolidation is achieved through the development of medium and high-density communities in urban renewal sites in brownfield redevelopment areas. Australia is not alone in this regard. For example, the Commission of the European Communities (1999 in Raco & Henderson 2006) promotes both ‘compact city’ development and ‘the recycling and/or restructuring of underused or derelict urban sites and areas’. Raco and Henderson (2006:501) explain:

> Underpinning such policies is the realization that, on the one hand, brownfield redevelopment can attract economic investment and invoke a virtuous growth cycle ... whilst, on the other, it can satisfy a diverse set of objectives, including social mixing, reduced energy consumption, and urban containment ... Given the potential to deliver such wide-ranging benefits, the redevelopment of brownfield sites has become a key objective of planning agencies, almost regardless of local contexts, development histories and locally negotiated regeneration priorities.

The relationship between residential density and social sustainability has received much academic attention, especially in debates about the ‘compact city’ (e.g. Jenks et al. 1996; Burton 2000; Bramley & Power 2009) and literature on ‘new urbanism’ (e.g. Katz 1994; Calthorpe & Lerup 2005). Beyond supposed benefits of environmental and economic sustainability, compact and mixed-use urban forms are arguably more socially sustainable because they typically improve access to services (Burton 2000), reduce levels of social segregation and inequity (Jenks et al. 1996, Burton 2000, Williams et al. 2000), increase vitality and social interaction (Talen 1999), and improve safety due to higher levels of passive surveillance (Jacobs 1961). However, many of these supposed social benefits of higher-density and mixed-use living remain unproven in the literature. For example, Foord (2010:47) notes, “our poor understanding of existing mixed-use environments hinders policy development and current implementation” and goes on to state:
Despite the widespread policy agenda supporting mixed-use there is insufficient evidence to establish conclusively its positive impact of mixed use on urban vitality, utility use or social cohesion (2010:50).

It has also been argued that compact urban forms cannot be considered sustainable if they are not acceptable to people as places to live, work and interact (Bramley et al. 2009).

Green Square urban renewal area

According to the COS (2013b), the Green Square redevelopment site is the largest urban renewal site in the Southern Hemisphere. The site covers 278 hectares, including a 14 hectare town centre, and is four kilometers from the Sydney CBD (COS 2013a).

The area was earmarked as a major urban consolidation site in the 1995 metropolitan strategy (Searle 2007:8), and the NSW State Government set up the South Sydney Development Corporation to manage the redevelopment of the site. Subsequently, South Sydney Council, in its South Sydney Local Environment Plan [LEP] (1998) identified Green Square as a site for future renewal through compact mixed-used development and design. The LEP made provisions for the future development of social housing, private medium and high-density housing, retail, commercial and public civic spaces in Green Square. Subsequent local government restructuring dissolved the South Sydney Council, transferring the jurisdiction to the COS.

Prior to being earmarked for redevelopment, the area was characterised by industrial uses. Frith (2004:49) notes that many industries had been active in the area since the first half of the 1800s, until the 1960s when the downturn in secondary industry in Sydney saw these industrial uses replaced with commercial businesses, warehouses are car sales lots. While much of the area was taken up with industrial and commercial uses, there is also an older community of residents in Green Square, many of whom worked in the area (Frith 2004:49).

Since 2000 approximately 5,700 new homes have been built in the area, housing 11,000 new residents (COS 2013c). Most of these dwellings are medium and high density apartment developments. The current residential population of the area is 20,103, with 27,949 people working in the area. The residential population is expected to grow by 40,000 people by 2030, plus attracting 22,000 new workers (COS 2013c).

While a number of community facilities and services are already located within Green Square the COS plans to provide more facilities and services.

Development of the survey tool

The Green Square Community Survey was designed as an on-going assessment tool for large-scale brownfield urban renewal sites dominated by private medium and high-density housing.

The survey focuses on the attitudes and behaviours of residents and workers. Information collected will help develop an understanding of what activities and services are important in community life of the rapidly evolving community/ies of Green Square. This can be used to assess existing services and facilities and plan for new services and facilities provided by Council in regards to their influence on social interaction and community cohesion. The survey is also designed to provide information on the influence of other factors (beyond the provision of services and facilities by Council) on social interaction and social cohesion, which can inform changes and improvements in other areas such as adapting design requirements, responding to social issues or concerns, and encouraging grass-roots initiatives.

The tool was developed from a comprehensive research process. In addition to a close review of the various components of social interaction and cohesion identified in the research literature, a detailed review of existing surveys employed internationally was undertaken to identify existing best practice survey questions, and common indicators and measures of social interaction and cohesion. In total, 30 existing surveys were reviewed, and questions were adapted from 17 of these.

Sample best practice questions and indicators were tabulated from this review of existing surveys to create a question-bank divided into seven overarching survey question categories specific to the area:

---

2 Both figures from the COS (personal correspondence 26th August 2013). The residential population is the population of the Green Square and City South village area (roughly equivalent to the Green Square urban renewal area), based on analysis of 2011 Census of Population and Housing. The working population is sourced from the City of Sydney's 2012 Floor Space and Employment survey for the same area.
Demographic; background; current practice; how people feel about their current practice; plans and desires; opportunities and barriers to social interaction; and the nature of the community.

Key measures for/within each of these categories were identified in consultation with representatives from the COS; the Community Development Coordinator (Urban Renewal) and the Social Planning Coordinator. The key measures identified are outlined in Table 1 (appended).

Multiple questions were collated from the literature and survey reviews to address each agreed upon measure. The context, location, and justification for using each question were recorded in the question-bank. Questions and scales from relevant Council surveys and the 2011 Census were also incorporated into the question-bank in order to allow for data to be cross-referenced. A draft survey, incorporating a short-list of best practice questions was created from the question-bank for workshopping and revision with the above-mentioned COS staff at multiple meetings.

Care was taken to ensure that questions were worded appropriately for the area. Many community surveys developed in a suburban context refer to social interactions and relations ‘along your street’, whereas in higher density areas it is also appropriate to discuss interactions occurring ‘in your building’. Surveys designed for primarily residential suburban developments have also tended to exclude questions targeted at workers in the area, yet the role of workers in understanding social interaction and cohesion in mixed-use areas is essential.

Each question included in the survey pilot measures commonly/widely accepted indicators of social interaction and community cohesion, as well as demographic information, and information that the COS does not currently collect via other means.

For presentation, the survey was subsequently divided into five sections: How you live and/or work in Green Square; What you do in and about Green Square; Your experiences of living and/or working in Green Square; Communities in Green Square; A few questions about you.

Piloting the survey

The survey was made available as an online survey in English, a fillable PDF in English (for e-mail distribution), a printed survey in English, a printed survey in simplified Chinese and a copy of the Chinese survey available online (for download). It was considered important to provide the survey in Chinese as well as English as there are a large proportion of Chinese-born residents in the area. For example, in 2011, 12% of residents in Zetland (one of the suburbs within Green Square) were born in China (ABS 2012).

The survey was advertised via: i) posters and fliers distributed in parks and other public places, through local businesses and at the Green Square train station; ii) copies of the survey were made available at the community library with a returns box for completed surveys; iii) community e-newsletter, with a link to the fillable PDF and online survey; iv) the COS’s community page ‘Sydney your say’ and through social media sites including twitter and community blogs; v) community event in Green Square, where people were encouraged to fill in the survey on-the-spot in return for refreshment vouchers; vi) an e-mail from the South Sydney Business Chamber to its members.

A prize draw was also included as an incentive to participate.

The survey sample

The survey was open to both residents and workers in Green Square and ran from April to August 2013. During that time, 103 complete and valid responses to the survey were collected. The majority (81) were from residents, 14 from workers, and 8 from people who both lived and worked in Green Square. This represents approximately 0.4% of the total residential population and 0.1% of the total working population in the area. As such, the pilot survey results presented in this report are not representative of the total population of Green Square. Confidence intervals for the survey findings are as follows:

» Survey findings referencing 103 respondents of a total combined working and residential population of 48,052 have a confidence interval of 9.65 at a 95% confidence level.

» Survey findings referencing 89 resident respondents of a total residential population of 20,103 have a confidence interval of 10.37 at a 95% confidence level.

» Survey findings referencing 22 worker respondents of a total working population of 27,949 have a confidence interval of 20.89 at a 95% confidence level.
Should this survey pilot be re-run as a full-scale survey of the Green Square area, it would be desirable to aim for a confidence interval of around 3.0 at 95% confidence level. In order to obtain this confidence level for both the worker and resident sub-populations, based on the current population, responses would be needed from 1,013 residents and 1,028 workers.

Green Square covers an area that includes six suburbs. Of the 89 resurvey respondents who lived in Green Square, almost half (48%) lived in the suburb of Zetland, with the remaining 52% spread across remaining suburbs in the area. This reflects the fact that Zetland is the only suburb that has all of its boundaries within the area.

As this survey was a pilot, it was not anticipated that the results would be representative of the total population of Green Square. However, it is possible to compare the survey respondents with the population of Zetland at the time of the 2011 census.

Of the resident survey respondents, 49% were paying off a mortgage, 19% owned their own home outright, 24% rented privately and 8% rented social housing. This broadly reflects the tenure of occupied private dwellings in Zetland, of which 37% are owned with a mortgage, 13% owned outright, and 49% rented (private and social), but suggests property owners were over-represented in the survey.

In terms of age, 50% of survey respondents were aged 18-39, 38% aged 40-59 and 13% over 60. These results are consistent with the young age-profile of the area, with 34% of the resident population of Zetland being aged 25-34. These results demonstrate an over-representation of over 60 year olds compared to Zetland’s population (7% over 60).

Just over half of respondents (54%) were born in Australia, with the balance born in 25 different countries (none representing more than 5% of respondents). Compared to the resident population of Zetland, this constitutes an over-representation of Australian born (43% of Zetland’s population is Australian-born) and an under-representation of people born in China (12% Chinese-born).

Of the survey respondents, three quarters (73%) were living in family households, 19% lone households and 9% group households. This suggests an over-representation of family households in the sample, as only 56% of households in Zetland are family households, while 29% are group households and 15% are lone households. This may have been influenced by the fact that the survey was open to multiple members of the same household.

The survey population is on average relatively wealthy, with a high proportion of both workers and residents who completed the survey earning in excess of the median greater Sydney metropolitan area’s personal income of $619 (see Figures 1 and 2). Indeed, the median personal weekly income for residents of Zetland is $1,051 (ABS 2012 – 2011 census data).

**Survey findings**

The survey included 51 questions and it is not possible to present all of the findings of the survey in this paper. In this section, we present a selection of the findings.
Social interaction – selected findings

Figure 3 demonstrates that there is a desire amongst a large proportion of survey respondents to engage in more social interaction than they currently do, with 69% of respondents desiring more involvement with other people who live or work in Green Square.

Figure 3: How would you best describe your level of interaction with other people who live or work in Green Square? (n=103)

<table>
<thead>
<tr>
<th>Description</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>I don’t have and don’t want any involvement</td>
<td>2%</td>
</tr>
<tr>
<td>I have enough involvement</td>
<td>29%</td>
</tr>
<tr>
<td>I have some, but would like to have more</td>
<td>52%</td>
</tr>
<tr>
<td>I don’t have but would like to have some involvement</td>
<td>17%</td>
</tr>
</tbody>
</table>

Figure 4 (appended) demonstrates that survey respondents made contact with other people in numerous ways in an average month. However, for most of the activities listed, more respondents socialised with people outside of the area than within. Apart from the locally-specific responses ‘shopping locally’ and ‘sitting on the executive committee of my building’, the only exception was socialising in parks and public spaces (see also Image 1). This demonstrates the importance of local parks and public spaces for facilitating social interactions. Other important locations for local social interactions were cafes, restaurants and bars and local shops. However, people were more likely to interact with others in these spaces outside of the area.

Image 1: Joynton Park in Green Square

Photograph by Gethin Davison
In regards to existing social interactions, participants were asked several questions aimed at identifying the extent to which they mixed with people from different backgrounds. Figures 5 through 7 present the findings of these questions. A similar proportion of respondents agreed that they interacted predominantly with people of the same age and ethnicity as themselves (around one-third), while a larger proportion (49%) agreed that they socialised mainly with people of the same social background as themselves.

Respondents were asked a series of questions aimed at determining the influence of various factors on their social interactions. Figure 8 demonstrates the most important factor influencing the extent to which respondents socialised with other people in Green Square was a lack of time due to other commitments, followed by a lack of interest. However, language barriers, financial reasons and feeling unwelcome also impacted on the extent to which people socialised with others for more than 20% of survey respondents. When asked a similar question about participation in organised social activities, time was again the major limiting factor, however, not knowing what opportunities existed, and having difficulty finding this information was also a significant barrier (Figure 9).

Figure 5: Most of the people I socialise with are of the same ethnicity as me (n=102)
Figure 6: Most of the people I socialise with are of a similar age to me (n=102)
Figure 7: Most of the people I socialise with are of a similar social background to me (n=100)
These findings are supported by an additional question that asked whether respondents used selected services and facilities in Green Square. A high proportion of respondents had not heard about these services and facilities.

**Community cohesion – selected findings**

Figures 10 through 12 demonstrate that residents feel less connected to Green Square than they do to Sydney and less to Sydney than to Australia. Indeed, one-third (33%) of survey respondents said they felt little or no connection to the community in Green Square, compared to 18% feeling little or no connection to the community in Australia.
Similarly, when asked about their attachment to the street on which they lived, 31% of resident respondents said they had little or no connection to the community (Figure 13). However, this changed at the level of the building or complex, with 47% of residents saying that they felt part of the community in the building or complex in which they lived (Figure 14). The scale of connection therefore seems to have a significant impact on the nature of community connection. Further research is necessary to unpack why community connection is greater at the building level than the street level.

When asked about their actions in the community, survey responses indicate that while people feel that they have a good understanding of the responsibilities of governments and their rights to participate in political processes, a much smaller proportion feel that their thoughts about local issues can be heard by people who can make a difference, or that they themselves have contributed to shaping the community (Figure 15). This is not necessarily due to a lack of participation in formal processes of engagement, as high proportions of resident respondents had participated in some form of political engagement (Figure 16).

Again, a concern seems to be that a large proportion of respondents did not know what was going on in their community. Figure 17 demonstrates that approximately one-third of survey respondents were unable to answer a series of statements about political action and community initiatives in Green Square because they did not know what activities were taking place.

It is possible that this situation is influenced by the high rates of mobility in the area. Two thirds (69%) of respondents agreed that people moved in and out of the area quite often.
Figure 13: To what extent do you feel part of the community in the street on which you live? (n=87) [residents only]

Figure 14: To what extent do you feel part of the community in the building/complex in which you live? (n=88) [residents only]

Figure 15: To what extent do you agree with the following statements? (n=88) [residents only]

Figure 16: In the past 12 months have you done any of the following? (n=89) [residents only]
Discussion and conclusion

The findings of this pilot survey paint a picture of a relatively mobile community with a high proportion of time-poor and income-rich people who desire more social interaction with others who live and work in the area, but are currently more likely to socialise with people outside of the area. Of particular note, many respondents indicated that they had difficulty finding out what opportunities were available to them to socialise with other people in their area, or become more involved in political activities. The survey also suggests that while this group are relatively active politically (given their stated time and information constraints), many feel that their actions are not making a difference. The survey also highlighted the existence of smaller, yet significant, pockets of the population whose social interactions and participation are constrained by lower incomes, feelings of exclusion, and language barriers.

These findings suggest that community development interventions aimed at encouraging social interaction and cohesion in the community will need to be two-pronged. On the one hand, interventions will be needed that cater to the needs of people on lower incomes experiencing language barriers and social exclusion. Such interventions may learn from interventions commonly used in renewal areas dominated by social housing tenants. On the other hand, interventions will also be needed to engage high-income but time-poor residents, who demonstrated a desire for greater involvement in both social interactions and political activities, but are constrained because of a lack of information or knowledge about the opportunities available to them.

As well as having implications for community development interventions, these findings also have implications for open space and public domain planning. Importantly, parks and public spaces are significant locations for social interaction in Green Square, and are the only locations where people are more likely to interact within, rather than outside of, the local area. This is an important finding that could influence local land use planning and infrastructure development in Green Square and in future urban renewal areas, as it suggests that parks are more important than formal community spaces in facilitating local social interaction. Cafes, restaurants and bars, and local shops, were also important locations for social interaction, suggesting that the ideal of the mixed-use development encouraging greater social interaction is supported by the findings in this case.

A particularly interesting finding of the survey that requires further research is the potential benefits of social interaction at the building level. It was interesting that respondents were more likely to feel part of the community in their building than at the level of their street. This suggests that in the case of Green Square at least, high-density (apartment) living might be facilitating greater social cohesion. The reasons for these findings deserve further examination for their potential implications for local land use planning in other brownfield urban renewal locations.

While the findings are not representative of the Green Square population as a whole, and the people who participated in the survey can be expected to be people who are more interested in being or becoming active in the community, this pilot has demonstrated the potential usefulness of a large-scale survey designed specifically for a brownfield urban renewal area dominated by privately owned medium and high-density housing. The findings of this survey suggested implications for community development interventions, local land use planning, infrastructure investment and open space and public domain planning. If this form of survey could be rolled out in numerous brownfield high-density
private urban renewal areas, this would enable benchmarking between areas, and the development of
more robust findings regarding those factors that encourage and hinder social interaction and
cohesion in such environments, thereby supporting the ability of governments and other service
providers to effectively plan for the provision of services for the residents moving into these areas and
provide environments that support the wellbeing of existing residents.

Acknowledgments
This paper draws upon research carried out in 2013 which was funded by a University of NSW Faculty
of Built Environment Faculty grant, and undertaken with the assistance of staff at the City of Sydney
Council. The paper is based on the final report for this project. We would like to thank Ian Hay and
Cara Lewinson from the City of Sydney for the support and expertise they provided to this project, as
well as the residents and workers of Green Square who gave up their time to complete the pilot
survey.

References
Barron, L. & Gauntlett, E. (2002) Housing and Sustainable Communities Indicators Project: Stage 1
and measurements’, Social Indicators Research, 58(3), pp. 403-428
housing type’, Environment and Planning B: Planning and Design, 36, pp. 30-48
University of Michigan
Social Cohesion
Development: Defining urban social sustainability’, Sustainable Development, 19(5), pp. 289–300
Environment, 36(1), pp. 47-62
Studies, 38(12), pp. 2125-2143
England: Joseph Rowntree Foundation
Housing’, Housing Studies, 25(2), pp. 137-158
fulfilment of the requirements for the degree of Doctor of philosophy
28(2), pp. 109-128
<table>
<thead>
<tr>
<th>Table 1: Key measures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Demographic</strong></td>
</tr>
<tr>
<td>Age</td>
</tr>
<tr>
<td>Gender</td>
</tr>
<tr>
<td>Dwelling type</td>
</tr>
<tr>
<td>Birthplace</td>
</tr>
<tr>
<td>Income</td>
</tr>
<tr>
<td>Household composition</td>
</tr>
<tr>
<td>Language</td>
</tr>
<tr>
<td>Labour force participation</td>
</tr>
<tr>
<td>Housing affordability</td>
</tr>
<tr>
<td>Occupation</td>
</tr>
<tr>
<td><strong>Background</strong></td>
</tr>
<tr>
<td>Whether respondents live/work in the area</td>
</tr>
<tr>
<td>Where people live/work</td>
</tr>
<tr>
<td>Reason for moving to area</td>
</tr>
<tr>
<td>Nature of workplace</td>
</tr>
<tr>
<td>Length of residence/work</td>
</tr>
<tr>
<td>Tenure</td>
</tr>
<tr>
<td><strong>Current practice</strong></td>
</tr>
<tr>
<td>Types of social interaction</td>
</tr>
<tr>
<td>Who participates in social interactions</td>
</tr>
<tr>
<td>Location of social interactions</td>
</tr>
<tr>
<td>Networks of friends/family</td>
</tr>
<tr>
<td>Frequency of social interactions</td>
</tr>
<tr>
<td>Awareness of and use of community services and facilities</td>
</tr>
<tr>
<td><strong>How people feel about current practice</strong></td>
</tr>
<tr>
<td>Wellbeing / quality of life</td>
</tr>
<tr>
<td>Inclusion</td>
</tr>
<tr>
<td>Isolation</td>
</tr>
<tr>
<td>Sense of attachment to area</td>
</tr>
<tr>
<td><strong>Plans and desires</strong></td>
</tr>
<tr>
<td>Intentions to remain in area or not</td>
</tr>
<tr>
<td>Whether want the neighbourhood to change</td>
</tr>
<tr>
<td>Desire to be doing something different re. social interaction</td>
</tr>
<tr>
<td><strong>Opportunities and barriers to social interaction</strong></td>
</tr>
<tr>
<td>To what extent people feel excluded or comfortable</td>
</tr>
<tr>
<td>Influence of personal factors on social interaction (e.g. finances, time, language, mobility)</td>
</tr>
<tr>
<td>Perceptions of safety</td>
</tr>
<tr>
<td>Impact of awareness and availability of information on social interaction</td>
</tr>
<tr>
<td>Influence of design/spatial factors on social interaction</td>
</tr>
<tr>
<td><strong>The nature of community</strong></td>
</tr>
<tr>
<td>Whether people identify with a community/ies in the area</td>
</tr>
<tr>
<td>The nature of sub-communities in the area</td>
</tr>
<tr>
<td>Whether people identify with Green Square as a place</td>
</tr>
<tr>
<td>Whether people feel they can influence the nature of their community</td>
</tr>
<tr>
<td>The nature of community/ies in the area</td>
</tr>
<tr>
<td>Whether communities are segregated and/or inclusive</td>
</tr>
</tbody>
</table>
Figure 4: In an average month, do you have contact with people in Green Square / outside Green Square in any of the following ways? (n=103)