Residential Intensification in Dunedin:
Impacts and Acceptability

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Abstract

In New Zealand and worldwide, there is a growing recognition that residential intensification could be used as a technique to address some of the negative impacts of urban sprawl. However, poorly designed and executed intensification risks resulting in a number of its own negative impacts. Furthermore, these impacts have implications for the way intensification is received by the local population. It is imperative that the impacts and acceptability of intensification and the feasibility of intensification as a tool for moving towards a more sustainable urban form be investigated. This thesis explores the impacts and acceptability of intensification through a comparative study of two residential zones that enable intensification in Dunedin – the Residential 2 Zone in South Dunedin, and the Residential 3 Zone in North Dunedin. The study involved a survey of 100 residents in the case study areas, along with key informant interviews with property developers and representatives from architectural firms, the Otago Property Investors Association and the Dunedin City Council.

The research revealed that there has been a range of impacts, positive and negative, as a consequence of intensification in the case study areas, and that these have been largely unproblematic to residents. Overall, residents were very satisfied with their current neighbourhood, and if given the choice would be likely to live in a similar medium density neighbourhood in the future. The research also found that there is a difference in the relative extent and acceptability of the impacts of intensification between the case study areas. The findings have implications for the efficacy of planning for future intensification in Dunedin. A series of recommendations were developed to address the issues identified by the research, including the development of design guidelines for intensive development, allowing for further intensification via the Dunedin City District Plan, an assessment of the capacity of Dunedin's infrastructure to accommodate further intensification, and fixing the car parking issues in North Dunedin. Implementation of these recommendations would assist in ensuring that the needs and desires of Dunedin residents are met while achieving positive and environmentally sustainable outcomes of future intensification in Dunedin.

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1 Introduction

1.1 Introduction

Under the umbrella of sustainable development, the sprawling nature of cities worldwide has come to the forefront of international debate. Given the fundamental issues associated with the current trajectory of urban spatial patterns, it is not surprising that the relationship between sustainability and urban form has become an area of considerable theoretical and empirical research. Various models of a sustainable urban form, such as the compact city, transit-oriented development and new urbanism, have been purported to alleviate some of the problems of urban sprawl and achieve both more environmentally sustainable and more liveable urban areas. These theories have yet to realise their full potential, nevertheless, they do offer a way forward.

Urban intensification has been proposed as part of the solution to the quest for a more sustainable urban form. As a process of increasing the 'density over the existing density within a defined area' (Auckland Regional Council, 1998, p. 3) through infill or redevelopment, the aim of intensification is to encourage the more efficient use of land and therefore resources. Although a compact urban form is not characteristic of the New Zealand context generally, the growing recognition of the dangers or urban sprawl has brought the idea of intensification as a technique to combat some of the negative impacts of low density suburbanisation to the forefront.

In order to achieve the wider aims of a sustainable urban form there needs to be some consideration of the impacts and acceptability of intensification. The claimed advantages of intensification are well documented. However, poorly designed and executed intensification developments risk resulting in a number of negative impacts. Furthermore, these impacts have implications for the way that intensification is received by residents. The challenge is to undertake and manage intensification in a way that minimises the negative impacts and is acceptable to the local population.

1.2 Research Context

The present research has been undertaken to investigate the impacts and acceptability of residential intensification in Dunedin. Dunedin was selected as the case study area because several areas within the city have been under pressure for more intensive development in recent years. It should be noted that this intensification is not the result of an attempt by the Dunedin City Council to make the city more compact. Rather, more intensive development has been the result of market demand for various reasons including changing lifestyles, an increasing number of tertiary students and an increase in the number of people retiring to smaller sections closer to the centre of the city. As such, ad hoc infill housing and redevelopment has been evident, often to the detriment of the character and amenity of the areas in which intensification is occurring. The Dunedin context provided a unique opportunity to assess the impacts of intensification and how residents have received the process. Furthermore, the Dunedin context presented a chance to explore the feasibility of intensification as a mechanism through which the city could move towards a more sustainable urban form.

This study utilised an in-depth case study of intensification in Dunedin, specifically the Residential 2 (South Dunedin) and Residential 3 (North Dunedin) Zones. The Residential 2 and 3 Zones are identified in the Dunedin City District Plan and were selected as the case study areas as both have undergone intensification in recent years. Furthermore, the zones provided a comparative analysis of two areas with very different demographics and housing tenure, which is likely to present contrasting results.

The Residential 2 Zone is a flat area that was relatively densely settled during the early period of the city's development. The area is characterised by single-storied ownership flats. The average size of the sites is smaller than those in other residential zones throughout the city. A considerable amount of intensification has taken place in this zone, primarily in the form of multi-unit redevelopment and the establishment of town houses.

The Residential 2 Zone provides one of the city's few areas of housing on flat land close to facilities such as shopping and public transport. For these reasons, a significant number of elderly and retired people live in the area. Narrow streets, the lack of on-site parking and small areas of open amenity space means that the impacts of intensification are often significant. If Dunedin is going to continue to maintain the Residential 2 Zone as a pleasant area where older people can live and be close to services, facilities and shopping areas, the impacts of intensification must be understood and taken into consideration when managing the intensification process. The acceptability of intensification and its associated impacts from the perspective of those living in the area must also be determined.

Dunedin has a reputation as a student town and has the ability to house a significant proportion of the student population in a relatively confined area surrounding the main campuses of the University of Otago and Otago Polytechnic. The Residential 3 Zone encompasses a large part of this area in North Dunedin. The area surrounding the campuses has a reputation for being lively and vibrant and is characterised by a mix of old detached villas, terraced housing and relatively new multi-storey and purpose built student flats on small sites. The ability of the city to house a large proportion of students within close proximity to the tertiary institutions and the unique character and social environment that this creates is appealing for potential students.

The Residential 3 Zone has been under increasing pressure to provide accommodation for rising numbers of students and for changes in preferred accommodation types. With most students wanting to live close to the tertiary institutions, residential intensification has been evident and a number of negative impacts have resulted from this. It is important that Dunedin maintains its success as a tertiary education provider and continues to attract students to the area. Given the importance of the student population and the tertiary institutions for Dunedin's economy, it is important to assess the impacts that intensification is having on the area and the acceptability of this for those living there.

1.3 Research Aim and Objectives

The main aim of this thesis is to assess the impacts associated with intensification in the Residential 2 and 3 Zones and to identify the local acceptability of these. In achieving the aim of this thesis, three specific research objectives have been developed to guide the research.

1. Identify the opportunities and constraints facing those wanting to undertake residential intensification and the factors that influence property developers' decisions on intensification in Dunedin.

This objective was used to direct the preliminary phase of the study. In order to fully understand the intensification process, its impacts and acceptability, it was necessary to understand what has been driving the process and what it is constraining further intensification. Furthermore, to understand why it is that intensification has impacted both positively and negatively on the area, it was necessary to understand what factors and considerations influence decisions on intensification. It is essential to ascertain the way in which the intensification process is occurring, in order to examine how this is impacting on the area and how it is received by the local population.

2. Identify the impacts of residential intensification in Dunedin and the local acceptability of these.

Leading on from the first objective, this second objective directed the major component of this study. It is based on exploring and understanding residents' perceptions of the current situation with regard to residential intensification and its impacts. Furthermore, it sought to identify how these impacts have been received by the local population. The second research objective was addressed by way of a case study approach of two residential zones in Dunedin.

3. Develop criteria and recommendations to guide future intensification in Dunedin.

The third research objective enabled a critical reflection of the two earlier objectives. Moving on from the results of individual case studies, criteria were developed to

minimise the negative impacts of intensification and to guide future intensification in Dunedin.

1.4 Methodological approach

A review of the relevant literature was conducted in order to provide a theoretical base for the research. The literature review examines a range of theories relating to a sustainable urban form, intensification, local acceptability and the management of the intensification process. A combined qualitative and quantitative methodological approach was adopted for this study employing two methods of primary data collection. First, key informant interviews were conducted with developers, architects and representatives from the Dunedin City Council. The interviews allowed for in-depth information to be gathered in an open and flexible manner. Second, a survey of 100 residents was conducted, 50 in the Residential 2 Zone and 50 in the Residential 3 Zone. A survey was decided to be the most effective way of sampling a large proportion of the population within the two zones given the time and resource constraints.

Analysis of the collected data was undertaken in two ways. The quantitative data from the residential survey was compiled using Microsoft Excel and converted into percentages and displayed in tables and graphs to enable effective comparison of the case study areas. Analysis of the qualitative information from the key informant interviews and the survey was undertaken by compiling this information according to the key themes based on the research objectives. This allowed the qualitative data to be categorised in a systematic manner, permitting common issues to be identified and discussed. Subsequently, this information has been presented as quotes in the text or within tables. The methodological framework employed in this research is fully discussed in Chapter 3.

1.5 Thesis structure

Following this chapter, Chapter 2 sets out the theoretical basis for this thesis. It reviews the academic literature on a sustainable urban form, intensification, local acceptability and the management of the intensification process, and places this study within the existing body of literature.

Chapter 3 details the methodological approach taken in this research. It justifies the adoption of a qualitative and quantitative case study approach and other aspects of the research design. The findings of the research are simultaneously presented in Chapters 4 and 5. Chapter 4 begins by outlining the local context of Dunedin, specifically the Residential 2 and 3 Zones. It then presents the results of the key informant interviews. Chapter 5 then presents the results of the residential survey.

Chapter 6 examines the results presented in Chapters 4 and 5 by way of a discussion of these in relation to the research objectives and academic literature.

Finally, Chapter 7 provides the concluding comments to this study. It reviews the findings of each of the chapters and synthesizes the research. Chapter 7 also outlines the contribution this work makes to the ongoing debates surrounding the impacts and acceptability of intensification, and the use of intensification as a way of moving towards a more sustainable urban form.

2
Literature Review

2.1 Introduction

This chapter outlines the theoretical background for undertaking this research into the impacts and acceptability of residential intensification. It begins by positioning the study of intensification within the broader urban context. The relationship between sustainability and urban form is discussed, with a particular focus on examining contemporary urban form from a sustainability perspective. Theories thought to change the present trajectory of urban spatial patterns are then investigated. As a mechanism for moving towards a more sustainable urban form and as a process that Dunedin is currently experiencing, the second part of this chapter focuses on residential intensification. The claimed advantages of intensification are critiqued with an emphasis on its impacts and acceptability. Management options are then explored by drawing on experiences and theories worldwide. Finally, this chapter considers the role of the property developer in the intensification process.

2.2 Sustainability and Urban Form

There is a considerable area of theory and empirical research concerning the relationship between sustainability and the form of urban areas. 'The focal point in sustainable development literature as it pertains to the built environment is on sustainable cities or at the very least on sustainable urban development' (Freeman and Thompson-Fawcett, 2003, p. 15). The problems associated with the current spatial patterns of urban areas have long been recognised. The current growth of urban areas and the intense environmental damage that is taking place is generally considered unsustainable. Furthermore, although still largely contested, the growth of urban spatial patterns with low densities, large outward expansion, spatially segregated land uses and leapfrog urban development, is considered not conducive to a good quality of life in urban areas (Dieleman and Wegener, 2004).

Low density suburbia was constructed for the post-war families who envisioned 'the good life' in the countryside with full-sized homes and gardens. The trend toward

suburban living has been facilitated by cheap fuel, advances in transportation and subsidised highways, which have allowed people to travel increasing distances to work beyond their place of residence (Neuman, 2005). Planning regulations, the lure of cheap open land outside the city and the always-present image of the single family home as a dream have also influenced contemporary urban form. 'The resulting vast tracts of detached bungalows sprawling across new suburbs represented dominant beliefs about the meaning of home, family life, child-rearing, privacy and space and the separation of work and home' (Dixon and Dupuis, 2003, p. 355). The suburban ideal has given way to urban sprawl, the control of which is one of the key issues challenging planners in many countries. Urban sprawl has been defined as 'a pattern of land use in an urbanised area that exhibits low levels of some combination of eight distinct dimensions: density, continuity, concentration, clustering, centrality, nuclearity, mixed uses and proximity' (Galster *et al.,* 2001, p. 685). Peiser (2002, p. 278) suggests: 'the term is used variously to mean the gluttonous use of land, uninterrupted monotonous development, leapfrog discontinuous development and inefficient use of land.' These definitions reveal a range of negative environmental, economic and social costs associated with urban sprawl.

The major impacts of urban sprawl pertain to land consumption at the urban fringe, energy and resource waste, air pollution, accessibility and the degradation of inner city neighbourhoods and low income areas (Neuman, 2005). As sites of significant waste and pollution production and consumers of natural resources, cities have become an important part of the sustainability debate. White (1994, p. 109) argues that a large part of the response to unsustainable development 'should come from the cities because that is where the most intense environmental damage is taking place, and it is there that many improvements can effectively be made.' Furthermore, Breheny (1992, p. 2) suggests that 'if cities can be designed and managed in such a way that resource use and pollution are reduced, then a major contribution to the solution of the global problem can be achieved.' Given these arguments Jenks *et al.* (1996) suggests that the way urban areas should be developed and the effect that their form can have on resource depletion and social and economic sustainability are central to the debate surrounding the relationship between urban form and sustainable development.

Urban areas appear to be arguably the most important location for action to help achieve the goals of sustainable development. The utilisation of planning rules and policy is widely acknowledged as a mechanism to achieve change in urban areas. If successful policies and practical solutions can be found, then the benefits in terms of achieving sustainable development will be great. 'Planning policies have embraced the concept of sustainable development, presenting this as a framework for future planning and land-use decisions' (Alker and McDonald, 2003, p. 171). In the urban context, it is argued that the form of an urban area can affect its sustainability. However, the ideas surrounding what constitutes sustainable urban form are diverse. Greater attention must be paid to the structure and design of urban areas and factors such as the shape, size and population densities need to be altered as they have the potential to change resource use. Any notion of sustainability, however, should include a social dimension. Elkin *et al.* (1991, p. 12) state that '…sustainable urban development must aim to produce a city that is "user-friendly" and resourceful, in terms not only of its form and energy-efficiency, but also its function, as a place for living.' Breheny (1992) suggests that sustainable urban development requires the achievement of aspirations, subject to a set of conditions concerning inter and intra generational equity, and that the stock of environmental resources should not be depleted beyond its regenerative capacity. Furthermore, Williams *et al.* (2000, p. 4) argue that sustainable urban form should 'enable the city to function within its natural and man made carrying capacities; is "user friendly" for its occupants and promotes social equity.'

What is clear from the literature is that sustainability and urban form are inextricably intertwined. There is a widely acknowledged need to find more sustainable models for the towns and cities of the world (Burton, 2000). So what is a sustainable urban form? Given the growing awareness of the problems associated with current spatial patterns this question is becoming an increasingly important element of planning processes throughout the urban areas of the world. It is thus pertinent to consider in some detail the theories offered to achieve a more sustainable urban form.

2.3 Theories for Sustainable Urban Form

'There is general concurrence that the layout, design, identity and diversity of towns and cities influence their sustainability and liveability' (Thompson-Fawcett and Bond, 2003, p. 163). However, no consensus exists about how to best arrange and integrate these various factors. As a response to the negative environmental, economic and social aspects associated with many patterns of urban development in the last two centuries, a number of theoretical answers have emerged to counter contemporary conventional practice (Thompson-Fawcett and Bond, 2003). This section presents an overview of some of the key theories that have emerged for a sustainable urban form.

2.3.1 The Compact City

A large part of the response for the need to find more sustainable models for urban areas has been the growing support in recent years for the compact city. The compact city has a variety of definitions but in general is taken to mean 'a relatively high-density, mixed use city, based on an efficient public transport system and dimensions that encourage walking and cycling' (Burton, 2000, p. 1969). The concept of the compact city arises through processes that intensify development and bring in more people to revitalise areas (Jenks *et al.,* 1996).

'Ultimately, it is argued that a good quality of life can be sustained, even with high concentrations of people' (Jabareen, 2006, p. 45). Compact city theory is supported for several reasons. Compact cities are argued to promote more sustainable modes of transport and thus, are more energy efficient. Moreover, they are seen as a sustainable use of land. 'By reducing sprawl, land in the countryside is preserved and land in town can be recycled for development' (Jabareen, 2006, p. 45). Compactness and mixed uses are associated with positive social benefits such as diversity, social cohesion, and community-oriented social patterns, thus embracing the concept of social sustainability. The compact city is also argued to be economically viable because infrastructure can be provided cost-effectively (Jabareen, 2006).

For many then, the compact city 'represents a quintessential physical response to many urban problems, such as land consumption in fringe areas, energy and resource waste, air pollution, accessibility, and social segregation' (Neuman, 2005, p. 17).

Nevertheless, there is a danger that the compact city has become a romantic vision. Many commentators question the utility of the compact city in achieving its supposed advantages. Williams *et al.* (1996b) argue that the actual effects of many of its claimed benefits are far from certain. Studies by Williams *et al.* (2000) are not conclusive about the link between compaction and reduced automobile trips. The type of vehicle trips influences the impact of compaction. 'While short trips to local activities may decrease, travel distances for those seeking specialised employment, unique shopping, or singular leisure pursuit can be independent of urban density' (Neuman, 2005, p. 12). Furthermore, in a careful review of empirical studies on the effect of urban form and transportation, Hall (2001, p. 103) found that 'the research results are not consistent, indeed they are confusing' and found that travel is much more strongly linked to fuel prices and income than population density.

In her study of 25 English cities, Burton (2000) found that social equity, measured by 44 indicators, was more often than not negatively affected by urban compactness. There does, however, exist some evidence that the compact city may be positive for aspects of social equity. Burton (2000) suggests that the compact city is beneficial for the life chances of low income groups. Benefits include improved public transport, reduced social segregation and better access to facilities. Overall, the influence of the compact city on social equity is dependent on the particular aspects of compactness that are investigated; certain aspects appear to be more positive than others (Burton, 2000). It is, thus, perhaps such individual components of compactness that should be the focus of attention in attempting to maximise the benefits of the compact city.

While compact city theory provides a great deal of direction as to the form that urban areas need to take in order to become more sustainable, there is little evidence to affirm such suggestions. As there are few compact cities realised, the concept remains largely a hypothetical one. However, the ability of the compact city to achieve a sustainable urban form is still widely supported.

2.3.2 Transit-Oriented Development

Transit-oriented development represents a response to the urban sustainability movement on the one hand, and efforts to reduce reliance on the automobile on the

other. Transit-oriented development is generally defined as 'moderate to high density residential development that also includes employment and shopping opportunities and is located within easy walking distant of a major transit stop' (Lund, 2006, p. 357). Transit-oriented development has been 'touted as a panacea, with some arguing that all metropolitan growth can be accommodated through higher density infill development along transit lines' (Dittmar *et al.*, 2004, p. 2).

It is argued by academic scholars that Transit-oriented development can be a central part of the solution to a range of social and environmental problems. To this end, Transit-oriented development can respond to changes in environmental, social, commuting and land use trends by offering an alternative that is viable in the market-place while still yielding social benefits (Dittman *et al.*, 2004). Such development, it is argued, will encourage transit use, increase housing opportunities, promote walking and cycling, and facilitate neighbourhood revitalisation (Lund, 2006). Furthermore, Dittmar and Poticha (2004, p. 20) argue that Transit-oriented development has the potential to form a new approach to development which meets the demand for 'location-efficient, mixed use neighbourhoods, supports regional economic growth strategies and increases housing affordability and choices.'

However, most Transit-oriented developments fall short of the vision. Many projects end up becoming 'fairly traditional suburban developments that are simply transit-adjacent' (Dittmar *et al.*, 2004). Issues include unfriendly zoning codes associated with such development, and a lack of understanding about how to best finance such projects. Although Transit-oriented developments have their limitations they are essential parts of the toolkit for healthy metropolitan economies and improved quality of life (Dittmar *et al.*, 2004).

2.3.3 New Urbanism

The movement known as new urbanism began to coalesce in the 1970s and 1980s, building on currents in urban design that aimed to emulate and modernise historic urban patterns (Deitrick and Ellis, 2004). New urbanism performs a creative fusion of the old with the new. It is described as 'an umbrella form which encompasses neotraditional development as well as traditional neighbourhood design, [which] lives

by an unswerving belief in the ability of the built environment to create a sense of community' (Talen, 1999, p. 1361). It is argued by Talen (1999) and Dixon and Dupuis (2003) that new urbanism can address problems such as urban sprawl, the domination of the automobile and second-rate urban design. 'The two prevailing ideas that underpin these principles are the development of a compact urban form as a means of containing urban sprawl and enhancing "community" through increased social interaction' (Dixon and Dupuis, 2003, p. 358).

At the heart of new urbanism is the belief that traditional community life no longer exists in today's conventional, sprawling, suburban neighbourhoods which are over-reliant on the automobile (Dixon and Dupius, 2003). It is believed that the problems associated with urban sprawl and a lack of community can be addressed through urban design principles. Elements of new urbanism incorporated in new housing developments in the United States include pedestrian friendly streets, front porches close to sidewalks, and shops within walking distance, all of which are assumed to encourage a sense of community spirit (Dixon and Dupius, 2003).

Not surprisingly, new urbanism, like all theories of a sustainable urban form, has been met with scepticism. The new urbanism movement has engendered a significant amount of criticism from a variety of angles often because of its elite and seemingly authoritarian position (Thompson-Fawcett and Bond, 2003). The potential to achieve desired social outcomes such as a sense of community, place and identity courtesy of physical design is often not supported by scholarly research. There is a 'continuing degree of variance as to what is understood to be this urbanist movement's principles and what are considered to be executions of its tenets' (Thompson-Fawcett and Bond, 2003). Deitrick and Ellis (2004, p. 439) argue that new urbanism is not, by itself, 'a comprehensive programme for inner-city revitalisation, and cannot substitute for full-fledged housing, economic development and social service initiatives.' Moreover, a study undertaken by Dixon and Dupuis (2003, p. 366) investigating new urbanism as a challenge for New Zealand, highlights the 'difficulties and impracticalities of implanting theoretical ideas uncritically into already established neighbourhoods when necessary pre-conditions for success are not in place.' They argue that there is a risk of new developments sitting as individual architectural projects in the urban landscape, rather than being seamlessly integrated into the existing surrounding. Thus,

while the principles of new urbanism offer much promise, like other theories for sustainable urban form, they are yet to realise their full potential.

2.3.4 The Social Region City

Debates surrounding the certainty to which some types of urban form might be more sustainable than others has tended to focus on large cities (Breheny and Rookwood, 1993). Breheny and Rookwood (1993, p. 151) argue that this is 'not sufficient and at each scale of the urban hierarchy, sustainability requires specific initiatives.' The model of the social city region was developed to address the whole inter-dependent regional complex. 'What must be developed in pursuit of future sustainability, is a whole set of distinctive policies attuned to the varying conditions and environmental potential of the different parts of the region but complementary and mutually reinforcing' (Breheny and Rookwood, 1993, p. 156).

In this way, Breheny and Rookwood argue that the whole social city region must contribute to the realisation of the approved sustainability objectives. The social city region ranges from the regional to the local and tries to 'blend them together in an effort to indicate appropriate environmental policies across a multiplicity of circumstances; from central cities to remote rural areas' (Breheny and Rookwood, 1993, p. 150). They argue that although different approaches will be appropriate at different spatial scales and in different governmental circumstances, it is essential that they are devised and implemented in an integrated, complementary fashion (Breheny and Rookwood, 1993).

The concept of the social city region broadens the focus for a sustainable urban form beyond the major cities of the world. To this end, planning for new development and reshaping or adapting existing development should involve varying the standards (for example densities, urban form or transport systems) to suit different conditions. This must be achieved while ensuring that policies are complementary and that the sum total for the region as a whole contributes to the realisation of the sustainability objectives (Breheny and Rookwood, 1993).

2.3.5 Eco-city

The eco-city promotes 'a wide range of environmental, social and institutional policies that are directed to managing urban spaces to achieve sustainability' (Jabareen, 2006, p. 46). The eco-city model emphasises environmental management through institutional and policy tools. The distinctive concepts of the eco-city are greening and passive solar design, but in terms of other aspects such as density, the eco-city might be conceived of as a 'formless' city (Jabareen, 2006). However, Kenworthy (2006, p. 68) argues that the eco-city has a 'compact, mixed-use urban form that uses land effectively and protects the natural environment, biodiversity and food-production areas.' In this sense, it is the natural environment that permeates the city's spaces. Road infrastructure is de-emphasised in favour of transit, walking and cycling infrastructure (Kenworthy, 2006). The focus of many approaches to the eco-city is on how the city is organised and managed rather than suggesting any particular urban form. Kenworthy (2006, p. 69) notes that 'all decision-making is sustainability-based, integrating social, economic, environmental and cultural considerations as well as compact, transit-oriented urban principles.' Such decision making is democratic, inclusive and empowering.

What the above analysis demonstrates is that there is a lack of an agreed upon model of a sustainable urban form. Jenks *et al* (1996, p. 345) argue that 'the search for the ultimate sustainable urban form perhaps now needs to be reoriented to the search for a number of sustainable urban forms which respond to a variety of existing settlement patterns and contexts.' Furthermore, Thompson-Fawcett and Bond (2003) note that rather than pointing to a particular model, many commentators favour assessing which particular options might be appropriate for the circumstances of specific localities. 'Even in a single city there are likely to be a diversity of strategies that can be implemented concurrently' (Thompson-Fawcett and Bond, 2003, p. 163). What these theories do provide, however, is a benchmark for assessing the qualities which a sustainable urban form should have (Williams *et al.,* 2000). They provide particular characteristics and attributes that should be sought when we work towards achieving a more sustainable urban form. Thus, this research does not assert one particular theory of a sustainable urban form but suggests that within the Dunedin context, particular management options that may move the city towards a more sustainable

urban form could be utilised. Residential intensification is promoted as one such tool that may be employed. The following section investigates the arguments surrounding the use of intensification in achieving a sustainable urban form.

2.4 Residential Intensification

It is worth noting that the particular focus for this research, residential intensification in Dunedin, is unique. Dunedin City is not experiencing any significant growth. The wider debate on moving towards a more sustainable urban form and the use of intensification policy in urban areas is usually intended to address the issues associated with urban expansion. Therefore, it may seem at first glance that situating this research within this debate is not appropriate. However, many aspects of this debate are very relevant to this research, in particular, they highlight issues, some of which are pertinent to the Dunedin experience, and provide a platform to inform the research. The increasing density of particular residential areas within Dunedin is largely occurring because there is market demand for such development rather than as an attempt to address urban expansion issues. The Dunedin City Council has recognised some of the negative impacts associated with this development. Thus, the focus of this research is on the matters within the wider density debate that are relevant to the Dunedin context. It will provide an insight into the impacts and acceptability of intensification in Dunedin and investigate the validity of intensification as a mechanism for moving towards a more sustainable urban form. The following sections will discuss the debates surrounding intensification and its impacts.

The quest for a more sustainable urban form has resulted in the widespread adoption of urban intensification policies. Intensification is a process that when adopted, enables land to be used more efficiently. Although the term ‘urban intensification’ does not have a common definition, it generally relates to the range of processes that encourage development at higher densities than currently prevail in an area. Lock (1995, p. 173) suggests that intensification is a process which ‘ensures that we make the fullest use of land that is already urbanised, before taking greenfields.’ In a study conducted to develop and implement a strategy to manage the impacts of continual population growth in the Auckland region, intensification was defined as ‘an increase

of density (dwellings, activity units, or population) over the existing density within the defined area' (Auckland Regional Council, 1998, p. 2). In New Zealand, various types of intensification are becoming increasingly popular with local authorities as they seek to achieve the environmental and social objectives commonly associated with intensification (Vallance *et al*., 2005). Intensification takes two main forms, both of which are evident in the Dunedin context, infill development and redevelopment. Infill development occurs when additional buildings are erected on single lots while redevelopment involves removing and replacing existing buildings on a site.

Jenks (2000) defines intensification in two ways, intensification of built form and intensification of activity. The intensification of built form includes redevelopment of existing buildings to increase the available floor space. Intensification of activity implies changes or increases in the way buildings are used. Evidently both types of intensification are inter-related, intensification of built form often leading to the intensification of activity. Intensification, as defined by Jenks, is illustrated in Table 2.1 below:

Table 2.1: Definition of intensification. *Source*: Jenks, 2000, p. 243.

Intensification of built form

- Development of previously undeveloped urban land
- Redevelopment of existing buildings or previously developed sites (where an increase in floor space results)
- Subdivisions and conversions (where an increase in the use of buildings results)
- Additions and extensions (where an increase in the built densities or an intensification of the use results)

Intensification of activity

- Increased use of existing buildings or sites
- Change of use (where an increase in use results)
- An increase in numbers of people living in, working in, or travelling through an area.

Burton (2002) considers intensification in terms of three main processes: an increase in population, in development, and in the mix of uses within the city boundary. In this sense Burton refers to intensification as a generic term for the process of making the city more compact. Intensification is, therefore, a term used to describe a number of strategies by which an area can become more heavily built-up or used.

2.4.1 The impacts of intensification

The claimed advantages of urban intensification have been well documented. 'These advantages are seen to contribute to the objective of more sustainable development, in its broadest sense, embracing social and economic sustainability as well as environmental concerns' (Burton, 2000, p. 1970). However, urban intensification is not without its critics. 'The debates about the validity of the positive claims is on-going and sceptics have put forward a range of counter-arguments' (Burton, 2000, p. 1970).

Hillier *et al*. (1991) group the perceived positive and negative impacts of urban intensification into economic, environmental and social aspects. With regard to the economic aspects, the case for urban intensification revolves around the fact that land use and existing infrastructure will be made more efficient as capital expenditure on urban infrastructure will be reduced (Hillier *et al.,* 1991). Another economic advantage of urban intensification, as argued by Hillier *et al.* (1991), and Williams *et al.* (1996a) is that of decreased travel times and thus reduced fuel emissions. A criticism of this argument is that such savings are at best marginal and are achievable only through significant increases in densities in inner and middle suburban areas (Hillier *et al.,* 1991). Some researchers doubt the supremacy of intensification over decentralisation on the grounds that congestion in urban areas will offset any gains resulting from reduced journey lengths. Some also suggest that 'technical breakthroughs, particularly in the form of the electric car, will solve many of the energy consumption and emission problems' (Breheny and Rookwood, 1993, p. 155).

The environmental issues outlined by Hillier *et al*. (1991) are closely related to the efficiency issues and tend to concentrate on the links between urban intensification and resource depletion, air pollution and greenhouse gas emissions. Burton (2000) highlights the fact that too much intensification may have negative environmental effects as the re-use of urban land may lead to a lack of urban green space. Another criticism of the claimed environmental benefits of intensification is that 'increases in urban density through infill development may lead to extra pressure on existing environmentally sensitive land, thereby outweighing the benefits of intensification' (Hillier *et al.,* 1991, p. 79).

The debate regarding the social aspects of intensification is perhaps the most contentious. Burton (2000, p. 1971) argues that 'in the context of sustainability, the higher-density city may be considered to encourage a "fair" distribution of costs and benefits if higher urban densities are associated with benefits for the conditions of life-chances of the disadvantaged, so reducing the gap between the advantaged and the disadvantaged'. Likewise, Hillier's *et al.* (1991) argument is focused on the contribution of intensification to social equity and distributive justice. There are those, however, that believe that intensification may actually be socially regressive. Troy (1989) argues that people may have to pay more for less in a higher density environment, whilst research undertaken in Australia by Stretton (1989) points out that urban intensification may end the present egalitarian nature of Australian cities, where land allocation for poor and rich is relatively equal. To date, there is an absence of empirical evidence of definite social benefits and costs arising from urban intensification. As a result, the lack of evidence to support either claims or counter-claims has meant that there have been slow advances to the debate.

Williams *et al.* (1996a) group the impacts of urban intensification into spatial effects, effects on the image and vitality of the city, social impacts and service provision and transportation effects. The case in favour of the spatial effects of intensification is that 'developing in existing urban areas reduces pressure for development in the countryside and makes the most effective use of urban land, especially if it is derelict, contaminated or vacant' (Williams *et al.,* 1996a, p. 86). This argument is unpopular with those who believe that some cities and towns are already developed to capacity. 'This perception of over-development has led some local communities to mobilise against what they see as "town cramming". They feel that their neighbourhoods are being over-crowded, and are losing amenity' (Williams *et al.,* 1996a, p. 86). The incremental impact of development can have a powerful effect. Policy makers need to take a more considered approach to the cumulative effects of urban intensification and the value of the land to the local community.

Another claimed benefit of intensification is that it can improve the image and vitality of an existing area. Infill buildings can contribute to the coherence of the urban fabric and the reuse and upgrading of existing buildings can have a positive effect on the image of the city (Williams *et al*., 1996a, p. 88). Furthermore, as more people move

into the city the development of cultural activities and facilities may be encouraged, making the city more vibrant. 'However, the public are often critical of the quality and design of modern buildings, especially in historic cities or conservation areas, and in established residential districts' (Williams *et al.,* 1996a, p. 89). The success of urban intensification hinges largely on its location, design and quality. 'Therefore it is crucial that those planning and developing urban areas are aware of the type of development that would be popular with existing and prospective urban residents' (Williams *et al.,* 1996a, p. 89).

Like Hillier *et al.* (1991), Williams *et al.* (1996a) argue that intensified urban areas lead to more social cohesion and community spirit. Intensified areas are claimed to be more 'socially equitable because services and facilities are provided locally, within walking distance of most homes' (Williams *et al.,* 1996a, p. 90). A major criticism of this argument is that intensification has led to problems with feelings of overcrowding and neighbourhood effects where conflicts have developed between those with different lifestyles.

The positive transportation impacts associated with intensification are well documented. Williams *et al.* (1996a) highlight these benefits which include reduced travel times, the promotion of energy efficient modes of transport such as walking and cycling, reduced private car use and increased support for public transport. Whilst these benefits may well be evident, problems are also apparent. 'Congestion and dangerous traffic leads to a worse - not better - pedestrian environment, public transport is often caught up in congested streets, trains and buses are often overcrowded and parking is often a serious problem, affecting the character and function of city streets' (Williams *et al.,* 1996a, p. 91).

Overall, intensification has been proposed as an approach to achieve sustainable urban form objectives based on the positive impacts identified above. Despite this debate, however, there is evidence to suggest that intensification results in a range of negative impacts for the area in which it is undertaken. Whether intensification is able to achieve the objectives of sustainable urban form is still subject to much debate. It requires further investigation as to the impacts that such an approach has on the people and the area in which it is implemented. Furthermore, the impacts identified

above also have implications for the way in which the local population receives intensification. The acceptability of intensification is discussed below.

2.4.2 The Acceptability of Intensification

Intensification seeks to achieve environmental and social objectives, but despite the supposed advantages, intensification as a strategy for achieving a sustainable urban form is not always well received by local residents and it remains a contentious issue (Vallance *et al.,* 2005). Recent research has explored the perceptions of urban users affected by and living in intensified areas. The supporters of urban intensification suggest that it will be acceptable and that local people will change their behaviour to promote the wider public good (Jenks, 2000). 'The counter arguments are that market and social trends demonstrate the reverse, and intensification will not be accepted by the people affected' (Jenks, 2000, p. 244). To this end, it is argued that there is a clash between the aspirations associated with intensification and the desires of the local community to protect their quality of life. Despite these extreme views, it is generally acknowledged that the acceptability of intensification, and its related impacts, is dependent on a range of local factors.

It is argued that one of the major constraints of intensification is the opposition of local residents (WADPU, 1991). Breheny (1997) suggests that the success of intensification should be subject to three tests, one of which is acceptability. The other two tests are veracity and feasibility. Breheny (1997) suggests that the third test, acceptability, is the most neglected of the three and may be the deciding factor as to the success of intensification. From the evidence available at the time, Breheny suggested that policies for intensification are likely to be deeply unpopular. This opposition is the result of a fear of rapid physical and social change. Research shows that people clearly believe that intensification affects them and that each identified area affected manifests a unique combination of different qualities and socio-economic characteristics (Jenks, 2000). What is apparent is that there is no straightforward answer whether or not intensification will be acceptable. However, evidence presented by Jenks suggests that this may not be the case if the process is understood and managed well.

There are certain types and combinations of factors that are both acceptable to, and positively valued by, residents. A study undertaken by Jenks (2000) looked at the local acceptability of intensification in the United Kingdom. The study was based on the theoretical idea of the compact city as a way of achieving a more sustainable urban form. The research involved a national survey of all local planning authorities and twelve case studies investigating the type and form of intensification and the impacts this had on different stakeholders. Jenks (2000) argues that the impacts and acceptability relate to the type of intensification, the type of areas within which it takes place, and the social characteristics of the people experiencing it. Jenks (2000, p. 245) suggests that 'taking account of these factors and balancing the local and strategic level benefits is the key to achieving acceptable intensification.' Jenks describes this concept as the 'social capacity' of a region, that is, 'a measure of the limits to intensification in terms of local acceptance' (Jenks, 2000, p. 243).

With regards to the type of intensification, Jenks (2000) argues that there is a preference for forms that are in keeping with the character of the area. Forms that are well designed and predominantly residential will generally be viewed positively. 'Small-scale and incremental intensification is also seen as acceptable, and small extensions in back gardens are hardly noticed at all. Conversely, large-scale, non-residential development, and the loss of amenity land, are viewed negatively' (Jenks, 2000, p. 245). Intensification is also unpopular if it involves the loss of historic buildings whilst the increase in activity associated with intensification is seen negatively. With regard to the type of area, Jenks (2000) believes that the existing character and quality of an area is highly significant in terms of how intensification is received. In established high status areas, which have more to lose from changes, such as peace, quiet and space, intensification is less readily accepted (Jenks, 2000, p. 246). By contrast, people in mixed use, central urban areas appear to be tolerant of change, the increased activity and vitality achieved through intensification is generally positively received (Jenks, 2000). Jenks (2000) provides little evidence of the acceptability of urban intensification in terms of social characteristics. There is, however, support for the idea that there are different levels of acceptability for different stages in people's lives.

A study undertaken in an inner-middle suburb in Perth, Australia utilised a survey of residents' attitudes towards higher density residential development. The study revealed the loss of residential character, fear of increased crime and vandalism and problems associated with increased traffic as the most significant concerns that residents had. It is suggested that the high level of community disapproval towards the prospect of intensification means that 'local governments and planners need to pay much greater consideration to factors such as suburban character and residential stability when scheduling areas for increased residential development' (WADPU, 1991, p. 85). Furthermore, the local condition and capacity of physical and local infrastructure is a crucial consideration for intensification policies (Jenks *et al.,* 1996).

In New Zealand, the experience of residential intensification is relatively new. Given the apparent cultural preference for suburban living, the acceptability of intensification is of particular importance. In New Zealand, the reluctance to accept such development may be partly influenced by the country's history of 'widespread owner-occupation of detached 'family' homes on residential quarter-acre sections and the moral rhetoric that has surrounded such housing' (Vallance *et al.,* 2005, p. 730). New Zealand studies have found varying degrees of acceptability for intensification. Vallance *et al.* (2005) undertook research looking at residents' interpretation of urban infill in Christchurch, New Zealand. The research involved the collection of qualitative and quantitative data including interviews with residents who were neighbours of infill housing, observations and a questionnaire. Infill housing was described as a 'jarring mish mash' of housing types that compromised the legibility of the neighbourhood' (Vallance *et al.,* 2005, p. 724). Furthermore, the results of the study showed that the physical effects associated with urban infill were often accompanied by social changes. Interview respondents noted that they thought there was a decrease in social interaction as infill housing was seen as attracting busy people who did not like to interact with their neighbours. The research also found that residents had a strong belief that infill housing was substandard in terms of materials and design and that this would have widespread consequences. For some residents, infill development has resulted in a sometimes chaotic and conflicting set of place relations, which can lead to high levels of distrust both of neighbours and of local government (Vallance *et al.,* 2005). Vallance *et al.* (2005) conclude that many of the images and ideals on which adverse reactions to infill housing are based relate to the

suburban identity residents have accepted and perpetuated since European settlement in New Zealand and they are unlikely to change rapidly.

Dixon and Dupuis (2003) undertook a study looking at residents' satisfaction with the quality of their housing in a major medium density housing development in Waitakere City, Auckland. The research involved interviews with residents and other stakeholders. Positive responses from residents suggest the development has been a success at some levels. Respondents commented favourably on safety and security, having neighbours close by and being in close proximity to a range of facilities. There were also high levels of satisfaction with regards to privacy and design related aspects (Dixon and Dupius, 2003). It was suggested that the relatively high levels of satisfaction voiced by the residents can be accounted for by three factors. Most respondents had moved from another part of Waitakere City, therefore, it can be assumed that respondents had a preference for living in the area. Secondly, over 40 percent of respondents had experienced living in some form of higher density housing either in New Zealand or overseas thus, adjusting to a new medium density property was not an issue for them. Thirdly, the housing was relatively affordable in the context of Auckland house prices (Dixon and Dupuis, 2003).

However, residents and council staff expressed concern with the Christchurch development. 'Reasons cited for neighbour dissatisfaction focussed on urban amenity and included: inadequate parking, poor design of outdoor living space; insufficient provision of green spaces and poor planning on the part of council' (Dupius and Dixon, 2002, p. 421). Respondents noted that the most disliked feature about their particular home was the poor quality of construction, which included poor sound insulation, exposed ducting and leaks. 'When asked about future issues in relation to medium density housing, 40 percent of respondents comments related to concerns such as the creation of possible slums through the construction of low-cost and poor quality buildings and maintenance' (Dupuis and Dixon, 2002, p. 422). While council staff were largely positive about the development they acknowledged that there were aspects that could have been improved. 'These included more council control of design details, provisions for lower housing densities, less uniformity and standardisation, earlier communication with surrounding neighbours and a more

clear-cut distinction between the public and private space on the site' (Dupuis and Dixon, 2002, p. 421).

This section has shown that predicting the impacts and acceptability of intensification is context specific. Each context is different, with different needs and requirements and a different 'social capacity' for intensification. Drawing on a combination of research findings provides a general picture of the issues with intensification. More importantly, the New Zealand context provides an initial impression of the issues that might arise in the Dunedin context. The following section draws on particular issues associated with the management of the intensification process to ensure that appropriate local outcomes are achieved.

2.5 Managing the Intensification Process

Evidently, intensification is a complex process that depends upon a unique combination of the type of intensification, and the characteristics of the area and the people who live in it (Jenks, 2000). It is clear that there are benefits to be obtained from intensification. However, there are likely to be conflicts and negative aspects of the process too. Some of these, at least, can be overcome through good management and community awareness and input. Jenks (2000, p. 250) notes that:

> The idea of social capacity suggests that there are limits in terms of types and amounts of intensification beyond which the process will become unacceptable, and therefore, in the long term, unsustainable. These limits can be only locally determined, and those managing the process will need to balance these against their broader, strategic aims for sustainable development.

The broad aims of sustainability are only likely to be successful if the process is managed and implemented in a way that is acceptable to the local people.

2.5.1 The importance of local characteristics

Alker and McDonald (2003) argue that in order to achieve sustainable development in land use decisions, an approach based on those characteristics of the site is necessary. The potential of any site for intensification needs to be assessed against site based and contextual factors. It appears that understanding and responding to

local differences is the key. Part of the this involves informing urban residents about the processes that will shape their city. 'Without an understanding of the aims of intensification, it is unlikely that urban dwellers will accept the compromises they are sometimes being asked to make, and will not relate the local effects with the strategic aims of sustainable development' (Williams, 1996a, p. 94). There is no one solution to achieving acceptable intensification, the process, however, must be managed in a way that does not prescribe simple solutions and must be appropriate for the area involved.

The quality of the built environment cannot be left largely to market forces to determine without some direction by councils. As a result, intensification is a process that is actively promoted in practice through policy, particularly land-use planning policy. Several approaches and suggestions have been proposed regarding policy and the management of the intensification process where local characteristics can be taken into consideration. Alker and McDonald (2003) propose that local authorities should adopt a systematic approach to assessing the development potential of sites, buildings, and the sequence of development (Alker and McDonald, 2003). This involves evaluating the social, economic and environmental aspects of the planned intensification that contribute to the overall concept of sustainable development. Inevitably, the interests of stakeholders may coincide and compete. Dupuis and Dixon (2002, p. 421) argue that 'the extent to which groups of interested parties are satisfied with outcomes hinges on the compromises reached between council and developers as the site progresses.'

Within the New Zealand context, research conducted in Christchurch by Vallance *et al.* (2005) highlights that although the Christchurch City Plan makes some attempt to manage the effects of intensification it is difficult to identify, predict or control the cumulative effects of infill housing, despite the real effects it has on neighbourhood character. Williams *et al.* (1996a, p. 85) suggest that 'sensitive planning control is necessary to ensure that the cumulative effects of redevelopment do not damage the character and amenity of established residential areas'. Likewise, Shaw and Houghton (1991) suggest that local governments need to pay much greater attention to factors such as suburban character when scheduling areas for intensification. In response to these concerns, several Auckland councils have developed non-

mandatory guidelines to assist the process of intensification. 'It is critical that councils and other agencies address issues such as design, quality of construction materials, site layout and maintenance of developments adequately and in a timely way' (Dixon and Dupuis, 2003, p. 358). Research by Dupuis and Dixon (2002) highlighted and affirm the crucial role that city and district councils can play in providing for higher density development. The overall site must be coordinated and integrated with close attention to roading and parking and the 'provision of facilities such as playgrounds, open space and reserves need to be addressed at the beginning of the process' (Dupuis and Dixon, 2002, p. 424). Councils also need to ensure that the various stakeholders including developers, neighbours and residents, both owners and tenants, are kept informed during the process and are aware of what will occur on the site (Dupuis and Dixon, 2002).

It appears that one of the major challenges with regard to intensification is maintaining the quality of urban amenity while enabling intensification to take place. While there is little support for a heavily prescriptive approach to design by councils, there is increasing recognition within the community that the quality of the built environment cannot be left to market forces to determine without some intervention by councils (Dupuis and Dixon, 2002). Consequently, a raft of non-statutory plans, strategies, structure plans and design guides are being used by councils in policy making and implementation. It is noted, however, that good urban design is not easily managed in a prescriptive, rules-dominated, regulatory framework. 'It requires a negotiated regulatory process, based on local urban design frameworks, and principles to deal with transformation of the built environment' (Dupuis and Dixon, 2002, p. 425).

Jenks (2000) suggests a way in which the complexities and local differences inherent in the intensification process might be incorporated in practice through a system of decision support. The three possible user groups of a decision support system include local authority planners responsible for land use and development control and community groups and users and residents wanting to know the impact of proposals to intensify their local areas (Jenks, 2000). The third user group is 'designers and developers who may wish to explore proposals for intensification that are financially feasible, and test out alternative designs in the local context' (Jenks, 2000, p. 249).

The system of decision support uses a process that involves three stages. Firstly, the type of intensification that will take place and the areas social and environmental characteristics need to be defined. Secondly, there needs to be an assessment of the likely impacts of the particular intensification to take place. Lastly, there needs to be provision of guidance on making judgements and taking action (Jenks, 2000). The system of decision support developed by Jenks (2000) provides an excellent way to identify the possible impacts of intensification through exploring alternative solutions and scenarios.

This section has illustrated that it is inherent to understand and consider local characteristics when managing the intensification process. Again, examples from New Zealand, and elsewhere, suggest possible approaches that could be considered and applied in the Dunedin context.

2.5.2 The Role of the Property Developer

Property development is a complex process that involves multiple drivers and stakeholders. The spatial pattern of cities is the result of the residential development process, which is seen as a complex of decisions and actions by a multiplicity of individuals and groups, each guided by their own incentives (Goldberg, 1974). The outcomes of these decisions depends on a great many social, political, economic and environmental factors. The outcomes of the property development process are also the result of a wide range of public and private actors (Fisher, 2005). Thus, the intensification process involves the decisions and actions of developers acting within the property development process. Knowledge of the processes through which these decisions and actions are made is critical to our understanding of intensification and our attempts at managing the process.

In the behavioural literature, the strategies, interests and actions of landowners are widely acknowledged as important for understanding the property development process. Goodchild and Munton (1985), for example, argue that individual owners and developers perceive land management and development in a way that relates to their own particular circumstances and characteristics. Adams and May (1991) contend that certain landowners pursue more active land management strategies than

others. 'Active landowners are those who develop their own land, enter into joint venture development or make their land available for others to develop. Such landowners may try to overcome site constraints to make land more marketable or suitable for development' (Adams, *et al.,* 2001, p. 218). In contrast, passive landowners may respond to proposals for development but would otherwise hold onto their land without development (Adams, and May, 1991). The behavioural literature and empirical studies demonstrate how some landowners actively seek to exploit the full potential of their land, while others make no explicit financial, operational and management decisions.

Healey and Barrett (1990) argue that there is a lack the capability to address the relation between the way actors behave in deploying resources to realise specific investments and the broader processes which drive the strategies and interests of various actors involved. As a result, they propose an approach which combines an understanding of structure and agency, focusing on the resources, rules and ideology which actors acknowledge, as a way of gaining a richer understanding of the property development process. Structure and agency theory was developed to describe the 'relationship between the strategies, interests and actions of the various agents in the development process and the organisation both of economic and political activity and the values about land, property, buildings and environments which frames or structures their decision making' (Healey and Barrett, 1990, p. 90). In this way, the development process is approached by analysing the relation between structure, in terms of what drives the development process and agency, in terms of the way individual agents develop and pursue their strategies (Healey and Barrett, 1990). Structure consists of the organisation of economic and political activity and the values that frame individual decision making. 'Specifically, they consider that the structural framework for development is evident in the resources to which agents have access, the rules they consider govern their behaviour and the ideas they draw upon in developing their strategies' (Adams, *et al.*, 2001, p. 219). This structural framework is neither fixed nor free from challenge. There is a continuous interaction between structure and agency.

Residential housing makes up the vast majority of an urban environment, and private sector developers make significant contributions to the form housing takes. This is particularly relevant with regards to the consideration developers have for good design as a large proportion of the perceived negative impacts of intensification are related to urban design. Evidence suggests that good design results in higher than normal returns for developers. 'While good urban design cannot guarantee positive financial returns, and lack of attention to good design principles can still result in a financially successful project, it is also clear that it substantially enhances a projects likelihood of becoming a financial winner' (MfE, 2005, p. 16). However, microeconomic theory suggests that the economic gain to investors from higher quality design may not necessarily be ongoing. 'In a competitive market, design innovations yielding higher returns will tend to be copied, with the supply of imitations reducing returns to normal market levels over time' (MfE, 2005, p. 17). The counter-argument to this is that the market will tend to penalise what is perceived as poor-quality design. Table 2.2 below illustrates the value of good urban design to developers.

Table 2.2: The value of good urban design to developers; *Source*: Adapted from Carmona *et al.,* 2002, p. 167.

Short-term value (social, economic and environmental)	**Long-term value (social, economic and environmental)**
Quicker permissions (reduced cost, less uncertainty)	Better reputation (Increased confidence/ 'trademark' value)
Increased public support (less opposition)	Future collaborations more likely with other developers/investors.
High sales value (profitability)	
Distinctiveness (greater project differentiation)	
Increased funding potential (public/private)	
Allows different sites to be tackled and higher densities achieved	

It is problematic for developers, however, if they cannot judge the financial returns resulting from good design. Consequently, the private sector alone cannot be left to provide the full range of positive impacts that good design is perceived to deliver as it will tend to under-provide the benefits of urban design.

It is clear that both planners and property developers have an essential role to play in the management of the intensification process. To best manage the intensification process and its impacts, a holistic understanding of the interests, motivations and influence of all stakeholders is necessary. Thus, this section has illustrated that the decisions and actions of property developers must be investigated if we are then to understand and respond to the impacts and acceptability of intensification.

2.6 Conclusion

This chapter has outlined current academic debates on sustainability and urban form, the impacts and acceptability of intensification and the management of the intensification process. What is clear is that the issues surrounding these themes remain controversial, however, they do provide a theoretical grounding for further research. Although the benefits of intensification in terms of moving towards a more sustainable urban form are well documented, a cautious approach needs to be taken when implementing such policies. The results of several studies reveal the need for further research to be undertaken into the impacts and local acceptability of urban intensification and the importance of local characteristics when making decisions relating to intensification.

The research is timely in light of the current issues facing Dunedin City with regard to residential intensification. Rather than studying separate components of the intensification process, this research has brought together views of producers and consumers, that is developers, residents and the Dunedin City Council. By doing so, it has made it possible to understand the issues that surround each group and interpret how the actions of one group impact on the others. By using the theoretical framework on the impacts and acceptability of intensification, placed within broader debates of sustainability, the findings in this study can be reconciled with current debates on urban form and the challenges of and opportunities for further intensification in Dunedin. The following chapter outlines the research approach taken for this study.

3

Research Approach

3.1 Introduction

The purpose of this research is both explanatory, as it seeks to explain residential intensification in the Dunedin context, and analytical, as it also seeks to provide a detailed account of the experiences of the interviewees and survey respondents. According to Singleton *et al.* (1988) processes and events must be described before we can understand them and explain the relationships among them. In this research, the analytical aspect is the most important. It provides the greatest insight into the intensification process and, thereby assisting in the formulation of policy to guide future intensification that is appropriate to the context in which it occurs.

This chapter establishes the research approach for the present study to achieve the purpose outlined above. Firstly, this chapter briefly justifies the use of an interpretative perspective and a combined qualitative and quantitative methodology. The rationale for a case study approach is outlined and the primary research adopted for the study identified, describing the specific methods of data collection and analysis used. Lastly, this chapter discusses the ethical issues involved in the research and the limitations of the research approach.

3.2 An interpretive perspective

The study was directed by the interpretative paradigm. The adoption of an interpretative paradigm was necessary to achieve the objectives of the research as outlined in Chapter 1, because it is concerned with the idea that reality is internally experienced and is socially constructed through people's interactions and perceptions. Merriam (2002) describes the interpretative paradigm as learning how individuals experience and interact with their social world and the meaning it has for them. Similarly, according to Sarantakos (1998, p. 36) 'interpretative theorists believe that reality is not "out there" but in the minds of people; reality is internally experienced, is socially constructed through interaction and interpreted through the actors, and is based on the definition people attach to it.'

An interpretative approach involves the 'systematic analysis of socially meaningful action through the direct detailed observation of people in natural settings in order to arrive at understandings and interpretations of how people create and maintain their social worlds' (Davidson and Tolich, 2003, p. 26). This study seeks to understand the realities of residential intensification in Dunedin as it is expressed by key players. The interpretive paradigm recognises that the views expressed by stakeholders in the residential intensification process are a product of their personal experiences as well as of social conventions and interactions with their communities (Sarantakos, 1998). As such, this approach was adopted to allow the findings of the research to be interpreted in such a way as to generate an understanding of the values and meanings embedded in the perceptions of respondents. It is necessary in this case to understand the ways in which the relationship between intensification and acceptability is interpreted by individual residents, developers, architects and council officers. Ultimately, conclusions are drawn as to how the residential intensification process is understood by stakeholders and the extent to which it can be undertaken successfully in the future.

3.3 A Qualitative and Quantitative Methodology

In order to explore the complex social experiences, diverse social relationships, and lived experiences of key stakeholders in the residential intensification process, it was determined that the present research would be based primarily on a qualitative methodology. A qualitative research methodology is characterised by openness and flexibility, and is based on the view that 'meaning is socially constructed by individuals in interaction with their world' (Merriam, 2002, p. 3). This was viewed as the most appropriate methodology for this study as it allowed rich descriptions of the issues relating to residential intensification to be captured. A qualitative methodology allows the researcher to interact with participants in their own environment and achieve a more in-depth understanding of the issues (Sarantakos, 1998). This could not have been entirely achieved through the use of a quantitative research methodology where variables are translated into numbers. Rather than assessing the abridged opinions of a large number of stakeholders in a numerical way based on the researchers own opinion of the notion of intensification, a qualitative methodology allowed the detailed opinions, meanings and interpretations of a small selection of

people to be gathered. Furthermore, a qualitative methodology is less structured than a quantitative approach and is 'geared towards natural situations, everyday-life worlds, interaction and interpretations' (Sarantakos, 1998). The nature of qualitative research means that the researcher 'employs means and techniques that are closer to the research situation, so that the everyday life situation is reflected fully and clearly in the findings' (Sarantakos, 1998, p. 295). As such, by using a qualitative methodology, this research sought to gain a holistic perspective from personal experiences in a particular context.

The use of qualitative methods in the present research allowed for self-reflection and responses to new ideas that arose during the course of the data-gathering exercise. Merriam (2002) argues that the immediacy of reaction to previously unknown positions is one of the benefits of qualitative methods. For these reasons qualitative research methods are more compatible with drawing conclusions as to how the residential intensification process is experienced and understood by stakeholders compared to quantitative approaches.

However, the qualitative methodology has been criticised for being non-specific and weak with regard to whether a finding is representative, reliable, and objective (Sarantakos, 1998). It is commonly accepted that research is more robust when it contains elements of both qualitative and quantitative methodologies. Furthermore, upon investigating research undertaken previously on residential intensification, it became clear that a combined qualitative and quantitative assessment of the process was desirable. Studies undertaken by Bunker, *et al.* (2002), Dixon and Dupuis (2003), and Vallance, *et al.* (2005) illustrate how a combination of quantitative and qualitative research methods allow the researcher to obtain the most valuable information in relation to exploring complex social experiences, relationships and lived experiences. In light of this, the present research uses a combined qualitative and quantitative methodology.

Quantitative data was used to determine perceptions from a sample of residents who undertook a survey where simple questions were answered by way of a scale or ranking system. While this did not allow for in-depth analysis of values, meanings and perceptions as permitted by a qualitative methodology, it provided strong

statistical feedback and supplementary material from respondents. Quantitative data can also provide a sound basis by which qualitative data can be scrutinised. It was decided that using elements from both a qualitative and quantitative methodology would add to the robustness of this research. Furthermore, the problems associated with one methodological approach may be compensated by the strengths of another.

3.4 A Case Study Approach

The use of the Residential 2 and 3 Zones as case studies allows the present research to provide in-depth insights into elements of the residential intensification process in Dunedin. The Dunedin City Council is concerned about the negative effects of intensification that is currently taking place within certain areas of the city. The Residential 2 and 3 Zones are two areas within Dunedin that have undergone intensification through infill development and redevelopment over recent years. These two areas provide interesting and contrasting case studies. The Residential 3 Zone, in North Dunedin, is characterised by a relatively young and short-term student population. Whereas, the Residential 2 Zone, in South Dunedin, is predominantly occupied by older permanent residents. Figure 3.1 illustrates the location of the Residential 2 and 3 Zones which are the focus, as case studies, for this research.

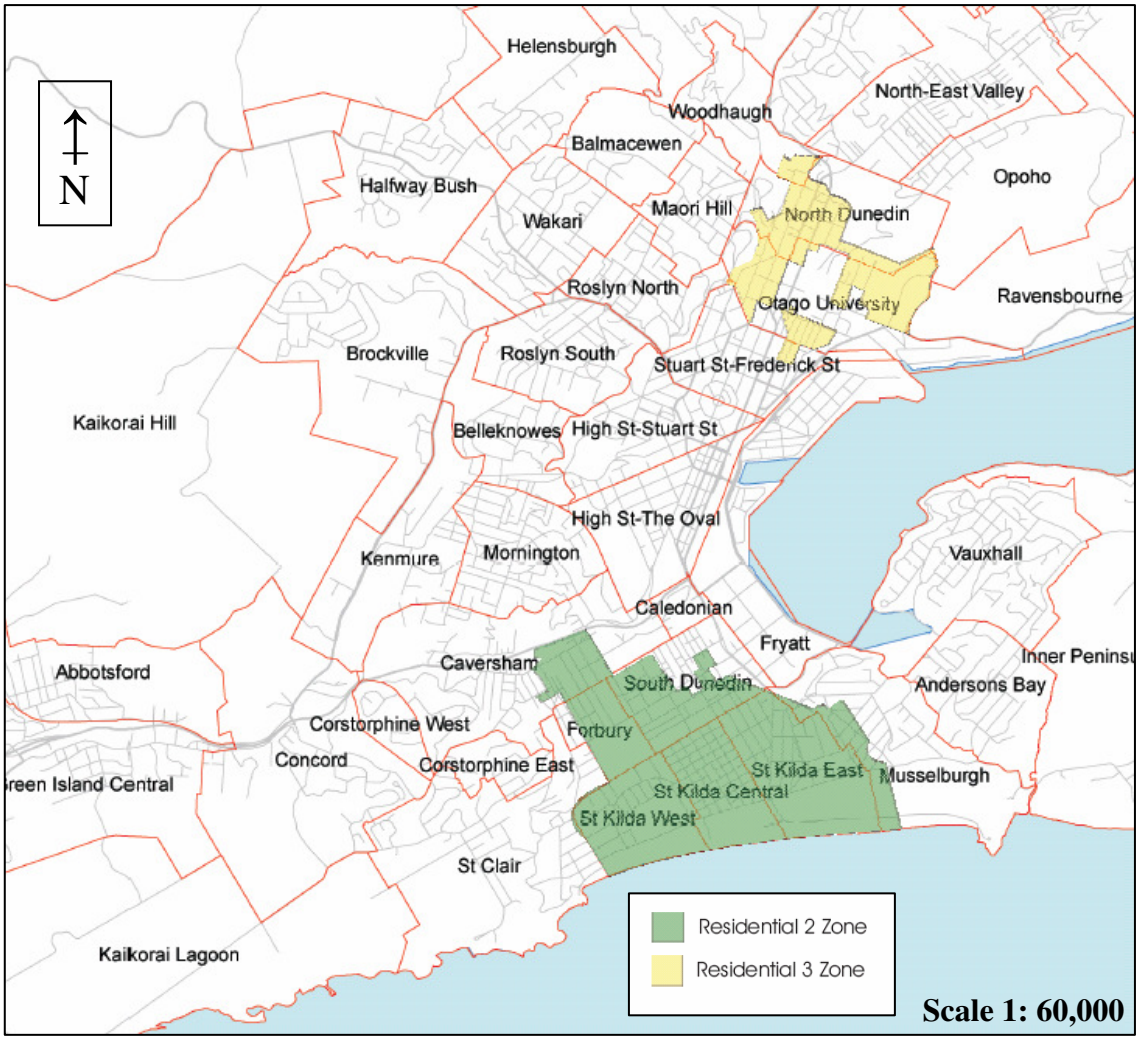

Figure 3.1: The Residential 2 (South Dunedin) and 3 (North Dunedin) Zones, Dunedin City.

The Dunedin City District Plan allows for intensification within the Residential 2 and 3 Zones through its density rules. From initial investigations it became clear that in the Residential 2 Zone a considerable amount of multi-unit redevelopment has taken place. Equally, in the Residential 3 Zone some of the early housing has been replaced by student housing in the form of medium density blocks and purpose built flats. As a result, a record of addresses where intensification activity had occurred, and those who are neighbours of such activity in the Residential 2 and 3 Zones, was compiled for the years 2000 – 2006. This record was compiled using the Dunedin City Council's web map and resource and building consent records. Photographs were taken to record the type and character of intensification that had taken place. Notes were also taken about the features and characteristics of the intensification development which provided knowledge to help in subsequent analysis.

Yin (2003, p. 23) describes case study research as 'an empirical inquiry that investigates a contemporary phenomenon within its real-life context when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used'. Case studies are considered to be valid forms of inquiry, particularly when the researcher is interested in the structure, process, outcomes and complexity of the research object (Sarantakos, 1998). Much can be learned from particular case studies, such as those used in this research. 'Readers can learn vicariously from an encounter with the case through the researcher's narrative description' (Sarantakos, 1998, p. 179). The description in the case study can create an image which can become a prototype that may be transferred to similar situations.

This research has extrapolated from the experiences of residents and key informants the extent to which the impacts of residential intensification are acceptable and some of the factors that need to be considered when making decisions on intensification. By doing a comparative case study, this research provides findings which may be relevant to and applied in different contexts. The findings of this research add to the ongoing arguments surrounding the impacts and acceptability of intensification and it is intended to provide a basis from which further research could be done.

3.5 Triangulation

This research used triangulation as a means of merging and analysing the various data streams. Triangulation is a term used to describe how the use of multiple approaches to a research objective can enable the researcher to clarify the answers or information sought (Singleton, *et al.,* 1988). The process of triangulation involves not just the validation of findings, but also the identification of contradictory findings that may point to important differences in perspectives (Valentine, 2001). Singleton *et al.* (1988) argue that social researchers rely too frequently on a single method or measure when a number of approaches could be brought to bear on the research objectives. The use of key informant interviews and a survey with residents supplemented by some analysis of the Dunedin City Council's planning documents and Statistics New Zealand data allowed me to triangulate my findings. Although it cannot guarantee validity, triangulation allows the data to be critically analysed and common themes identified. It became apparent that there were real advantages in employing more than

one method. According to Sarantakos (1998) these include the researchers' ability to gather a variety of information on the same issue, to use the relative strengths of each method to overcome deficiencies in others, and to achieve a higher degree of validity and reliability.

3.6 Key Informant Interviews

Qualitative research techniques allow the researcher to collect data directly from the respondents in an open and flexible environment. Interviews were undertaken with nine key informants (see Table 3.1). Speaking to these people provided an insight into their personal views about residential intensification and their experiences and involvement in the process. These interviews also provided an understanding of the positions held by their organisation or the group that they represented.

Table 3.1: Key Informant Interviewees

Key Informant Number	Representative or occupation
Key Informant 1	Property Developer
Key Informant 2	Dunedin City Council – Policy Unit
Key Informant 3	Property Developer
Key Informant 4	Property Developer
Key Informant 5	Architect
Key Informant 6	Dunedin City Council – Architecture and Urban Design Unit
Key Informant 7	Dunedin City Council – Policy Unit
Key Informant 8	Property Developer and Otago Property Investors Association
Key Informant 9	Dunedin City Council – Consents Unit

Through a semi-structured interview framework that allowed respondents to express their own thoughts in their own words, rich opinion-based data was gathered. The key informant interviews were very flexible which allowed the interviewer to ask further questions of relevance, change the order of questions, ask for confirmation or clarification and follow up on interesting leads. As new material arose during the interviews, the semi-structured nature of the interview allowed the topics and structure of the interview to be modified. The use of an interview also allowed the researcher to gain a rich source of information, which helped to further understand the respondents viewpoint, through non-verbal communication such as gestures and body language.

A semi-structured interview topic guide was constructed prior to field research, which covered the broad research topics identified from the literature review (See Appendix B). The structure of the interview allowed for flexibility, as the majority of the interview questions were open-ended. A significant number of open-ended questions were used to allow the interviewer to ask further probing questions if a topic of particular relevance arose. It also meant that the interviewee's response was not constrained to categories provided by the interviewer and provided the opportunity for respondent to give answers that may not have been anticipated (Kitchin and Tate, 2000). The format of the interviews allowed the respondent to develop their answers in their own terms and at their own length and depth. All interviews were audio recorded with the permission of the respondents.

The disadvantages of undertaking in-depth interviews were that only nine key informants were interviewed due to time and resource constraints. A significant amount of time was spent arranging and carrying out each interview. The data organisation stage of this research was made somewhat difficult due to lack of a precise interview structure meaning that the structure of all interview transcripts were different. Data organisation was also difficult due to the vast amount of information that was gathered. Gaining comparability across key informants was also a weakness of this technique. However, this difficulty was minimised by asking similar questions to all key informants to ensure the ability to give some comparisons.

3.7 Research Survey

Quantitative data was also sourced to provide background information and supplementary material. A research survey was conducted with residents of infill housing and redeveloped sites and those who are neighbours of such development. In order to gain an overview of the impacts and acceptability of residential intensification in Dunedin a face-to-face survey was conducted. This method was chosen because surveys provide primary overview data about people's attitudes, opinions and awareness of issues (Prafitt, 1997). A large amount of broad picture data could be obtained in a relatively short time period and a large representation of those who live in an intensified area could be surveyed via this method. The advantages of conducting a survey were that it was inexpensive and less time consuming than other

methods. Furthermore, a survey provided a uniform measure of data collection where the questions were identical for all respondents making data organisation and analysis relatively simple.

A survey (see Appendix A) was drawn up prior to field research which consisted of open and closed ended questions relating to research Objective 2 to *'identify the impacts of residential intensification in Dunedin and the local acceptability of these'*. The style of questions made answering the survey very easy for respondents. Most of the survey questions required respondents to rank the importance of particular characteristics or to choose a point somewhere along a scale. Several open-ended questions were also asked. A face-to-face survey was chosen because it enabled the interviewer to pursue themes and issues that were of particular relevance and to add clarity and avoid misunderstandings.

The results of the surveys provide both qualitative and quantitative results and provided information to be compared with that gathered from key informant interviews. In total, 100 surveys were conducted, 50 in the Residential 2 Zone and 50 in the Residential 3 Zone. The response rate for the survey was high and generally if a property was approached and a survey not undertaken it was because no one was home. In almost all cases when residents were approached they were willing to undertake a survey. All the sites that have undergone residential intensification between 2000 and 2006 that were on Dunedin City Council files were identified and accumulated. The majority of those sites and a number of neighbouring properties were visited.

3.8 Data analysis

Data analysis was undertaken with the aim of making sense of the information gathered and to identify the meanings contained in that information by searching for patterns and regularities in the data collected. The data analysis process involved three stages; data reduction, organisation and interpretation.

As most of the data was of a qualitative nature it was necessary to reduce the large quantity of information into a manageable form. The first steps of qualitative data

analysis were made during the process of data collection, while field work was still being carried out. This meant that the evaluated data could be used as a platform for further data collection. The flexibility of this method means that the outcomes of early data collection could be used to reformulate the later data collection methods by rewriting the initial questions and revising the research prompts if necessary. While still conducting field research some of the material obtained from the key informant interviews was transcribed and the information made more manageable and accessible to allow for further analysis. The survey responses were condensed by placing responses onto a standardised template for easy reference. Coding of the raw data into a standardised form for the purposes of statistical analysis was undertaken to ease this process.

Secondly, the data was then organised around certain themes. Key informant interviews were coded into the themes identified from the literature in Chapter 2, and any further issues brought up by participants. Sub-themes were formulated for each major theme in order to allow detailed analysis of the results. The quantitative data received from the surveys, Statistics New Zealand and the Dunedin City Council was organised by placing the information into tables, graphs and text.

Finally, the patterns and regularities identified in the data organisation stage were then used to offer explanations and draw conclusions related to the research objectives. This involved finding patterns in the collected data, which relate back to the original research objectives. Further support for the patterns found was also gained through reference to existing literature, which also assisted in the generation of explanations, conclusions and recommendations.

3.9 Ethical Considerations

Social research is a complex process and involves the dynamic interaction of the researcher and the respondent (Tolich and Davidson, 2003). The data collection methods for this research were developed with an open-ended questioning technique where the precise nature of the questions that were asked, were not fully determined in advance, but depended on the way in which the interview developed. As this involved exploring the opinions and perceptions of individuals and groups, before

field research began, ethical approval was granted in concurrence with the University of Otago's ethical guidelines. The Human Ethic Committee of the University of Otago has a clearly defined policy on ethical practices in research involving human participants. This policy has been devised to protect the interests of the participant, the researcher and the University. An application for ethical approval (Category B) was made to the Geography Department and subsequently granted.

Ethical approval protects those involved in the research process from inappropriate research techniques and ensures that their personal rights of anonymity and the right to withdraw at any time are protected. The anonymity of personal responses within the data analysis ensures that participants can contribute honestly and openly to the research process, and also creates a context where the participant can express their opinion without feeling uncomfortable. The details of the research and obligations of participants were fully explained before the commencement of the interview. An information sheet was provided to participants and consent was obtained from the participant prior to the interview beginning (see Appendix C).

3.10 Limitations of the Research Approach

During the research process it became apparent that there were certain limitations to the research approach. Despite having piloted versions of the survey on two earlier occasions, the most significant limitation of the research was the misinterpretation and lack of understanding of certain concepts by survey respondents. Describing concepts such as 'a compact urban character' and 'an effect on the image of the area' without referring to examples, as a way of aiding understanding, was deemed important to ensure that respondents were not guided towards particular responses. Concepts were often described by using synonymous terminology. However, the inherent risk in doing this is that the true breadth and descriptive powers of the original term is lost in translation and a slightly different meaning may be conveyed and understood by the respondent.

Furthermore, Question 14 of the residential survey was not answered in a number of cases, simply because respondents did not understand the question. Many respondents did not know what capacity of the Dunedin City Council has in managing the

intensification process and therefore, could not give any valuable feedback. Perhaps if this question had been made simpler by presenting a series of options for respondents to agree or disagree with, more valuable answers would have been gained.

3.11 Conclusion

This chapter has established and justified the research approach of this study. Adopting a combined qualitative and quantitative methodology allowed for an in-depth understanding of the issues surrounding intensification to be gained and for the opinions and experiences of individual participants to be incorporated in the results and discussion section of this research. The execution of this kind of approach allowed for the collection of rich textual material from the qualitative research methods, which were supported by the data gathered using quantitative research methods. The flexibility of such an approach meant that the research topics and interview questions could be reviewed in light of the findings during the interview process. Chapter 4 begins the presentation of the findings of the investigations that were undertaken using the research approach described in this chapter.

4
Results: Key Informant Interviews

4.1 Introduction

This chapter presents the main findings from the key informant interviews. Firstly, the results begin with an overview of the opportunities and constraints facing those wanting to undertake residential intensification. The current management of the intensification process and its outcomes are then considered with regard to the role of the Dunedin City Council and property developers in this process. The positive and negative impacts of intensification are then presented. Lastly, the acceptability of residential intensification and its associated impacts in the Residential 2 and 3 Zones, as perceived by key informants, are outlined. Specifically, this chapter addresses the first and second research objectives:

1. Identify the opportunities and constraints facing those wanting to undertake residential intensification and the factors that influence property developers' decisions on intensification in Dunedin.

2. Identify the impacts of residential intensification in Dunedin and the local acceptability of these.

Firstly, however, it is important to detail the context in which intensification is occurring, and where the research took place. As such, the first section of this chapter outlines the Dunedin context, specifically the Residential 2 and 3 Zones, which were the focus for this research.

4.2 The Dunedin Context

Dunedin is New Zealand's fifth largest urban area and is the second largest in the South Island. In 2006, the Statistics New Zealand Census of Population and Dwellings put Dunedin's population at 123, 516. Dunedin's usual resident population has remained relatively static over the last 50 years, growing by 1.5% since 1961, while New Zealand's population has grown by more than 50% over this period

(Dunedin City Council, 2002a). Figure 4.1 illustrates the growth in population of the five main centres in New Zealand between 1886 and 2001. It illustrates the relatively stagnant growth in Dunedin's population over this period.

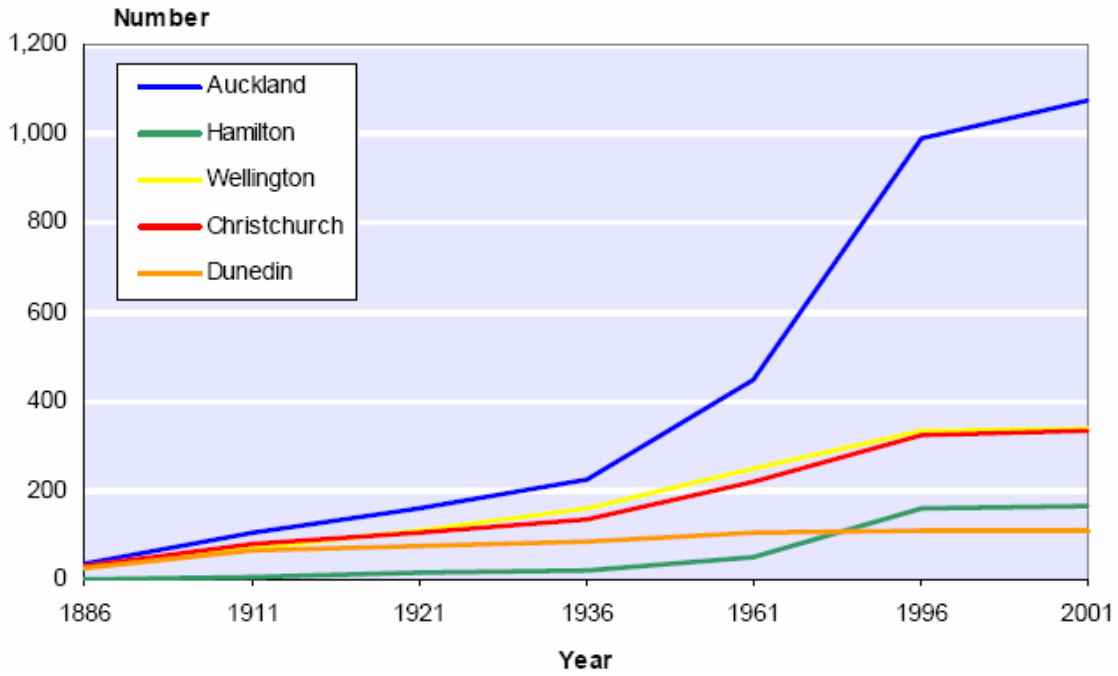

Figure 4.1: Growth of the five main urban areas in New Zealand, 1886 - 2001.
Source: Statistics New Zealand, 2001, p. 17.

Furthermore, between 2001 and 2006 Dunedin's population grew by 4,341 people, an increase of 3.8%. Compared with the growth in the other main urban areas in New Zealand during this period Auckland (10%), Hamilton (11.2%), Wellington (9.5%), and Christchurch (7.5%), Dunedin's growth has been relatively slow (Statistics New Zealand, 2005). The Dunedin City Council forecasts this slow but steady growth to continue over the next two decades. Moreover, like much of the rest of New Zealand, Dunedin is experiencing a changing population structure as a consequence of an aging population and changing family structures. Dunedin's aging population is likely to be more marked than the national average for two reasons. First, Dunedin already has a lower proportion of younger people and a higher proportion of older people. Second, Dunedin has low proportions of Maori and Pacific Island people, who tend to have a younger population and higher birth rates than the population as a whole (Dunedin City Council, 2002a). Consequently, the number of Dunedin households is predicted to increase by 6,300 or 14% from 2001 to 2021 (Statistics New Zealand,

2005). The demographic trends suggest that a more diverse range of dwelling types will be needed in the future.

Dunedin's current housing resource represents the cumulative development decisions of 150 years and is variable in terms of its type, location, age, condition and its ability to meet the changing needs of the city's residents. Dunedin has an old housing stock compared to other New Zealand cities (Figure 4.2). 'Some 19.9% of Dunedin dwellings were built before 1920, compared to the national average of 5.3% for all New Zealand territorial local authorities with a population greater than 30,000' (Dunedin City Council, 2006a). Figure 4.2 illustrates that the number of new dwellings built has slowed in recent decades reflecting Dunedin's slow growth over this period.

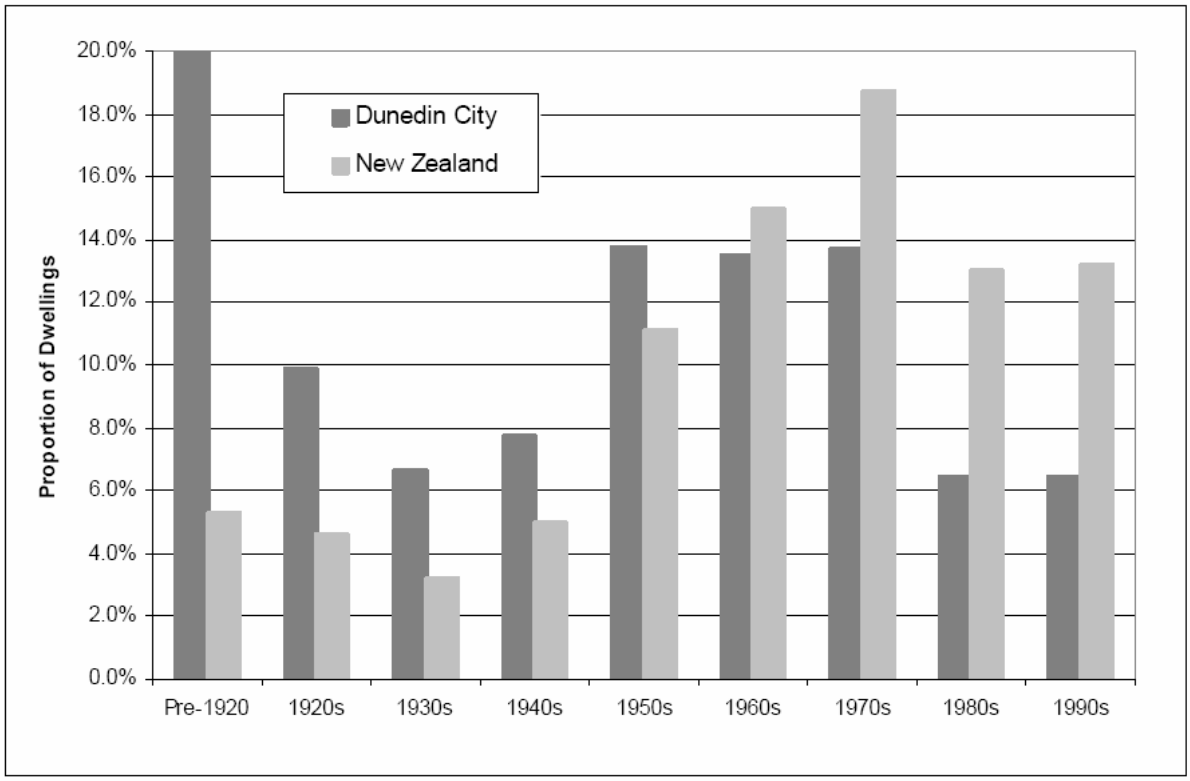

Figure 4.2: The age of dwellings for Dunedin and New Zealand. Source: Dunedin City Council, 2006a, p. 17.

However, there has been a period of resurgence in residential development in Dunedin over the current decade. The Dunedin City Council (2006a) has identified a number of trends that have recently emerged during a time of growth and increasing

diversification in residential development. A strong property market has led to the construction of a relatively high number of new dwellings in recent years. This is reflected in the rising number of building consents granted during this period (Figure 4.3).

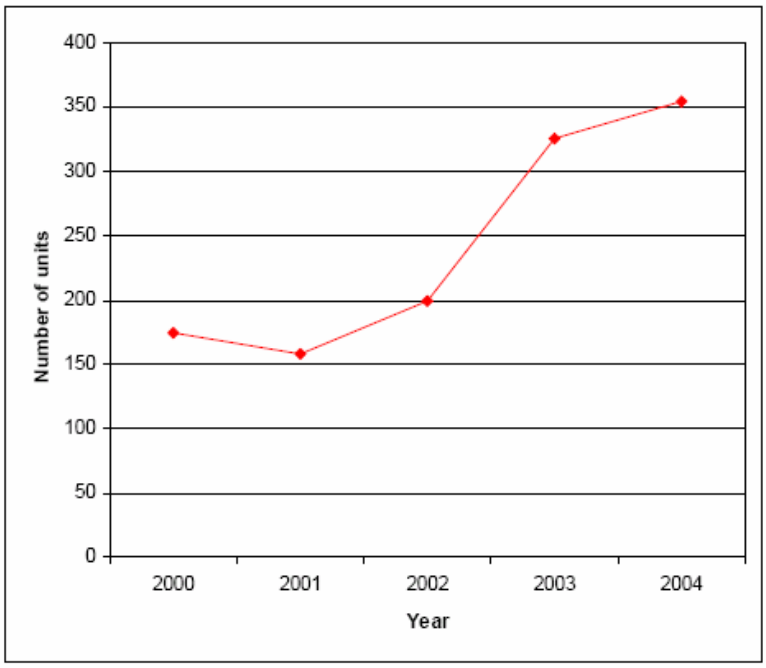

Figure 4.3: Building consents for new dwelling units in Dunedin, 2000 – 2004. *Source*: Dunedin City Council, 2006a, p. 14.

This recent development has tended towards large, detached, single family homes (Figure 4.4). However, there has also been an increase in the density of existing residential areas. Most notably, the increasing density of development in the Residential 3 Zone in North Dunedin, is the product of continued growth in tertiary enrolment and thus, increased demand for student housing in and around North Dunedin. As a result, there has been a substantial increase in more intensive development in the Residential 3 Zone. Between 2000 and 2006, there were 132 new dwelling units built in this zone.

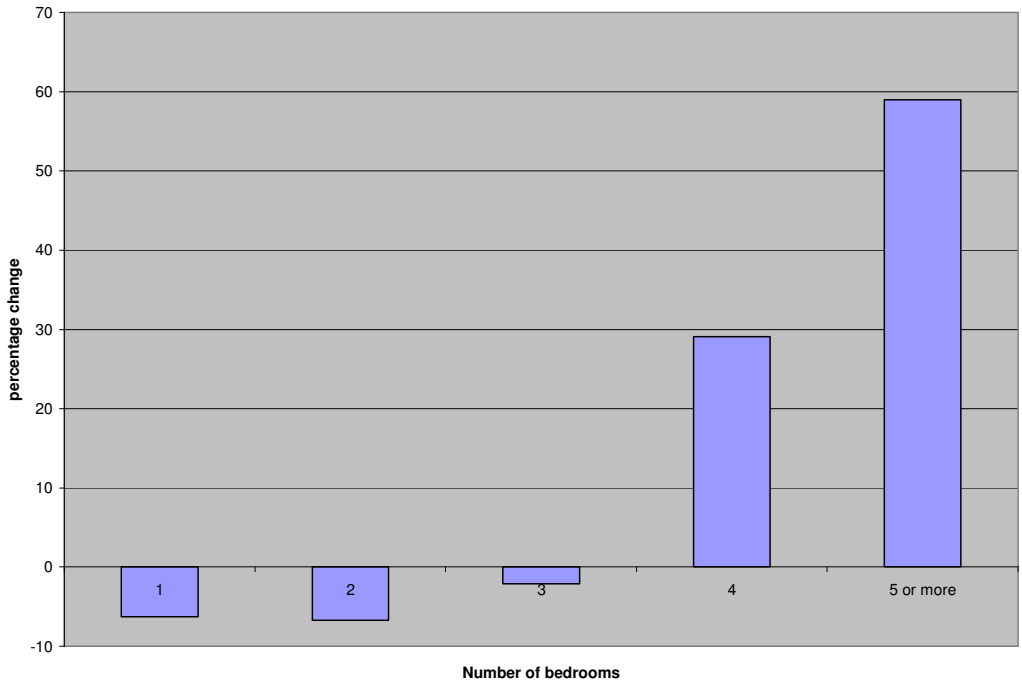

Figure 4.4: Change in occupied dwellings by number of bedrooms, 1991 – 2001. *Source*: Dunedin City Council, 2006a.

Despite residential intensification being used as an urban growth management strategy and a response to urban sustainability issues in cities such as Auckland, the Dunedin context provides a rather different setting within which intensification is taking place. Residential intensification is provided for within the Dunedin City District Plan through the prescription of different densities within different zones. Six residential zones are provided for through the District Plan and it is this zoning that is the cornerstone of the control of land use within Dunedin City. 'Within different areas there are different characteristics and values in terms of the size of sections, building types and sizes, and building density. This range means that different approaches are required in different areas' (Dunedin City Council, 2006b). Within each of the zones the particular values of the locality are to be protected. Maximum densities for residential activity within these zones are shown in Table 4.1. These densities apply to the number of residential dwelling units, except in the case of the Residential 3 Zone. In this zone, density is calculated based on the number of habitable rooms rather than on an approach based on dwelling units.

Table 4.1: Permitted Residential Densities, Dunedin City. *Source:* Dunedin City Council, 2006a, p. 10.

Zone	Minimum site area (per unit)
Residential 1	500m^2
Residential 2	300m^2
Residential 3	45m^2 / habitable room
Residential 4	200m^2
Residential 5	1,000m^2
Residential 6	Various, from 500m^2 to 5,000m^2
Rural Residential	2ha

'Dunedin's urban service infrastructure is designed to meet a population density of 35 persons per gross hectare, although areas such as North Dunedin and the Central City have a higher capacity' (Dunedin City Council, 2002b, p. 5). Table 4.2 illustrates that all the residential zones within the city are currently under this figure. The areas with the highest density of dwellings include the University and the older established areas such as South Dunedin, St Clair/St Kilda, Roslyn and Mornington.

Table 4.2: Dwellings per hectare, Dunedin City, July 2005. *Source*: Dunedin City Council, 2006a, p. 20.

Zone	Dwellings per hectare of usable land
Residential 1	11
Residential 2	24
Residential 3	30
Residential 4	31
Residential 5	4
Residential 6	1

The quality, design and layout of the physical housing resource are important considerations in the District Plan provisions for residential housing. 'Land use activities and development in residential areas which adversely affects the character and amenity of those areas is a major concern' (Dunedin City Council, 2006b, p. 8:1). Amenity values are those 'natural or physical qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes' (Dunedin City Council, 2006b, p. 3:3). With regard to the management of intensification in Dunedin a loss of amenity in the urban area has resulted in the demand for more intervention to address issues of inadequate urban design and the poor quality of residential developments. The following sections outline the context of the Residential 2 and 3 Zones.

4.2.1 Residential 2 Zone (South Dunedin)

The Residential 2 Zone takes in the flat parts of South Dunedin and is characterised by small sites, smaller and older dwellings, with a large concentration of ownership flats (Dunedin City Council, 2006a). This area is popular for housing suited for elderly people. As such Residential 2 has been zoned to meet the needs and desires of those individuals who wish to live in this area. The Dunedin City Council has done so in an attempt to maintain this densely settled area close to the city providing access to services, facilities and public transport for residents (Dunedin City Council, 2006b). This reflects the original form of the zone as the area was closely settled during the early period of the city's development.

The Residential 2 Zone is distinct in character and is quite different from the other residential areas in Dunedin. Over recent years, a considerable amount of multi-unit redevelopment has taken place (Dunedin City Council, 2006b). Between 2004 and 2006, 26 new sites were created through infill development and a further 22 sites were created through unit title or cross-lease subdivision. Figure 4.5 illustrates the number of building consents issued for new dwelling units between 2000 and 2006.

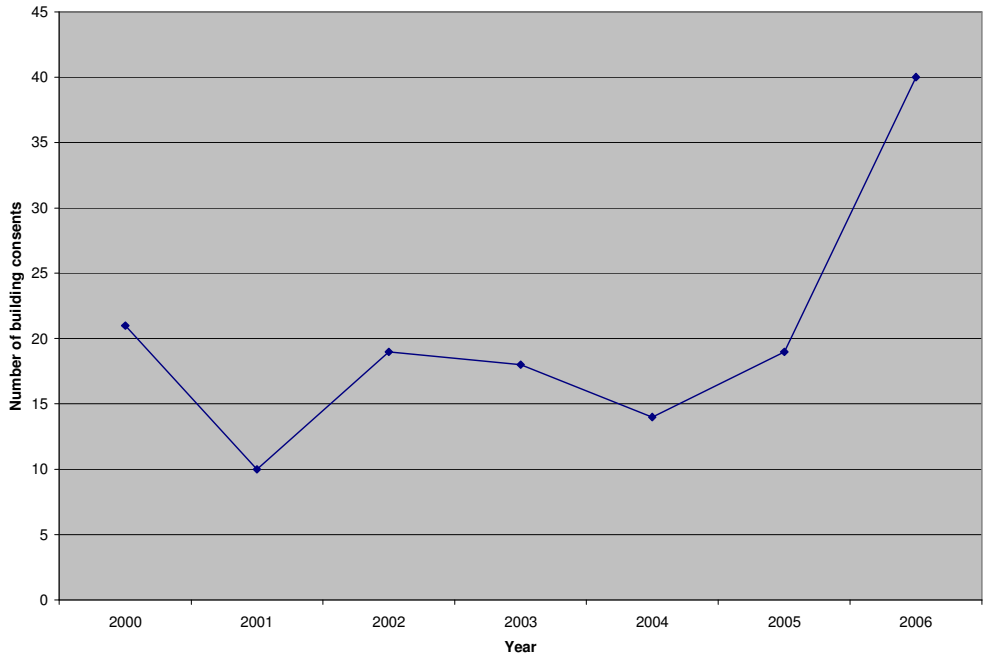

Figure 4.5: Building consents issued for new dwelling units 2000 – 2006, Residential 2 Zone. *Source*: Dunedin City Council, 2006c

This is one of the few areas in the city which provides housing on flat land close to facilities and services such as shopping and public transport. The average size of residential sites is smaller than those in other residential zones and the area generally has narrower streets than other areas in the city. This has an impact on the amount of space available for recreation in the area. On-site parking in this zone is difficult given the site coverage, small front yards and small narrow sites (Dunedin City Council, 2006b). Given these characteristics, the impacts of intensification have the potential to be significant.

4.2.2 Residential 3 Zone (North Dunedin)

The Residential 3 Zone, located in North Dunedin, is split by the Campus Constituent Institutions and is characterised by medium density student housing. 'The zone is distinctive in having a very high proportion of dwellings occupied by short to medium term tenants rather than long-term residents' (Dunedin City Council, 2006b, p. 8:19). The housing is a strategic physical resource for the city's tertiary educational establishments and allows students the opportunity to live in close proximity to the tertiary institutions (Dunedin City Council, 2006b). The relationship between the Campus Constituent Institutions and the student housing resource is symbiotic and Residential 3 has been zoned to maintain this relationship. Particular concern is taken towards ensuring the supply of housing in close proximity to the institutions and protecting this housing from competing activities and land uses. This is fundamental to sustaining the potential of the physical resources concerned.

Much of the original housing resource was built prior to 1920 although there has been considerable replacement, repair, modification and additions to these buildings. The original housing stock has been greatly diminished and much of it has been replaced by student houses in the form of medium density blocks of flats which have impacted on the amenity of the zone. This development is now a dominant feature in some parts of North Dunedin. Figure 4.6 illustrates the number of building consents issued for new dwelling units between 2000 and 2006 in this zone. Between 2004 and 2006 there were also 17 new sites created through cross-lease subdivision.

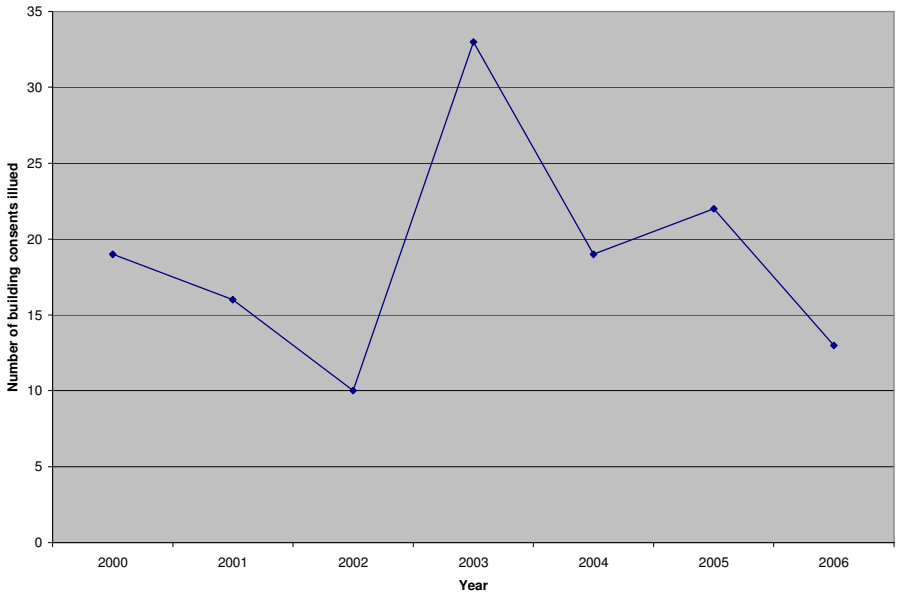

Figure 4.6: Building consents issued for new dwelling units 2000 – 2006, Residential 3 Zone. *Source*: Dunedin City Council, 2006c

Many of the original sites had large areas of open space that have since been redeveloped significantly increasing the overall density of development in this zone. 'Many developments have site coverage of 45%' (Dunedin City Council, 2006b, p. 8:18). Developments have maintained a front yard of 3m with other yards greater than 900mm. This does not provide a significant amount of recreation space for residents. There is also a shortage of on-site parking in this zone due to the size and shape of sites, narrow streets and a high number of people working and studying near by. 'It is important that the physical housing resource in this area be protected from further depletion and, where practical, reinstated and expanded' (Dunedin City Council, 2006b, p. 8:18). Furthermore, it is important that future intensification does not occur to the detriment of the amenity and character of the area. Although tenants are not generally involved in decisions about new residential development, the amenity of such development has an effect on their wellbeing (Dunedin City Council, 2006b).

Overall, despite the city's slow growth, it is evident that an aging population, changing lifestyles, and an increasing demand for student accommodation close to the tertiary institutions have given way to the opportunity for residential intensification in recent years. The following sections present the results from the key informant interviews, beginning by outlining the opportunities and constraints facing those

wanting to undertake intensification in Dunedin. An understanding of this is fundamental to gaining a deeper insight into the intensification process in Dunedin.

Due to the frequent reference to the two case study areas, the Residential 2 Zone is referred to as South Dunedin and the Residential 3 Zone is referred to as North Dunedin in the following chapters. This is to facilitate the readers understanding of the research and to enable the reader to follow the results and discussion of this thesis with greater clarity.

4.3 Opportunities for Intensification in Dunedin

The opportunities for residential intensification in Dunedin include the growing recognition that intensification can lead to sustainable outcomes. Several key informants noted the need to consider residential development that is more intensive and the increasing influence of the Resource Management Act, 1991 with its fundamental principle of sustainable development:

> With the current Resource management Act and the underlying premise of sustainable development, it has really called into question whether continued suburban sprawl can be sustainable. That leads down the road of intensification within existing city boundaries and it is, therefore, important to look at good models as to how to go about doing that (Key Informant 6).

Key informants also suggested that the use of rural land for further suburban growth is unsustainable and that doing so is inconsistent with modern lifestyles. Key Informant 3 noted 'I personally think we are doing a lot of subdivision work now that I do not see the need for and that is in carving up North Taieri's good rural land...it is against the grain of what modern living is all about' (Key Informant 3).

This respondent not only emphasises the need to move towards a more sustainable urban form but also highlights the importance of recent lifestyle trends as an opportunity for residential intensification. Most key informants noted that the demand for residential dwellings associated with more intensive development is largely a result of changes in lifestyles and, therefore, housing choice. This differs considerably from many other cities where intensification has been implemented largely as a mechanism to control growth:

> Intensification in the Dunedin situation is quite different from the Auckland situation. We are dealing with change... there is change in household formation and, as a result, housing choice...With regard to intensification in the Auckland situation…it is much more driven by growth because they are short of land (Key Informant 7).

With respect to residential intensification in the Dunedin situation, Key Informant 7 noted that 'it is about housing choice, it is about values and it is about lifestyle.' Furthermore, a number of key informants argued that this has resulted in a higher number of people who are prepared to rent properties and who want to live on smaller sections. This has meant that people are opting for more urban lifestyles and purchasing or renting properties that are smaller and require less maintenance. Key Informant 7 argued that a lot of this demand is coming from the younger generations. Key informants argued that this has provided the opportunity for developers to respond to this demand. Several quotations that provide evidence concerning changing lifestyles and the demand for more intensive living in Dunedin are illustrated in Table 4.3 below:

Table 4.3: Key informant responses on the relationship between changing lifestyles and intensification.

Key Informant Number	Quotation
Key Informant 3	'Changing lifestyles, that is the biggest thing with people these days. When you are younger you may have a holiday home in Central Otago or you are busy working weekends or you both work. So gardening is not the passion for people because it is too big a commitment these days… because there are other things to do like get on an aeroplane and travel overseas.'
Key Informant 4	'You see lifestyles are changing, we have now got a higher number of people who are prepared to rent. We have got a 'here and now' generation, they want everything here and they want it now. Rather than commit themselves to 20 years of saving and paying off a mortgage they would actually rather pay the rent and go and have the lifestyle they want and go and buy the latest things.'
Key Informant 7	Traditionally the quarter acre was so that you can have your own vegetable patch and perhaps you were self-sufficient. But modern lifestyles are quite different. They don't want that, they want freedom, they want access to a gym…'

It was suggested by most key informants that the opportunity for more intensive living has also been a result of an aging population where an increasing number of

people are retiring to smaller sections that are located relatively close to services and facilities. Furthermore, it was noted by Key Informant 7 that there are those who have multiple properties and own an apartment or a small property in Dunedin as well as somewhere else in the country, notably Central Otago.

The demographic characteristics of North and South Dunedin have provided the opportunity for residential intensification within these zones. North Dunedin has a relatively young and transient population. It was noted by Key Informant 4 that the North Dunedin population is more tolerant of higher density living because they generally do not live in the area for a long period of time and because a lot of young people want relatively small sections. Therefore, there is an opportunity to provide for more intense development: 'North Dunedin is unique because you have a high transient population. They are there for two and three yeas to do their training and then they are gone.' South Dunedin has a relatively old resident population who, as quoted previously, generally want a smaller property that requires low maintenance and is close to the centre of town.

These quotations highlight that the opportunity for residential intensification in Dunedin has been, and is likely to continue to be, attributable to market demand. Residential intensification could not occur, however, if the planning policy and rules do not allow for higher density than currently exists. The Dunedin City District Plan provides for intensification by allowing development at different densities within different zones. In North and South Dunedin this has resulted in additions to buildings, infill development and redevelopment. The Dunedin City District Plan has undergone changes over recent years to manage the effects of intensification and to allow for a wider range of development to occur.

The major change over recent years has been the adjustment to the Residential 3 Zone amenity provisions, called Variation 12. Variation 12 amended the rules in the Residential 3 Zone, in North Dunedin, of the Proposed District Plan in 2002 in order to better provide for the maintenance and enhancement of residential amenity in the area. The most significant change to the zone rules was an alteration to the density calculation based on the number of habitable rooms rather than on an approach based on dwelling units. Key Informant 2 outlines the significance of this change:

> I guess that is one area where the plan does provide for intensification, and that is how we have moved from an approach of calculating required density per unit or per house basis to per habitable room basis. That has really allowed for a range of different forms of development (Key Informant 2).

Several developers noted that the change has allowed for greater diversity and flexibility with regard to higher density development:

> Now with the change...you can have multiple units on the site as long as you can meet the performance standards whereas before you could not do that. So it allows for a different type of intensification...it does change the makeup of the area (Key Informant 9).

The new rules allow developers more flexibility to respond to changes in demand and lifestyle. This has resulted in a greater diversity of housing types and, in particular, an increase in the number of studio units built:

> It is recognising that not everyone wants to live in a six bedroom traditional 'scarfie' type flat. They might prefer a more modern or purpose built flat or a renovation or upgrade of an older, bigger villa. It allows for different and smaller units (Key Informant 2).

Overall, the opportunities for intensification in North and South Dunedin can be attributable to two main factors: market demand and the planning provisions within the District Plan. This demonstrates the importance of the market in fuelling development in a context where growth is relatively slow. It also demonstrates the importance of local planning provisions in providing for this demand and in managing its effects. The following section outlines the constraints facing those wanting to undertake further residential intensification in Dunedin.

4.4 Constraints to Intensification in Dunedin

Despite there being wide opportunities for residential intensification in Dunedin, there are also a number of constraints. The most significant of these relates to the fact that New Zealand, and especially Dunedin, has had very little experience with intensive development. Therefore, there is often a lot of adverse reaction to more intensive residential development as the density threshold and the acceptability of

intensification is closely related to societal expectations. Furthermore, all key informants argued that it is common for perceptions and opinions of intensification to face resistance from residents, particularly in North Dunedin. Part of the reason for this resistance was said to be due to the prevalence of examples of poorly designed and constructed developments.

Although key informants highlighted that there is demand for more intensive residential development in North and South Dunedin, they also noted that the supply of land available is a constraint to further development:

> There are not too many areas left for infill housing. That is a restraint so, therefore, you have got to move out, it is a supply and demand thing...you have got demand but you have got restraints (Key Informant 8).

A representative of the Otago Property Investors Association argued that under the current planning legislation there is not a lot of capacity left in both North and South Dunedin to undertake intensive development that is profitable for the developer. Property developers believed that financial incentives or contributions need to be provided if smaller sections are to be redeveloped:

> There are not too many areas left where you can redevelop and make it pay. If you want to buy three or four houses they are very costly to sacrifice because you have got to knock them down and those three or four houses may have 20 bedrooms so you are going to knock them down to get only 30 bedrooms (Key Informant 8).

Furthermore, the recent change to the Residential 3 Zone rules was identified as being a constraint and only partially successful in allowing for intensification because of the way development is tied to car parking. Key Informant 1 notes that 'you need so much land for car parking that infill is not viable on a relatively small piece of land.'

It was highlighted by Key Informant 8 that in North Dunedin a constraint to continued residential intensification is a slow down in the demand for rental properties associated with the University of Otago and the Otago Polytechnic:

> If you go further out you then need more University growth and I think the bed spaces in relation to the number of students might be pretty much right, I do believe that there is a reasonable balance there at the moment (Key Informant 8).

Several key informants noted that the capacity of Dunedin's infrastructure is a constraint to continued residential intensification. It was argued by a number of key informants that the current capacity of the storm water, sewers, roads and other infrastructure would need to be monitored and possibly upgraded to cope with continued residential intensification. Key Informant 1 highlights this when referring to Dunedin's sewer system:

> Maybe they should have decent sewers in Dunedin instead of the 1880s ones that they have got. That seems to be one of the things around this area that is holding back development. Certainly one of the things we keep coming into with these projects is not residential effects so much as the inadequate sewers (Key Informant 1).

The biggest constraint to effective developer participation in the intensification process was identified as problems with the planning process, particularly with regard to the processing of resource consents, and the District Plan. A number of key informants identified a lack of transparency and certainty in the planning process. There was a perception that the council was more concerned about 'covering their backs' (Key Informant 4) than fostering development. It was also claimed that the District Plan rules are often interpreted differently by different officers within the Council. One developer noted that the constraints to effective developer participation in the intensification process are: 'the District Plan rules. Quite often the District Plan rules are not in sink with what are good design guidelines. They [the Dunedin City Council] like a hard and fast rule' (Key Informant 4). This developer noted that as a result, although they would prefer to undertake a development that is well designed, they often decide to do one that does not require a resource consent and, therefore, the streetscape and the character of the area suffers.

It is anticipated that residential intensification will continue to take place within North and South Dunedin. However, this research suggests that there are a number of constraints to intensification. To ensure the success of future intensification the limits

to intensification need to be taken into consideration by those managing the process. Furthermore, the negative impacts associated with intensification could be reduced if intensification is promoted in areas which have the infrastructural capacity to cope with it, where there is adequate land zoned for intensification and through a process that promotes good urban design. The following section outlines the current approach taken for the management of the intensification process and its outcomes.

4.5 The Management of Intensification and its Outcomes

The Dunedin City District Plan allows for intensification by providing for different densities within different zones:

> I guess [intensification is provided for] to the extent that we have a variety of residential zones already that provide for housing at different densities. So I think that there is already that recognition in the plan that in certain areas of Dunedin people will live at different densities (Key Informant 2).

However, as one council officer notes, sustainability principles and recent thought about sustainable urban form are only communicated to a broad extent within the District Plan. It was noted by Key Informant 2 that the council needs to consider the planning rules within the District Plan to better facilitate residential intensification. Council officers suggested that the District Plan will probably move towards providing for higher density development as a permitted activity. It was also suggested by Key Informants 2 and 9 that financial incentives may be an option to encourage more redevelopment of older deteriorated buildings, particularly in South Dunedin. It was highlighted by Key Informant 9 that such an approach would be in line with existing council policy. As a further initiative that the council could take to allow for further intensive development, Key Informant 2 suggested the expansion of the Residential 2 Zone. Areas based around existing commercial sites were identified by Key Informant 1 as being the most appropriate areas to concentrate intensive development. Easy access to shops and facilities were considered by all key informants to be most important for those wanting to live in these dwellings. When asked what else the Dunedin City Council could do to best manage the intensification process, a council officer noted that the council needs to consider the capacity of the city's current infrastructure. This reflects the concerns of several developers with regard to the city's infrastructure. Evidence of these issues and initiatives suggested

by key informants to better manage the intensification process and its impacts are illustrated in Table 4.4 below:

Table 4.4: Key Informant responses on the current management of intensification and its impacts.

Key Informant number	Current issue or possible initiative	Quotation
Key Informant 2	Broad reflection of sustainability principles in the District Plan	'Its probably fair to say that more recent thought in planning in terms of Compact Cities and Compact Urban Form and how that relates to sustainability is not really reflected in our District Plan as yet.'
Key Informant 2	Examine the current District Plan rules	'We will probably have to look at our planning rules to some extent because they do not easily allow for multi-unit development.'
Key Informant 2	Financial incentives	'In South Dunedin…I guess we need to think of other ways we might make it more attractive or possible for developers to demolish the old and not particularly flash housing stock and put up medium density housing...We might have to look at allowing more dense development and provide an economic incentive for developers.'
Key Informant 9	Financial incentives	'That [financial incentives] would fit in comfortably with our Long Term Council Community Plan about good communities, healthy communities. Because if you have got crappy housing, people are less likely to be healthy in it, so get rid of the rubbish and put up new stuff even if it is a bit more dense as long as it is done well, it is possible.'
Key Informant 2	Expansion of the Residential 2 Zone	'The other thing to bear in mind is that there is an aging population and we are going to need a lot more of that style of smaller and more dense housing...so expansion of the Residential 2 Zone is probably desirable in some peoples minds.'
Key Informant 9	Consider the current capacity of infrastructure	'What's under the ground? Do the pipes handle it? Especially in the older parts of town, if they don't have the capacity there is no point in changing the plan.'

The Dunedin City Council's planning practice with regard to residential intensification was largely considered a very positive process. A council officer describes the pre-application meetings that take place: 'We encourage those [pre-application meetings]. We pull together anybody from the council that may have an interest in the application and often its transportation planning, water and waste and architecture and urban design' (Key informant 9). Furthermore, the Council's pre-

application meetings were considered to be a very successful process by Key Informant 1. It was acknowledged that best practice, from a theoretical perspective, is to allow the developer the opportunity to discuss an idea before their application is lodged and, therefore, to adjust their proposal if issues arise:

> To have a pre-application meeting and to know where you stand, to discuss and work through the issues that every department may or may not have, and come to some sort of compromise before a hearing is a very positive way of doing the process (Key Informant 1).

The pre-application meetings are not compulsory but the Council does encourage potential applicants to consider having them. Despite the positive responses and the suggestion by many key informants to encourage pre-application meetings, Key Informant 7 posed the question 'is it necessary for every single one or are there thresholds where a pre-application meeting is required?'

It was noted by Key Informant 8 that there is often compromise between the developer and the Council during these meetings: 'there is nothing the matter with that, a bit of trade off, it's good (Key Informant 8).' Often the Council will allow a development that does not comply with all the rules for a particular zone if it results in better urban design:

> A lot of developers will design their proposal to meet the plan requirements and we would actually encourage people to get a resource consent if it means better urban design…because they might just be breaching a height plane angle in a small way but you might have a much better building than one that complies with the plan (Key Informant 9).

Despite these comments, Key Informant 5 argued that the pre-application meetings are not that successful because the issues discussed cannot be definitive until a final plan is put forward:

> It [a pre-application meeting] is a useful thing, but it is not definitive because our developer clients will go and push it beyond the limit that was discussed. So the planners cannot commit themselves until a final plan is put forward. So they are useful in terms of expectation but they cannot go beyond that (Key Informant 5).

During most interviews, the relationship between the Dunedin City Council and the developer was described as very good. Key Informant 3 notes: 'My relationship with the Council has been good. I have not had a problem with that. They have been very supportive in general'. However, several key informants highlighted their frustrations with the planning process in general. It was argued by several key informants that this has not been good for fostering a positive relationship between the Council and developers. Within the planning department, the focus was said to be 'how can we get out of this without getting our fingers burnt?' (Key Informant 1). Key informants noted that the focus should be on looking for ways to foster development and make sure that it is designed appropriately to fit in with the character of the area. However, it was suggested that this is not necessarily a problem with the Dunedin City Council's planning processes but rather the wider framework that the Council works within. Table 4.5 provides evidence to support this argument:

Table 4.5: Key Informant responses regarding the planning process.

Key Informant Number	Quotation
Key Informant 3	'It is just a red tape thing now. That side of it is disappointing but that side of it is somewhat beyond their [the Dunedin City Council's] control. It is actually central government that is dictating the rules.'
Key Informant 8	**'**Our relationship as far as a workable relationship has been good I have not had a bad word with them. As far as the bureaucratic system goes, don't ask me how you can improve it.'
Key Informant 1	'It is very difficult because one of the things that strikes me is the way the whole process works. The thrust is not how can we help or how can we foster something good to happen in the City. Its more "how can we cover our own backs" and "we are not prepared to stick our necks out in any way to give an indication as to where things can go until we have gone through the process in case it comes back to bite us" rather than a more positive approach. That is really the problem with the whole Resource Management Act, I don't think it is necessarily this council.'

One developer also stated that they had a fractious relationship with the council and believed that the council perceives developers as a problem: 'Their attitude is very negative. They regard us [developers] as a problem. You can have pre-hearing

meetings and they will say something and then they will back track later' (Key Informant 4).

An officer from the Dunedin City Council identified a number of negative impacts associated with intensification, most of which are design related. When asked what the council was doing to minimise the negative impacts of intensification, Key Informant 7 responded: 'we have not got any particular approach yet'. However, they argued that recent changes to the District Plan had improved the management of the intensification process and its impacts. The council has been working for a long time to bring about better design in new developments associated with intensification:

> It has taken a long time for the council to put in the various rules and policy without going over the top to bring about better development. I think that they are sympathetic or even enforcing the style of development that you can do, along the Victorian and Edwardian lines (Key Informant 8).

Key Informant 8 describes some higher density development in North Dunedin as appalling and believes it is the result of poor management on the part of the Dunedin City Council. They believed the rules in the District Plan were often catalysts for poor design. Key Informant 8 then went on to say that the management of the impacts of intensification has improved in recent years:

> You have got these 'Dutch Barns' that the likes of [developer X] has built, but he could build them within the bounds of the district scheme, he did not do anything wrong...Well of course it is just appalling architecture and I think we have probably turned a corner…Now the council are encouraging people to build along reasonable architectural lines (Key Informant 8).

Despite the perceived improvements, most key informants argued that the most significant changes the council should make to better manage the intensification process are related to improving the design and quality of new buildings. However, the mechanisms that could be used to bring about better design and quality were largely unknown:

> The one thing that they could do to improve the process is the hardest thing and that is put more emphasis on quality. Everyone has different ideas of what constitutes quality… it requires judgement and, therefore, it requires strength of will to make controversial judgements (Key Informant 5).

Good design was argued by Key Informant 8 to be the most important aspect of successful intensification. Several key informants noted that higher density development works well if it is designed appropriately:

> Density is not all bad if you can integrate it with architectural style…you can get some very big buildings, it might have six or seven flats in it, but if you have an architectural style about it, it really looks the part. Whereas, if you just shove anything up it is just a box in looks and you have not addressed the street, there is no fencing, nothing like that. Well what are you doing, you are building a ghetto are you not? (Key informant 8).

Although it was suggested by several key informants that improvements need to be made with regard to the design and quality of buildings, all key informants noted that it was very hard to find ways that this could be achieved. However, several key informants recognised that the resource consents process was one way in which the quality and design of buildings could be managed to a degree. Key Informant 9 highlighted that the Dunedin City Council may consider using such an approach, where better urban design is achieved through the resource consents process, to a greater extent in the future. Evidence to support this argument is illustrated in Table 4.6:

Table 4.6: Key informant responses regarding improving the design and quality of developments.

Key Informant Number	Quotation
Key Informant 7	'You need to keep in mind that you cannot legislate for good urban design so there is a whole heap of things that need to be done. A lot of it would be about advocacy. And there is also the difficulty of, is design a private property matter or is it a public good?'
Key Informant 5	'Every town in the country has tried to pass laws on quality control and improving standards and it is almost impossible to legislate…The only thing that changes their [developers'] view is the market rent, if people will not rent it then they will not build it.'
Key Informant 5	'I said that legislation does not work; there is one exception to that. The Resource Management Act does help in one way. The District Plan provides what you are allowed to build in terms of density and if you want to go beyond it, you are required to apply for a resource consent…the positive side of that is you go before the planning committee and you have to make your case and then if you are building a quality building they will allow exceptions for it. So there is at least a quality control there. It does rely on the planning committee having the spine to make controversial judgements. And I think that Dunedin does fairly well with that. It is a long and complicated process and I am sure that it can be improved.'
Key Informant 9	'Something we could do via the plan is allow for higher density to occur but only through a resource consent. And you could compel people to do better urban design, taking into account privacy and sunlight and things like that…Having a consent process for the higher density development but at the same time enabling it to occur would be a positive.'

Several key informants suggested that renewing the design guidelines for North Dunedin would be a positive initiative. When asked if the design guidelines should be renewed, one developer stated they would be in favour of their renewal because 'it gives some certainty as a developer' (Key Informant 4). One key informant was not in favour of this initiative and described the design guidelines for North Dunedin as:

> The book of ticks and crosses because they showed you an old style home with a tick beside it and a modern home with a cross beside it, it was that simplistic. They were trying to mandate appearance, but there was nothing in it about density…It was strictly style and they are hugely out of favour worldwide (Key Informant 5).

The Dunedin City Council currently has no guidelines for people wanting to undertake higher density residential development. Several key informants agreed that a comprehensive approach should be established which includes providing both guiding principles for good urban design and principles for how to go about doing higher density development:

> What is probably lacking is an overall guideline as to how you go about doing good intensive housing...It is rather important that kind of thing is established. It is worthwhile looking at traditional examples in other countries where they have a lot more background and experience as to how intensive residential buildings can work and be integrated into neighbourhoods (Key Informant 6).

An officer from the Dunedin City Council mentioned the formation of an urban design panel that could also help alleviate some of the issues associated with residential intensification the city is currently facing. However, the exact procedure for such a panel was unknown: 'I guess the other thing is the urban design panel that has been discussed. We may be moving towards that. I am not sure how it would operate' (Key Informant 2).

To maintain and enhance the amenity of North Dunedin, Key Informant 8 highlighted the importance of an overall Campus Plan that could be consulted when development occurred. Developers considered they would benefit from a long-term vision as to the character and identity of North Dunedin to be enhanced and safeguarded. This would work in conjunction with guidelines for higher density residential development. A representative from the Dunedin City Council argued that an overall Campus Plan would be a useful document, but if it is to have an effect it needs to filter through the District Plan:

> It is really to coordinate the goals of the various tertiary institutions and the Council so that we are all heading in the same direction and then to inform instruments like the District Plan and to make plan changes. So yes, it would be a useful document to let people know what the overall scheme is, and what the intentions are, but ultimately it has got to filter though the District Plan because that is the statutory document (Key Informant 6).

Parking was identified by most key informants as a negative effect associated with residential intensification, particularly in North Dunedin. Several key informants noted that the Dunedin City Council was not managing the impacts of residential intensification on parking as best they could. One key informant argued that the University needs to sort out the parking issues associated with university students and staff. It was also noted that the current parking provisions for residential developments need to be changed to better maintain the amenity of the area:

> There is no shortage of parking at night time and in the weekends, its everyone coming into the area and it is the developers that have got to put in the parking…I would not allow car parking in the front of the buildings for a start unless they were very cleverly done...you put one park in the front of the house and you will loose two on the street, what have you achieved? (Key Informant 8)

Several key informants believe that the University and the Dunedin City Council should address the issue of staff and student parking, rather than place the burden on private property owners.

In summary, the management of residential intensification and its impacts appears to have improved in recent years. However, a number of issues were identified with the current management of the process. It appears that compromise between the council and developers is essential to the success of good design outcomes. It also appears that regulating the design of buildings to ensure good quality and good urban design will involve a number of decisions, ranging from the design of the development itself, the location and sustainability. The following section outlines the factors and considerations that influence developers in their decision making process.

4.6 Developer Behaviour

The behaviour of developers with regard to residential intensification in North and South Dunedin largely reflects the developer's personal interests. Most property developers undertake residential developments as a profession and, therefore, are only conscious of and influenced by those things that they are required to take into account:

> They [developers] are largely profit oriented rather than culturally sensitive or culturally responsive which is a negative aspect of developer derived buildings. The positive aspect is that the market pushes new standards...The developers will only make the decisions they are required to but if the market pushes them they will move to whatever levels are required (Key Informant 5).

It appears that the market is a big influence on developers' decision making and the standard of quality and design that they develop. Key Informant 7 argues that the success of residential intensification is:

> Dependent on whether the developer intends to meet bottom line design requirements or whether they are amenable to negotiations to changing things to achieve better standards...it is on a case-by-case basis and whether the development proposed fits into the context of the area. It does not mean that developers are inherently good or inherently bad. It all depends on what their brief is, what their client wants, and whether their proposal fits in with the site conditions.

When asked whether there are developers who make a particular effort with regards to developing homes that are of good quality design and construction, one key informant stated that:

> Dunedin has the full cross section, there are one or two developers who are really contentious, who build really good buildings and they set a real standard...At the other end of the market, we have a group of developers who have no apparent interest in the final quality or outcomes for the city as long as they are profitable (Key Informant 5).

However, several key informants noted that developers do influence and 'feed off one another' (Key Informant 1). Key Informant 9 explains that one developer in the North Dunedin makes a particular effort to develop good quality homes and that: 'if he is filling his properties out without any problem, then there is a compulsion on other landlords to up their quality to get tenants quicker' (Key Informant 9).

An officer from the Dunedin City Council highlights the lack of thought put into new developments when referring to one property developer. They also comment on how this developer has been influenced by others and increasingly attempts to develop good quality houses:

> There is one student property developer who always tries to avoid getting resource consent and has put up buildings on that basis. So you get 'Dutch Barns' (Figure 4.7) which are not pretty buildings. They are somebody who has learnt that 'okay maybe I should get resource consent and try something different' (Key Informant 9).

Figure 4.7: An example of a 'Dutch Barn': intensification in the Residential 3 Zone, North Dunedin. *Source*: Personal collection, 2007.

It was argued by Key Informant 6 that there has been a greater appreciation of good quality and design amongst developers in recent years, which is resulting in better residential developments:

> I think what there is a greater degree of appreciation but it is filtering through relatively slowly. There are good environmental practices and there is certainly more and more talk and a higher level of consciousness of the level of urban design and level of architectural design (Key Informant 6).

The level of detail used in new developments differ greatly between developments. It was recognised by Key Informant 4 that the Halls of Residence owned by the University are well cared for, the grounds are well maintained and there is a lot more detail in the architecture (Figure 4.8).

Figure 4.8: An example of 'good' intensification by the University of Otago, Residential 3 Zone, North Dunedin. *Source*: Personal collection, 2007.

Furthermore, Key Informant 4 noted a further good example of a development in North Dunedin: 'this one here is done by Developer Y, it is done very well (Figure 4.9). He is a great man of detail and building period homes. All his villas have been modernised and maintained up to probably the best standard on campus.'

Figure 4.9: An example of 'good' intensification in the Residential 3 Zone, North Dunedin. *Source*: Personal Collection, 2007.

When asked what developers consider when undertaking residential intensification most key informants agreed that developers generally have characteristics and features that they value and include within their developments. When referring to North Dunedin, one developer noted that it was important to think about the property market they are targeting. Key Informants 1 and 8 value heritage aspects highly and noted the positive effect this has in terms of attracting tenants. It was argued by Key Informant 6 that developers need to think about the environment beyond the individual dwelling when undertaking intensification. Table 4.7 provides evidence to support these arguments:

Table 4.7: Key Informant responses with regard to factors that developers consider when undertaking intensification.

Key Informant Number	Quotation
Key Informant 4	'You have got all the things you have got to provide for in the plan but as a developer you have got to think about what is my target rental market or who are you going to sell this to.'
Key Informant 1	'One of the things I like to do is present a building to the street that has a certain character to it, that is not out of step with the heritage but is still a modern building. I like to get a design that looks balanced, that acknowledges the past, is aesthetically pleasing and looks modern (Figure 4.10). This is not prescribed by the plan...I would not feel comfortable building the cheapest square block I could. And I have found that that has positive spin offs when tenants come to chose a flat, they acknowledge good design.'
Key Informant 8	'Try to build along Victorian lines. North Dunedin was Victorian and Edwardian architecture...I felt it was a very good way to capitalise on good design.' (Figure 4.10)
Key Informant 5	'It is a question of quality. Design is a very complex thing because you never know the environment, requirements and expectations. But there is always a line beyond which it is not good design and we do not go there.'
Key Informant 6	'You have to consider, when you are arranging a group of buildings on a site, you are not just creating a space within those buildings for people to live, but you are creating spaces between buildings and public space. If that is an afterthought or a matter of just squeezing in whatever amenity you can in between spaces, then it is going to be a poorer result.'

Figure 4.10: An example of intensification that has maintained heritage values in the Residential 3 Zone, North Dunedin. *Source*: Personal Collection, 2007.

Furthermore, Key Informant 6 noted the importance of creating appropriate private and public space for residents.

> It is very much a case of thinking about the type of spaces you are trying to create. An important aspect is how you front onto the public areas, which are the roads, the streets, the squares and the parks, and then how you create private areas too. I suppose one of the typologies of building is called perimeter block development. What that more or less means is that buildings front up to the street and creates an uninterrupted frontage. Then you get private courtyard areas in the inner block so that you create a public front to the street and then a private realm in the back that is enclosed or at least partially enclosed (Key Informant 6).

However, one of the biggest problems with creating communal space for amenity is that they are often used as car parks, the amenity space is therefore, often lost. This was argued by most key informants to be particularly evident in North Dunedin.

Most key informants believed that developers need to consider how the development fits in with the overall context of the area. It was also recognised by most key

informants that for those residents who are a bit hesitant about going from a stand-alone dwelling on a relatively large site to a medium density dwelling, they would be more likely to make that shift if the medium density dwelling could mimic some of the features of a stand-alone house. 'If developers could translate aspects of sunlight, privacy and views into developments people would be more willing to live in medium density developments' (Key Informant 4).

With regard to consultation, it was apparent from the key informant interviews that developers in North Dunedin thought that they had a good understanding of what it is that residents required and wanted in a home or flat and therefore, did not consult often. Whereas, in South Dunedin developers noted that they always consult with residents on the sorts of things they are looking for in their property:

> We do [consult], we try, if we can, to involve them [the residents] with the plan. While it was all pre-planned in terms of where they were going, we have consulted with them pretty much all the way through and we have changed things…because we are trying to protect other peoples sun and views and outlook (Key Informant 3).

Overall, the private market is driven by profit incentives. Many developers are conscious of changes in market demand and the variables that make development successful and acceptable. For developers, the North and South Dunedin areas are attractive due to increasing student numbers, lifestyle changes and an aging population. Some developers exhibit a commitment to urban design, however, it is the competitive nature of the industry that drives the production outcomes. In competition with one another, developers look at competitors' developments and the market demand and pitch their product accordingly. However, if the market is wrongly directed, this may result in the production of housing that is of poor quality and undesirable for the resident population. Furthermore, issues with the quality and design of developments have implications for the amenity and character of the area in which they are developed and therefore, the wider city. Nevertheless, many of the negative impacts of intensification are the result of developments that have complied with the District Plan. It is essential, therefore, to improve the framework within which developers operate within and to minimise the negative impacts of

intensification. The following section outlines the positive impacts of intensification as identified by key informants.

4.7 The Positive Impacts of Intensification

From the key informant interviews, the impacts of intensification can be grouped into social, physical and environmental impacts. With regard to the positive social impacts of intensification, several key informants argued that intensification creates an environment where there is more contact and communication between neighbours. Key Informant 3 noted that, as a developer, they make a particular effort to create a neighbourhood based on a village-type concept where the development ensures that neighbours can communicate easily and a pleasant social environment is established (Figure 4.11):

> What I am trying to create, and what I have achieved, is a village-type concept where it is clearly marked where people's domain is...you can go and get the paper or walk down to the shop and have a casual conversation with your neighbour without intruding on them but in a friendly sort of way (Key Informant 3).

Figure 4.11: An example of a 'village type' development, Residential 2 Zone, South Dunedin. *Source*: Personal Collection, 2007.

It was also noted that if new developments are designed well they create an increased sense of security because there are more people around. Key Informant 6 referred to the concept of 'mutual passive surveillance', which, through good design, creates a sense of security between the public and private realms. A council officer describes the positive change that good design can have on creating a better sense of security for residents:

> It is to do with environmental design and the sense of security you can derive from it through a number of principles and one of the most basic ones is that of mutual passive surveillance between public and private areas. If you can see someone breaking into the neighbours place then you are more likely to call the cops. If there is a big high fence on the property you cannot really see what is happening on the other side of the fence. Anyone who has managed to dive over undetected is free to carry on as they wish (Key Informant 6).

The positive social aspects associated with intensification were primarily confined to intensification in North Dunedin. Key Informants suggested intensification in North Dunedin had enhanced the campus and student atmosphere. Key Informant 1 noted that this continues to make the Otago campus unique and appealing for potential students. Key Informant 8 reinforces this idea: 'North Dunedin with its intensification...centred around the University has had a very positive effect on a campus environment, campus community, socially it is been a massive draw card' (Key Informant 8)

One key informant argued that certain types of intensification can have positive social impacts because they attract certain tenants to an area. Such an impact was argued to be evident where the student area boundaries an area predominantly occupied by non-students:

> The studio room market tends to attract very studious quiet sensible students that want to get on with their study and they are not interested in big rowdy parties...So intensification can actually end up, if it is good quality accommodation, can actually result in a better neighbourhood than the existing neighbourhood (Key Informant 1).

However, it was also recognised by Key Informant 1 that this cannot be used, under the planning legislation, to decide whether an application for intensification should be approved or declined.

The positive physical impacts from intensification largely reflect an increase in the standard of living by providing better quality buildings. Key Informant 5 describes a development that has resulted in an increase in the quality of buildings in North Dunedin:

> One is the new Hall of Residence down here [City College], it may not be my favourite building architecturally but they have a hundred and sixty students living there. Previously there was about a dozen fallen down uninhabitable cottages. That is a direct intensification. The Hall of Residence fits in there pretty successfully. It is much better quality than was ever available (Key Informant 5) (Figure 4.8).

Intensification in South Dunedin was argued by Key Informant 3 to have contributed to the revival of the neighbourhood shopping areas. Intensification was also thought to have resulted in the provision of a wider range of accommodation options. This also means that there can be a greater diversity of people living in any one area. Key Informant 3 highlights this when describing one of their recent developments in South Dunedin:

> We have got a range of houses in there, we have a cross range of people living there, from tenants in their late 30s through to people who are 80. We are giving people modern homes to cater for whatever their needs are; whether it is double or single garage, two bedrooms or three bedrooms with views, courtyards and garden areas (Key Informant 3).

Environmentally, intensification has had a positive effect in North and South Dunedin. It has reduced the distance for some residents to shops, facilities, services and the tertiary institutions. Key informants stated that this has meant that residents are less reliance on private vehicles which is, therefore, environmentally beneficial: 'The more car parking you provide at the expense of close accommodation the more you encourage the car. If everyone can live closer, walk or cycle, then I think that is better' (Key Informant 1).

It was also argued by Key Informant 1 that with continued residential intensification, public transport will become more viable within the city, thus reducing the reliance on private vehicles. Furthermore, 'when you interconnect nodes of intensification with public transport routes you are starting to ease the dependence on private cars' (Key Informant 6).

In summary, key informants have identified positive impacts of residential intensification in both North and South Dunedin. Despite these positive impacts, the key informant interviews demonstrate that there are significant negative impacts associated with intensification. The following section outlines these impacts.

4.8 The Negative Impacts of Intensification

A number of key informants noted that in Dunedin some of the negative impacts of intensification are starting to become more noticeable than the positive impacts. One negative social impact associated with residential intensification has been conflict between neighbours due to close proximity: 'You have people walking past other people's front doors which are often no more than ranch sliders' (Key Informant 6). This has created problems with regard to noise and privacy, particularly in North Dunedin. Social problems are also evident where intensification is occurring on the boundary of the student area. It has increased the proximity between students and non-students and increased the number of students in an area. One key informant refers to recent conflict from the spill over of intensification on the border of the students area and an adjacent residential area:

> There has been a bit of stick up on Queen Street where some of the neighbours were getting up in arms about a development that was going ahead. Where ever it [intensification] is pushing the boundary there seems to be a problem (Key Informant 1).

The negative physical impacts associated with intensification largely reflect problems with the design of new buildings. Key informants noted that there are problems with new buildings not fitting in with the existing character of the neighbourhood. One developer described such a development in North Dunedin, 'that is what you can build complying with the rules at the moment, a featureless box' (Key Informant 4). Such developments often have no redeeming features and have a negative cumulative impact on the townscape and the visual amenity of the area:

> We have got, particularly in North Dunedin, older buildings being knocked down and developers putting units up to the maximum number of bedrooms. There are absolutely no design controls so the quality of the streetscape is being eroded (Key Informant 6).

It was argued by Key Informant 6 that developments such as the ones described above have been prominent in North Dunedin because the demand for student housing has been strong in recent years. Such development has negative impacts for the future of the area because, as one key informant noted:

> If there is a downturn in the University numbers what are you going to do with the student flats? If it was not for the students nobody would want to live in these flats anyway, they would be bulldozer material; you cannot redevelop them into anything (Key Informant 4).

The lack of parking and the impact of parking on the amenity and character of the area is a major issue associated with intensification. From the key informant interviews it is apparent that car parking issues are evident in North Dunedin for two reasons. Firstly, there is a greater demand for parking in North Dunedin because most properties are rental properties for students. There are likely to be more people with cars per household than in an area dominated by families or non-student households. Secondly, there is high demand for parking in and adjacent to North Dunedin due to students and staff at the University of Otago and Otago Polytechnic and competing uses in the area such as the Dunedin Hospital. One key informant describes a good development but notes that the character of the area has been destroyed due to parking requirements:

> They could have put the cars around the back or side of the building but, all the cars pull up at the front of the building. There is no precinct there at all now, it is just absolutely destroyed it and he has done a good development (Key Informant 8).

The provision of car parks has a negative effect on the allocation of open amenity space. Key informants identified that open amenity space has often been compromised within new developments. Tenants often do not have individual areas and if amenity areas are provided, they are often driven over and used as car parks anyway:

> These ones are (Figure 4.12) dominated by buildings and car parking, there is no individual areas. They are all communal areas and the windows look out at each other. Here is another bad example, it is all just about car parking, there is no possession of individual areas, nobody cares if there is rubbish on the ground (Key Informant 4).

Figure 4.12: An example of a 'bad' development, dominated by car parking, Residential 3 Zone, North Dunedin. *Source*: Personal Collection, 2007.

Several key informants argued that the Dunedin City Council is partly responsible for creating such problems in North Dunedin:

> They [the Dunedin City Council] filled all the streets immediately around the University with meters and then discovered students, not unreasonably, stopped parking there and moved away. So the council made its own problem and now they are blaming increased density for the parking problem (Key Informant 5).

It was noted that the University should start to think about catering for the parking requirements of staff and students by developing a parking building. However, Key Informant 1 noted that if the University charged staff and students to use a parking building questions would arise as to whether anyone would actually use it.

The negative environmental impacts that have been a result of residential intensification include the loss of sunlight, views, privacy, and amenity open space. These were argued to be largely due to poor design. When asked if the loss of sunlight was something that should be anticipated with more intensive development, Key Informant 8 argued that; 'no, you can cater for good sunlight. It was just a design fault, it was just ill thought out' (Key Informant 8).

One key informant argued that within South Dunedin, a developer has created a development with bad design has resulted in poor sunlight, views and privacy (Figure 4.13). Furthermore, Key Informant 3 noted that this is a 'gated community' development and has reduced the level of social interaction and neighbourhood communication:

> It is being developed as town houses and is the classic example of where they have designed a gated community. It goes against everything that that site offers. Designing units that face one another across a common driveway...they have designed it so that some houses have missed out on sun completely...when you go onto the balcony you look straight into the neighbours...the design and layout completely miss the point about where is the sun and where the views are (Key Informant 3).

Figure 4.13: An example of a 'gated community' in the Residential 2 Zone, South Dunedin. *Source*: Personal Collection, 2007.

Overall, despite the claimed advantages associated with intensification in North and South Dunedin, these results illustrate that there have been negative impacts associated with such development. This demonstrates the importance of considering the impacts that proposed developments are likely to have on a given area, taking into consideration the local characteristics of that area. These impacts are likely to

influence the way that intensification is received by residents. The following section outlines the local acceptability of intensification and its impacts as perceived by key informants.

4.9 The Local Acceptability of Intensification

Despite there being several negative impacts associated with residential intensification, most key informants believed these to be acceptable for the local population. The main resistance to residential intensification appears to come from the older generations and, within North Dunedin, residents who live on the boundary of the student area:

> The disputes mostly come around the periphery where the student accommodation starts to creep into the hill suburbs and up North East Valley where people are living with families...and they are to some degree unhappy about the increase in density of students around them (Key Informant 5).

This quotation suggests, that the increase in dwellings has lead to an increase in activity due to a greater density of students, that is relatively unacceptable for neighbouring residents.

One key informant argued that the acceptability of residential intensification is context specific and related to societal expectations. An increase in density in the Dunedin context is a relative term because:

> Dunedin is not a densely populated city by any sort of global standard. There is a lot of debate about how much density should be allowed...there is always going to be a threshold. The threshold really relates to our societal expectations rather than any real number of people per square km. Intensification works very efficiently but it is not what we expect and, therefore, as New Zealanders we find it quite difficult (Key Informant 5).

Therefore, the acceptability of intensification depends on 'how far you expect your neighbours to be and how much space you expect to have' (Key Informant 5). To further illustrate this point, it was argued by most key informants that different types of intensification in Dunedin are received differently by different nationalities. Key Informant 4 noted that international students in North Dunedin prefer to live in

complex style buildings whereas tenants of New Zealand origin prefer to live in stand alone dwellings. It was argued by Key Informant 5 that residential intensification needs to be culturally specific and based on our cultural expectations. If development goes beyond that then people start to feel uncomfortable. 'We are taught that every culture has there own personal space distance and ours is quite large, whereas in Asian cultures it is tiny. We translate that into our buildings' (Key Informant 5).

With regard to the physical aspects of developments, key informants argued that the most important aspects for residents are quality, warmth, proximity to services and facilities and bedroom size. One key informant also noted that 'from an anecdotal perspective and some of the annual plan submissions, the matters that have been raised point to car parking and the loss of heritage' (Key informant 7).

Most key informants agreed that North Dunedin is garden poor. Key informants highlighted that residents within both North and South Dunedin find having little or no on-site green space acceptable, and are often willing to compromise green space for car parks. Several key informants noted that the lack of green areas is relatively acceptable for residents, particularly in North Dunedin, because residents have very good access to public open space and green areas throughout the city. Furthermore, one key informant argued that students are willing to trade off open amenity space for accessibility to services and facilities. Evidence to support these arguments is illustrated in Table 4.8:

Table 4.8: Key Informant responses regarding the loss of open amenity space.

Key Informant Number	Quotation
Key Informant 1	'It is nice to be able to provide green space but you cannot do that successfully with a small area. If you wanted to go into a nice outdoor environment in Dunedin then you do not have to go very far at all, its phenomenal.'
Key Informant 2	'I guess that is the other thing that is impacted on by intensification is what we call open amenity space which is the amount of open outdoor non-paved area which naturally has suffered a bit as the area has intensified. It is an interesting area, North Dunedin, it is garden poor compared to your more suburban style settings. But when you look around it has fantastic public open space in terms of the gardens, the town belt and sports fields, so they are quite well off.'
Key Informant 2	'Students in those areas are very happy to trade off not having that green space for having proximity to the campus and that was the main thing for them, living close by.'

As stated previously, several key informants argued that the aspects that residents are most concerned about are privacy, views and sunlight, and if a development is designed to maximise these, then it will be acceptable for the local population. Key Informant 3 noted that if intensification is to be successful the developer needs to:

> Design so that you are maximising the sun, the views, and the privacy for everybody. Those are the things that everybody wants. Technically everyone wants to live on the top of the hill with all day sun so that they are private and have good views. When you are doing intensive development you need to think about how you place your buildings, how you have designed them, your roof shapes and angles, where you put your tall buildings and where you have your lower ones. That is critical to being successful (Key Informant 3).

When asked whether intensification has been accepted differently within North and South Dunedin, Key Informant 8 argued that:

> Many of the developments out there [in South Dunedin] are quite reasonable developments. It is because if they do not make them reasonable then they will not sell, so they are reading the market. You do not need the stringent rules in the district scheme, it is almost self policing. In North Dunedin many students would move in and then not like it. But when they were ready to move out there would be somebody else ready to move in (Key Informant 8).

Residential intensification was argued by several key informants to be more acceptable within South Dunedin because it is associated with better developments. Key Informant 8 noted that developers have to be more conscious about the market they are catering for in South Dunedin as, given that residents generally own their home, they are more committed to their neighbourhood.

In summary, although it is clear that there are negative impacts associated with intensification, the key informant interviews suggest that some of these are relatively acceptable for residents. This illustrates the importance of understanding what it is that residents find acceptable when developing policy to guide future intensification. The acceptability of this change is dependent on the quality of the housing produced and integration into the existing physical environment. Furthermore, the acceptability of intensification in the residential environment varies as a result of people's perceptions and experiences of the process and its impacts. To be acceptable, intensification needs to bring together the qualities and atmosphere that residents' value highly.

4.10 Conclusion

Overall, the key informant interviews have demonstrated why the arguments surrounding the claimed benefits of intensification are controversial. The findings suggest that there are benefits to be gained from intensification and that the impacts of such development have been relatively well received. However, if Dunedin is going to use intensification as a possible focus for moving towards a more sustainable urban form there are a number of issues and options that need to be addressed and applied to best manage the process. It appears that in the Dunedin context the market is the biggest influencing factor with regards to the type, quality and design of developments. This said, the outcomes of the process cannot be left entirely to the private sector to determine but must be guided by appropriate planning rules and policy.

The following chapter presents the results from the residential survey undertaken as part of this study. The results in this chapter and Chapter 5 are then discussed with reference to the research objectives and the academic literature in Chapter 2.

5
Results: Research Survey

5.1 Introduction

This chapter presents the results of the residential survey undertaken as part of this research. It focuses on addressing the second research objective to '*identify the impacts of residential intensification in Dunedin and the local acceptability of these*.' Specifically, this research utilises North and South Dunedin as case studies to address this objective. The demographic characteristics of the survey sample are compared with the wider population of North and South Dunedin to determine how representative the sample may (or may not) be. The quantitative results are presented, looking first at respondents' current housing choice and their overall satisfaction with their neighbourhood. The impacts of residential intensification, as perceived by survey respondents, are then presented and the acceptability of these impacts outlined. Where relevant, respondents' answers to open-ended questions are offered to provide additional insights.

5.2 The Survey Sample

As noted in Chapter 3, a residential survey was one of two methods of primary data collection for this research. A total of 100 surveys were completed, 50 in North Dunedin and 50 in South Dunedin. Before presenting the results of this research, it is first necessary to profile the survey respondents. Obtaining the background information and personal characteristics of respondents' provides the researcher with an insight into the respondents who took part in this research. Furthermore, it is important to determine how representative the survey sample was of the wider population in the two case study areas.

The gender of survey respondents was similar across the two case study areas, with the proportion of male and female respondents being in favour of females (Figure 5.1). The percentage of male survey respondents was 38% in North Dunedin and 40% in South Dunedin, less than that of both the wider North Dunedin (44%) and South Dunedin (44%) populations. Given this, the percentage of female survey respondents

was 62% in North Dunedin and 60% in South Dunedin, more than that in both the wider North Dunedin (56%) and South Dunedin (56%) populations. However, overall the proportion of male to female survey respondents reflects that of the North and South Dunedin populations generally.

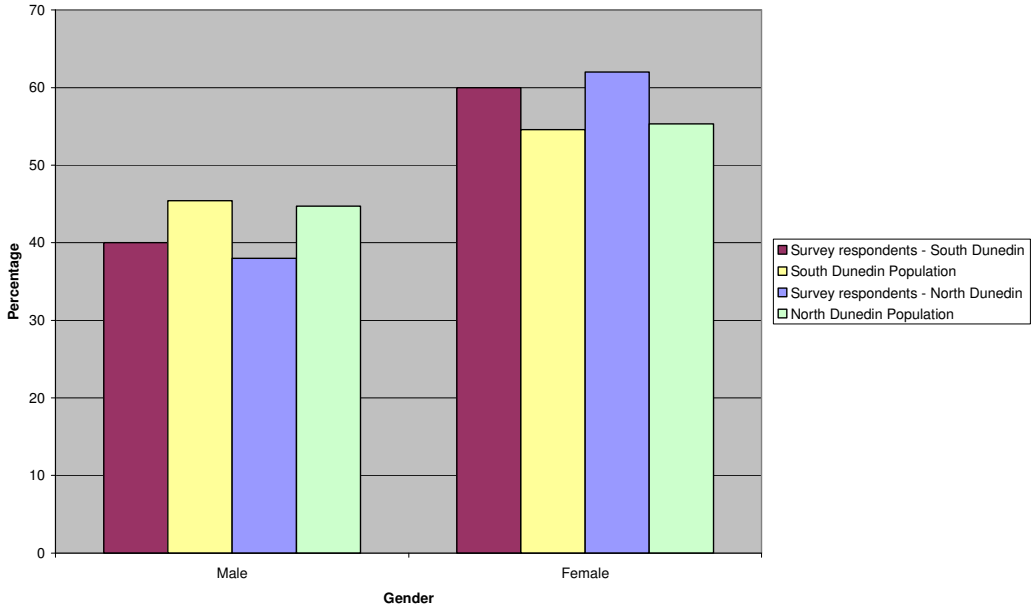

Figure 5.1: Gender of survey respondents and the wider North and South Dunedin populations.

In contrast to the consistent gender slip, the age of survey respondents shows a greater variance between these two areas. Figure 5.2 illustrates the age distribution of survey respondents. While the majority of respondents from South Dunedin were from the 60+ age group, respondents from North Dunedin were younger, with the greatest proportion being in the 16-19 (44%) and 20-24 (52%) age groups. This reflects the popularity of North and South Dunedin for these residents, as discussed in Chapter 4. It is the older population that generally reside in South Dunedin because of its close proximity to services, facilities and shops. It is the younger population who enjoy living in North Dunedin because of its close proximity to the University, Polytechnic and other students. The age distribution of respondents in South Dunedin reflects the higher proportion of residents aged 60+ in the wider South Dunedin Population (40%). However, this is vastly exaggerated in the survey sample (70%). This may be due to a greater proportion of residents aged 60+ living in new medium density housing, whereas the younger residents, reflected in the wider South Dunedin population, generally occupy the older housing in this area. These older dwellings

were generally not part of this research. The age distribution of respondents in North Dunedin is more consistent with the age distribution reflected in the wider North Dunedin population. This is likely to be due to a large concentration of people being in the two younger age groups in this area, whereas there is a greater divergence in age groups in South Dunedin generally. Overall, the survey sample reflects the trend in the wider populations of North and South Dunedin. However survey respondents in South Dunedin were significantly older.

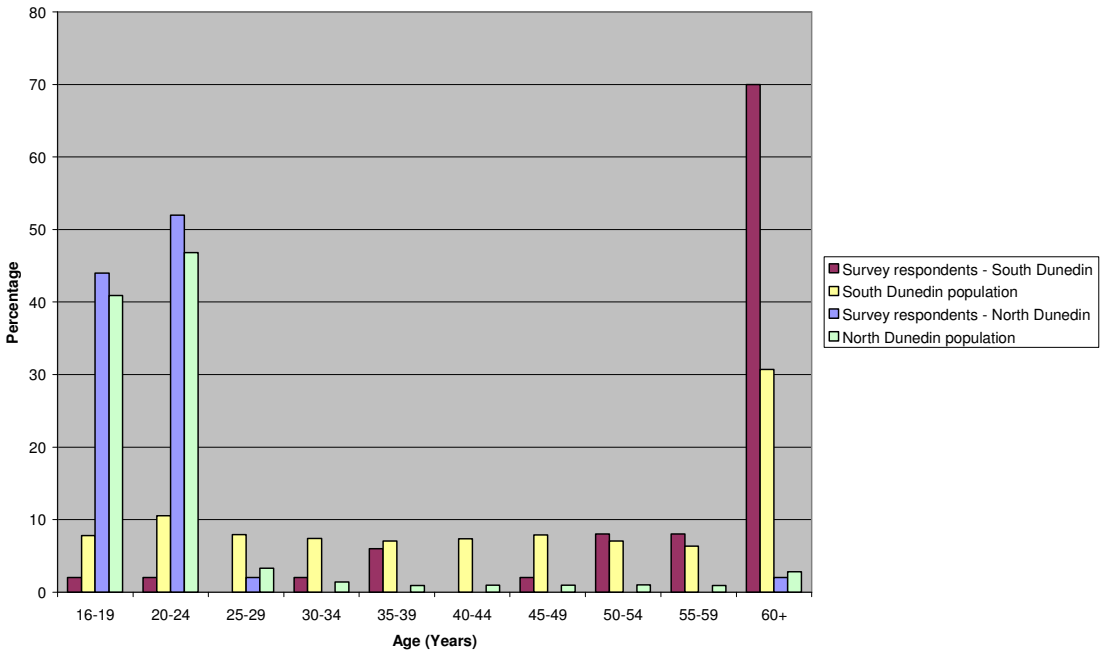

Figure 5.2: Age distribution of survey respondents and the wider North and South Dunedin populations [1].

It was also important to gain an insight into survey respondents' current housing situation. Figure 5.3 illustrates respondents' household size in North and South Dunedin and the wider population of these areas. It shows that most respondents in South Dunedin live in a two-person household while most respondents in North Dunedin live in a five or six-person household. Although the survey sample reflects the household size of North and South Dunedin generally, this representation is not as strongly as was expected. In South Dunedin, the survey sample comprised a higher proportion of two-person households and a lower proportion of one person households than the wider South Dunedin population. In North Dunedin a greater proportion of five and six-person households were surveyed than is in the wider

1. Ethical approval for this research was given for participants 16 years and over. The age category for the Census of Population and Dwellings 2006 is 15 – 19. The figures for the youngest age group reflects this, 16-19 for survey respondents and 15-19 for the wider population.

North Dunedin population. This may be due to the fact that a lot of new developments in North Dunedin have a larger number of bedrooms than the older dwellings in the area.

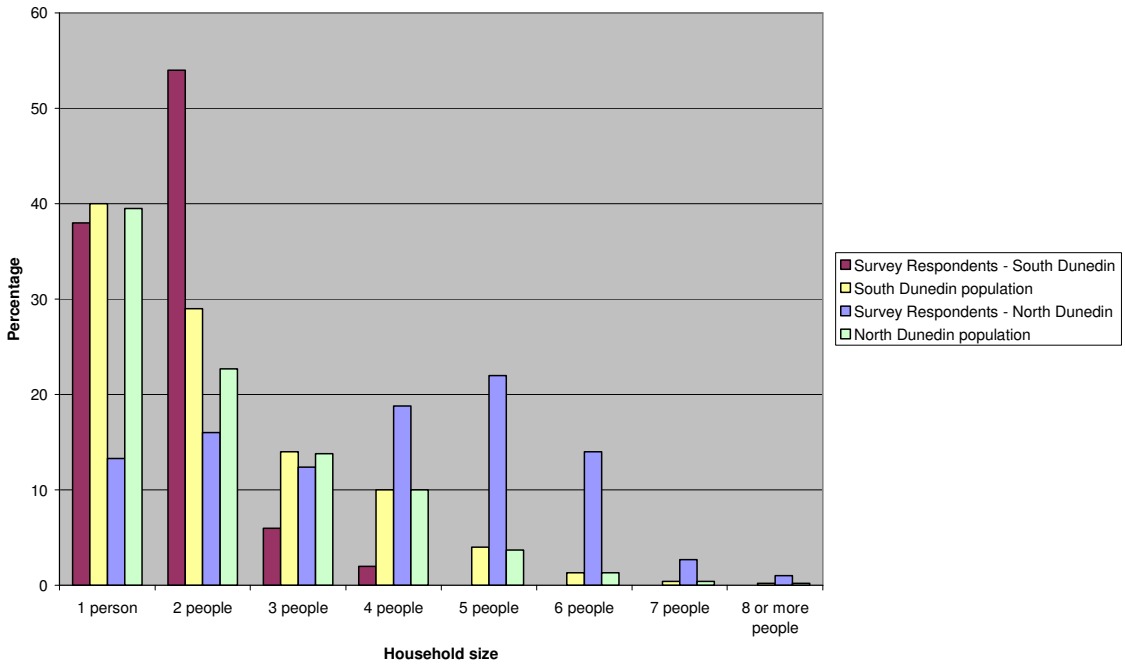

Figure 5.3: Household size of survey respondents and the wider North and South Dunedin populations.

There is a significant difference in housing tenure between the two case studies. The majority, 80%, of those in South Dunedin own their home while 98% of those respondents from North Dunedin rent the property they currently live in. It is likely that those in South Dunedin, who predominantly own their home, are more concerned about the impacts of intensification. In contrast, those in North Dunedin may find intensification and its impacts relatively more acceptable because they are generally not committed to the area for the long-term.

The contrasting characteristics of the two case studies is further demonstrated when the length of time respondents have lived at their current address is compared. Figure 5.4 illustrates the length of time survey respondents and the wider North and South Dunedin population have lived at their current address. It shows that most survey respondents in North Dunedin have lived at their current address less than six months. The length of time that respondents in South Dunedin have lived at their current

address is more varied. These findings are consistent with those for the wider population of North and South Dunedin. However, the proportion of the South Dunedin population who have lived at their current address for more than 10 years is greater than the proportion in the survey sample. Given that this research focused on relatively new developments this result is not surprising. These results would also suggest that respondents in North Dunedin, in contrast to those in South Dunedin, may find it somewhat difficult to identify the impacts of intensification as they have not seen their neighbourhood change over a significant period of time. They were, however, able to compare their current neighbourhood with their previous one.

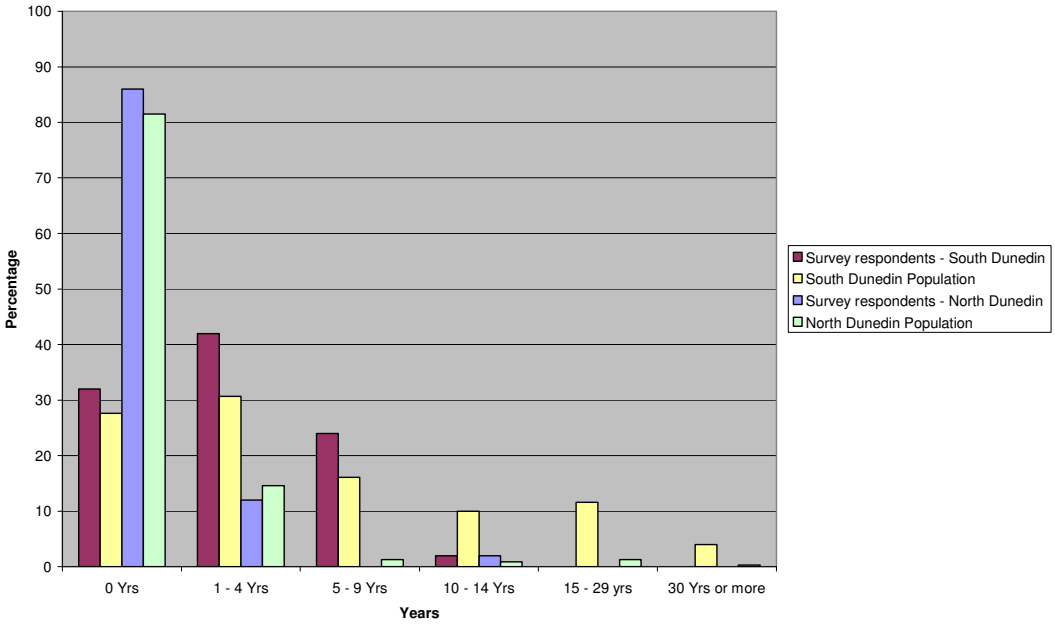

Figure 5.4: Length of time at current address, survey respondents and the wider North and South Dunedin populations.

Overall, the survey sample is relatively representative of the wider North and South Dunedin populations when compared with the statistics for these areas. The variation in characteristics between the two case study areas is likely to provide contrasting results. Thus, while the survey findings are presented with the view to informing planning policy for Dunedin as a whole, it must be emphasised that the findings only relate to this specific survey sample, and specifically to each case study.

5.3 Respondents' Current Housing Choice

In order to examine the impacts and acceptability of residential intensification in North and South Dunedin it was helpful to identify the type of neighbourhood respondents' lived in previously. Furthermore, it was helpful to determine the factors

which influenced residents in their current housing choice and hence their residence in a medium density neighbourhood.

Figure 5.5 illustrates the type of neighbourhood that residents lived in prior to their current one. Interestingly it shows that the majority of respondents in South Dunedin lived in a neighbourhood predominantly comprised of single dwellings on a site. Thus, most of these respondents lived in a neighbourhood that has a lower density than their current dwelling. This was expected given the age of respondents in this zone. These results suggest that respondents should be able to adequately compare their current neighbourhood with the one they lived in previously and hence identify the impacts of intensification and offer an opinion about the acceptability of these.

In contrast, 84% of respondents in North Dunedin lived in either a Hall of Residence or a medium density neighbourhood with town and terrace houses, similar to the one they currently live in. Given that the majority of respondents in this area are students, it is not surprising that most lived in a similar neighbourhood prior to their current one. Consequently, these respondents may have found it more difficult to identify the impacts of intensification by comparing their current neighbourhood with their previous one.

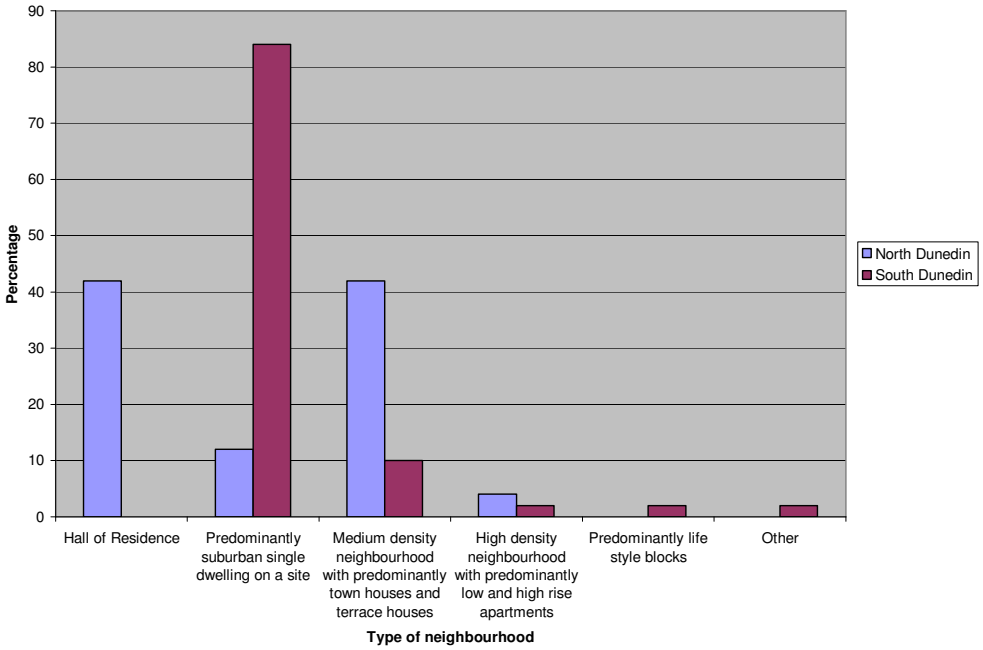

Figure 5.5: Type of neighbourhood survey respondents lived in previously.

When asked how long residents planned on living at their current address the results differed considerably between the two case study areas. The majority of residents within North Dunedin plan on living at their current address for less than a year. Most residents in South Dunedin planned on living in their current home for the medium-term and have no intention of moving. Respondents were also asked what factors influenced their present housing choice and were presented with a number of factors that were then ranked. Figure 5.6 illustrates the importance of factors that influenced survey respondents in North Dunedin to live at their current address. It shows that proximity to services, the quality and design of the building, safety and security and lifestyle choice were the most important factors when making decisions about their current home. This is not surprising given the demographics of respondents and their situation as students. A good environment to bring up children, a good investment and proximity to public transport were identified as being the least important factors when respondents were making decisions about their current home. The first two of these are, again, unsurprising as most respondents are relatively young, without children and most rent their property. However, it was thought that being close to public transport would have been more important for respondents, although given their proximity to the University, Polytechnic and the centre of town for walking and cycling, maybe this is not as important as was first thought.

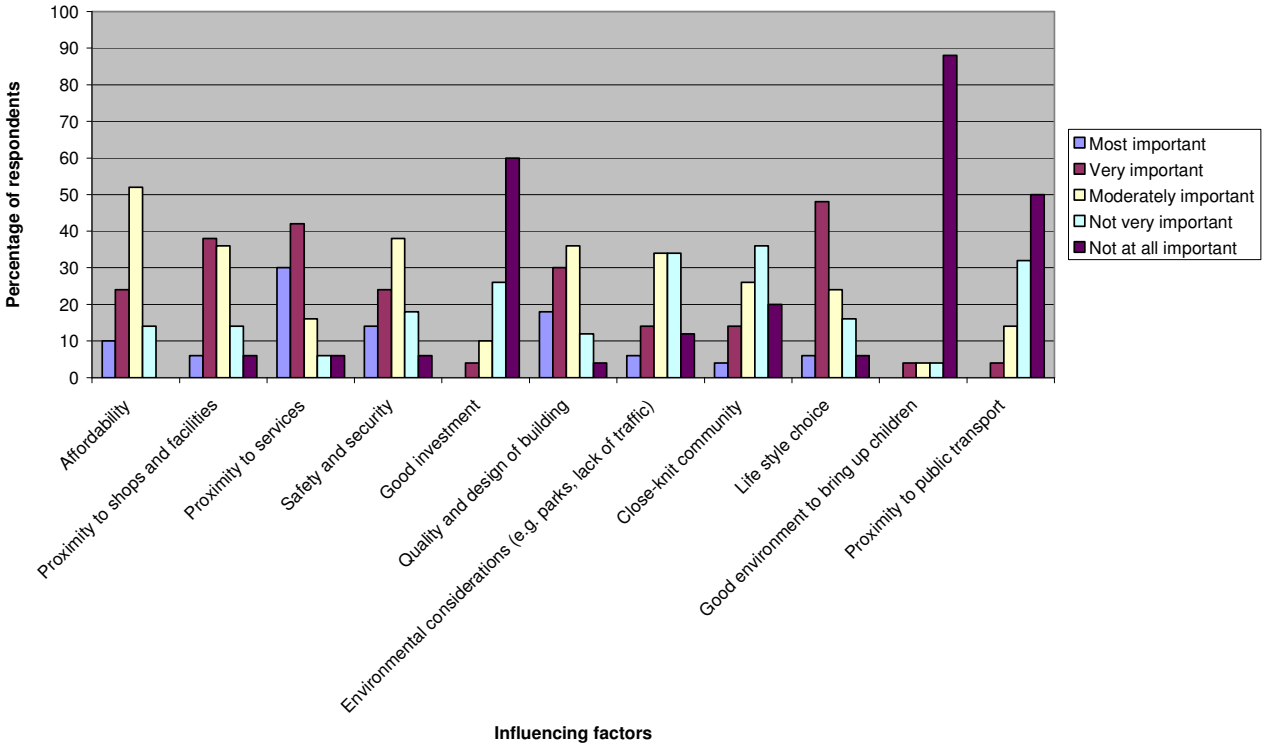

Figure 5.6: Importance of factors influencing present housing choice: North Dunedin respondents

Figure 5.7 illustrates the level of importance of a number of factors influencing survey respondents' decision to live at their current address in South Dunedin. It shows that respondents indicated proximity to shops and facilities, proximity to services, the quality and design of the building and a good investment as the most important factors when respondents were making decisions about their current home. A good environment to bring up children, a close-knit community and proximity to public transport were identified as being the least important factors when making decisions about their current housing choice. This demonstrates that respondents have chosen to live in their current home specifically for the advantages that their place of residence provides in terms of accessibility. However, it was not important for respondents to be close to public transport or to live in a close-knit community, somewhat surprising given the age of respondents. It was thought that these might have been considered more important as older people tend to value the social aspects of their neighbourhood and the safety and security this creates. It was also thought that being close to public transport, as residents become less physically able and more reluctant to use a private motor vehicle, would be considered more important.

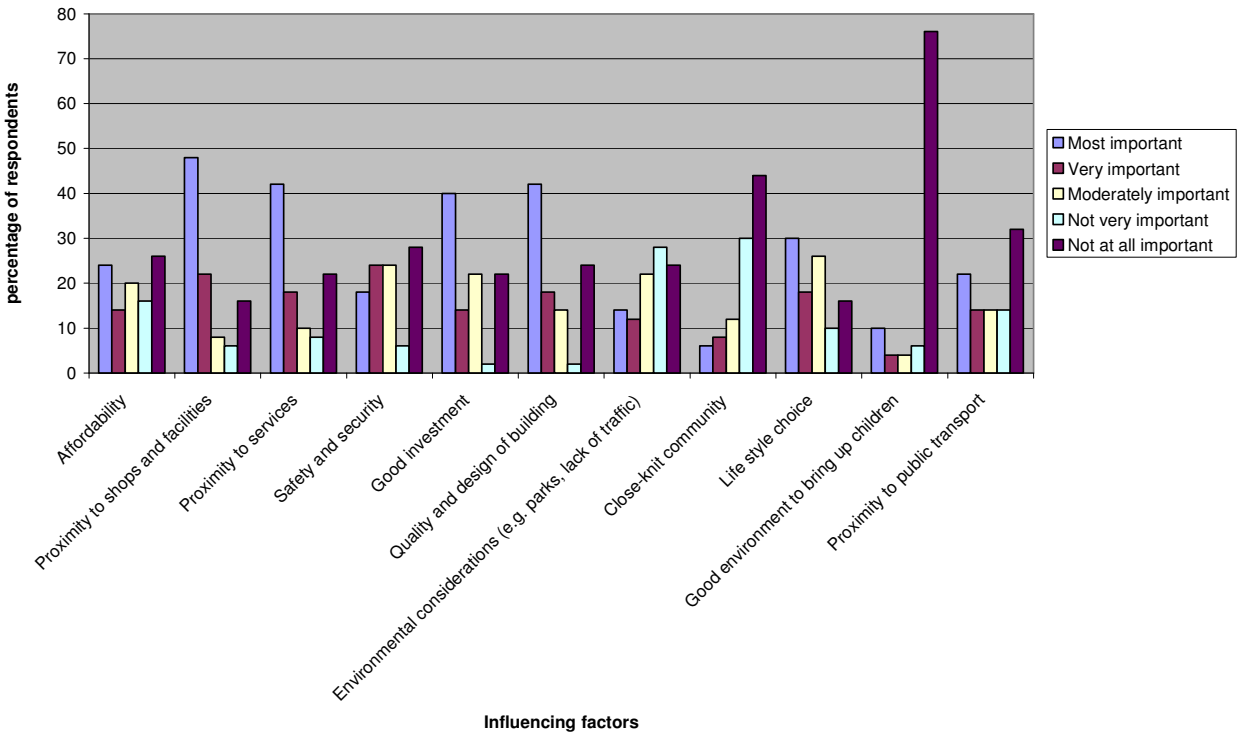

Figure 5.7: Importance of factors influencing present housing choice: South Dunedin respondents.

These results illustrate that the factors that are the most important for respondents when making decisions about their current housing choice appear to be relatively similar in both North and South Dunedin. A number of those factors that are the least important in their current housing choice also appear to be similar. This is somewhat surprising given the very different demographic characteristics of residents in the two areas. However, respondents in South Dunedin seem to be more certain about why it was that they choose their current home. This may reflect the respondents' tenure choice and the period of time they plan on staying at their current address. Most respondents in North Dunedin are students with no intention of inhabiting their current area of residence long term. Respondents in North Dunedin were generally more concerned about their proximity to University, Polytechnic and other students than factors that would influence their decision if they were to be in the area long-term.

Respondents were asked to identify the most positive aspects of living in their neighbourhood. Table 5.1 illustrates the results for respondents in North Dunedin. Accessibility was identified as the most positive aspect for respondents. Respondents specifically stated that proximity to the University was the single most positive

characteristic of living in their neighbourhood. Residents also value being close to the centre of town and recreation facilities. The social aspects of having people around who are also students and have similar interests was identified as a very positive aspect of respondents' neighbourhood. Furthermore, living in a dwelling with good quality design and construction and a quiet neighbourhood were valued highly by respondents. These results illustrate that medium density housing in the North Dunedin suits the circumstances of those living there who value accessibility and a close student community highly.

Table 5.1: The positive aspects of respondents' current neighbourhood, North Dunedin

	Aspect	No. of respondents
SOCIAL	A very social environment	15
	Student community	10
	Get to meet people and make friends easily	2
	Diversity of people in the neighbourhood	2
	Open door policy with everyone in the complex	2
	Nice living with people of a similar age	1
ENVIRONMENTAL	Quiet	9
	Plenty of sunlight	2
	Privacy	1
PHYSICAL & NEIGHBOURHOOD	Good quality and design of building	10
	Tidy neighbourhood	1
ACCESSIBILITY	Proximity to University	39
	Close to the centre of city	19
	General accessibility to everything	11
	Close to the recreation facilities	9
OTHER	Affordability	4
	Landlord's responsiveness	1

When asked to identify the negative aspects of their current neighbourhood, respondents in North Dunedin found this somewhat easier compared with those in South Dunedin. The most negative aspects related to noise, specifically neighbourhood and traffic noise. Crime, vandalism, litter and broken glass were also identified as negative aspects of respondents' current neighbourhood. Again, given that this is a student community these results are not surprising.

Table 5.2 illustrates the results for respondents perceptions of the most positive aspects of their current neighbourhood. South Dunedin. Similar to the results for North Dunedin it shows that respondents indicated accessibility as the single most important advantages of their current residence. Reasons given include the ability to readily access shopping, facilities and services. Many respondents noted that medium density housing suits their stage in life. Living on the flat and having a small, low maintenance section were perceived to be two of the most positive aspects of respondents' neighbourhood. Furthermore, respondents value the social aspects of their neighbourhood highly. These results demonstrate that medium density housing in South Dunedin is popular with those who value the things identified below, most notably accessibility, living on the flat and a close community.

Table 5.2: The positive aspects of respondents' current neighbourhood, South Dunedin

	Aspect	**No. of respondents**
SOCIAL	Nice neighbourhood	14
	Handy to people for security reasons	3
	Good mix of people	4
ENVIRONMENTAL	Like living on the flat	17
	Close to the sea/beach	5
	Plenty of sun	3
	Privacy	3
	Don't rely on car as much	2
	Quiet and peaceful	2
PHYSICAL & NEIGHBOURHOOD	A lot less work to do on section	6
	Good quality home	4
	Design of home suits older people	1
	Off street parking therefore there is less vandalism	1
ACCESSIBILITY	Close to services and facilities	19
	General accessibility to everything	18
	Within walking distance to shops	16
	Handy to public transport	6
	Good access to family/grandchildren	4
	No need to move in future	1
OTHER	Affordability	2
	Good investment	1

Respondents in South Dunedin were then asked to identify the negative aspects of their current neighbourhood. Respondents in South Dunedin found it difficult to identify these and were generally satisfied with all aspects of their current neighbourhood. Those aspects that were identified related to noise, a lack of sunlight and vandalism. However, no more than seven respondents believed that any of these were negative aspects of their current neighbourhood.

Respondents overall satisfaction with their current neighbourhood differed between the two case study areas as Figure 5.8 illustrates. It shows that, overall, respondents exhibited a high degree of satisfaction with their neighbourhood. No respondent, in either area, was unsatisfied with their neighbourhood. However, respondents in South Dunedin appear to be more satisfied than those in North Dunedin. Given the results presented above, this is not unexpected. Although it was anticipated that those residents in North Dunedin would find intensification more acceptable because they have not made a long-term commitment to their neighbourhood, at first glance it appears that this may not be the case.

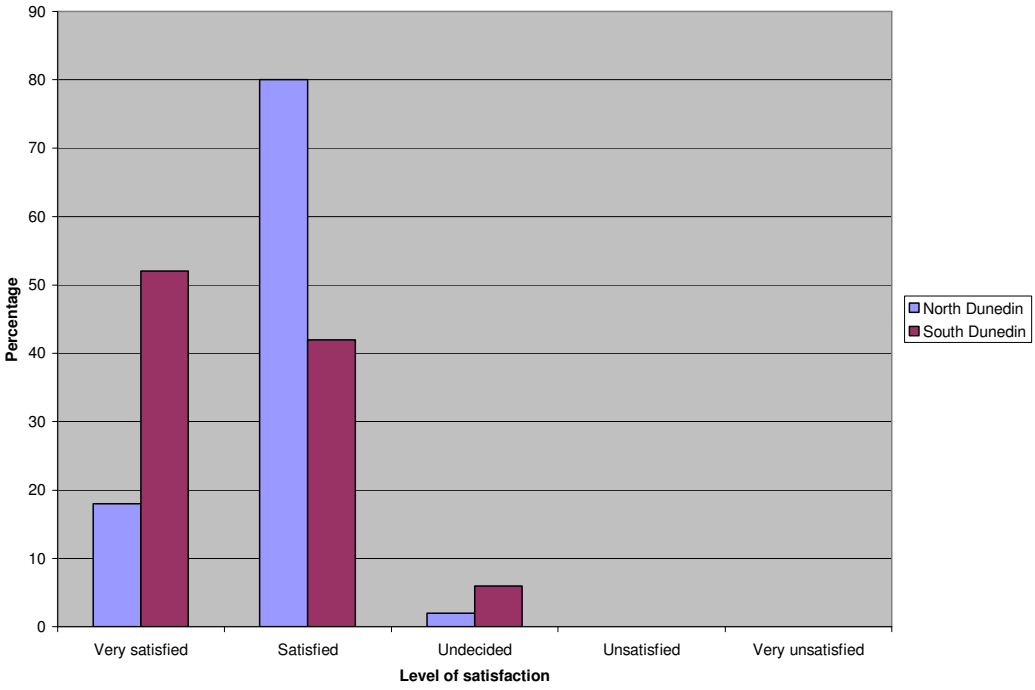

Figure 5.8: Overall satisfaction with their neighbourhood, North and South Dunedin respondents

Despite these results, given the choice, more respondents in North Dunedin (70%) said they would be likely to live in a similar medium density neighbourhood than

those in South Dunedin (58%). Respondents in North Dunedin exhibited a high degree of commitment to medium density living. Those respondents in South Dunedin who would live in a similar neighbourhood if they were to move in the future said they would do so largely because it suits their circumstances and stage in their life. They want a small section that is low maintenance and is close to services and facilities. Most of those respondents that said they would not move into a similar neighbourhood noted that this was because they would require somewhere where they could be cared for as they got older. Therefore, despite the fewer number of respondents' who said they would live in a similar neighbourhood in South Dunedin, respondents indicated that this was largely because they would become too old to live in a medium density neighbourhood not because they would not like to. Those respondents in North Dunedin who would live in a similar neighbourhood would do so for similar reasons as those in South Dunedin, largely because it suited their circumstances. Most respondents were students at the University and noted that they want to live in a dwelling that is close to shops, facilities and the University. Many respondents also noted that they enjoyed the social aspects of living in a medium density neighbourhood. Those who said they would not want to live in a similar neighbourhood if given the choice indicated that they would prefer more space. These results indicate that residents in the two case study areas would continue to demand medium density living in the future and would be suited for those in other stages of their life.

Overall, respondents in South Dunedin appear to have made a more informed decision about their current housing choice and had a clearer idea of the factors they considered in their decision making process. It appears that accessibility to shops, services and facilities is the most positive aspect of the respondents' neighbourhood in both case study areas indicating that residents are willing to live in an intensified area if it means having proximity to these. The results indicate that intensification has been received differently within the two case study areas. Overall, respondents in South Dunedin appear to be more satisfied with their neighbourhood than those in North Dunedin. This is somewhat surprising given the relatively short period of time that residents in North Dunedin reside there for. The following section specifically details the impacts and acceptability of intensification.

5.4 The Impacts and Acceptability of Intensification

This section presents the results of the residential survey that relate more directly to the impacts and acceptability of residential intensification. The perceived impacts of intensification are outlined and the acceptability of these impacts within the case study areas is presented.

Figure 5.9 illustrates the proportion of survey respondents in North and South Dunedin who believed that intensification has had an impact on their neighbourhood. The survey was designed to present respondents with various impacts which intensification may or may not have resulted in. Survey respondents were asked whether or not intensification or living in a higher density neighbourhood had resulted in the impacts presented in Figure 5.9. Respondents were asked to think about the changes in their neighbourhood over time or, if they had not been in the neighbourhood long enough to see the changes, to compare their current neighbourhood with their previous one.

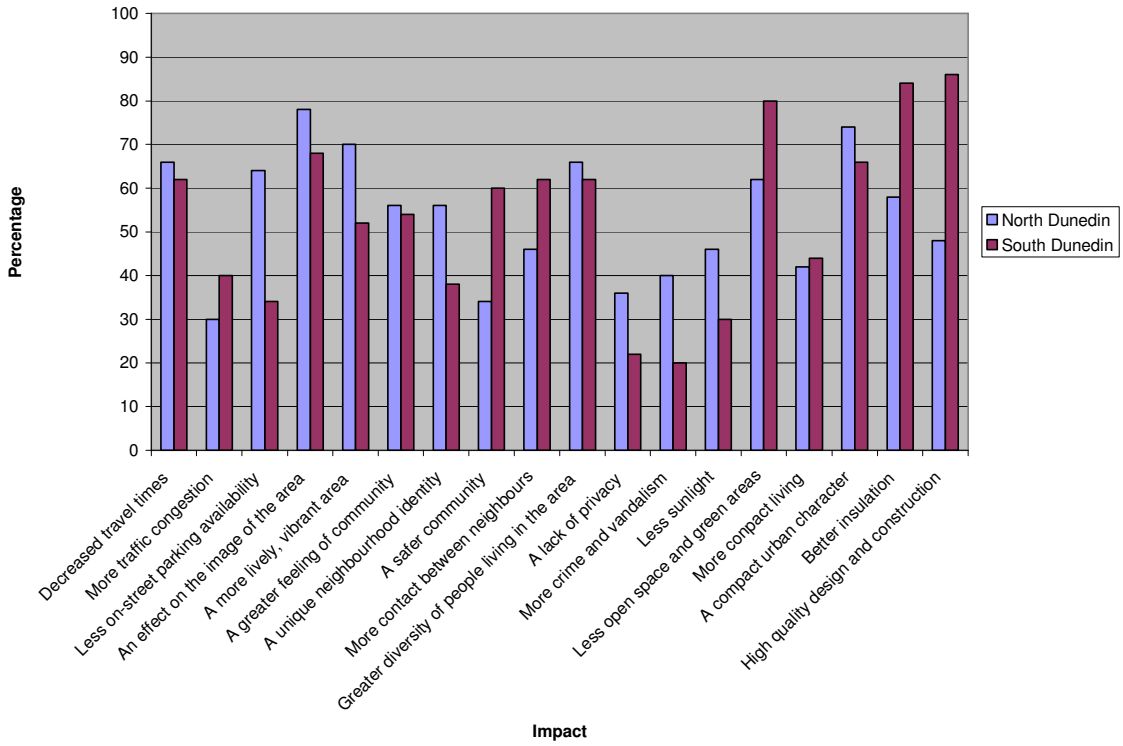

Figure 5.9: Proportion of respondents who believe that intensification has had an impact on the neighbourhood, North and South Dunedin.

Figure 5.9 shows that 80% or more of respondents in South Dunedin believed that intensification had resulted in the high quality design and construction of new buildings, better insulation and less open space and green areas. This differs with the most prominent impacts identified in North Dunedin where over 70% of respondents believed that intensification was having an impact on the image of the area, created the appearance of a compact urban character and had resulted in a more lively, vibrant area. The lowest proportion of respondents in South Dunedin believed that intensification had resulted in more crime and vandalism (20%), a lack of privacy (22%) and less sunlight (30%). The impacts that the lowest proportion of respondents in North Dunedin believed that intensification had resulted in were; more traffic congestion (30%), a safer community (34%) and a lack of privacy (36%). However, these figures for both case study areas are still substantial. The more positive impacts, however, appear to be more evident than the negative impacts in both North and South Dunedin. These impacts and their acceptability will be explored in the rest of this section.

5.4.1 Transportation

Over 60% of respondents in both North and South Dunedin believed that intensification had resulted in decreased travel times by private vehicle to work, town, facilities and services. Respondents were asked how beneficial this was for them, 71% of respondents in South Dunedin and 50% of respondents in North Dunedin said decreased travel times was very beneficial. This may reflect the close proximity of residents in North Dunedin to town, facilities and services who are more likely to walk or cycle to these. Furthermore, most respondents in North Dunedin are relatively young and many would not have access to a vehicle, therefore, they are more likely to walk or cycle. In comparison, those in South Dunedin are relatively further away from town, facilities and services and are probably more likely to drive to these. The age of residents in this area also means that most respondents would have access to a vehicle and some would not be physically prepared to walk or cycle to town, services and facilities.

Less than half of respondents in South Dunedin (40%) and North Dunedin (30%) believed that residential intensification had resulted in increased traffic congestion.

Figure 5.10 illustrates the acceptability of increased traffic congestion in these areas. It shows that over 50% of those respondents in North Dunedin who believed that intensification had resulted in increased traffic congestion were undecided about the acceptability of this. Respondents in South Dunedin were more divergent in their opinions; however, traffic congestion appears to be more acceptable in this area. This may suggest that traffic congestion associated with intensification has been more marked in North Dunedin. This may also suggest that there has been an increase in traffic congestion due to an increase in other activities in North Dunedin.

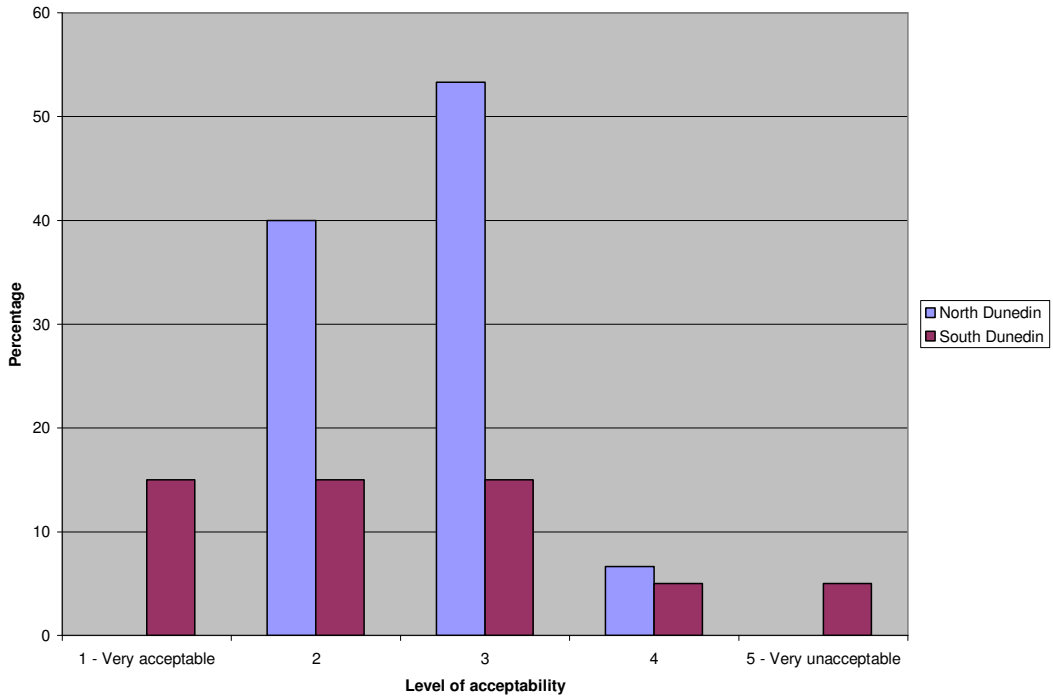

Figure 5.10: Acceptability of increased traffic congestion, North and South Dunedin.

A greater proportion of respondents in North Dunedin (64%) than those in South Dunedin (34%) believed that intensification had resulted in less on-street parking availability. Given the competing uses, such as the University, Polytechnic and the Dunedin Hospital, the pressure on on-street parking spaces is likely to be more prominent in North Dunedin. Figure 5.11 illustrates the level of acceptability with regard to less on-street car parking in the two case study areas. It shows that the loss of on-street parking is much more acceptable in South Dunedin than North Dunedin. Respondents in the South Dunedin noted that most households in this area usually only have one or two vehicles, which are largely provided for on site. Whereas, there

are potentially a lot more vehicles per household in North Dunedin, thus car parking issues would be more marked as a large proportion of residents need to look for parking spaces on the street.

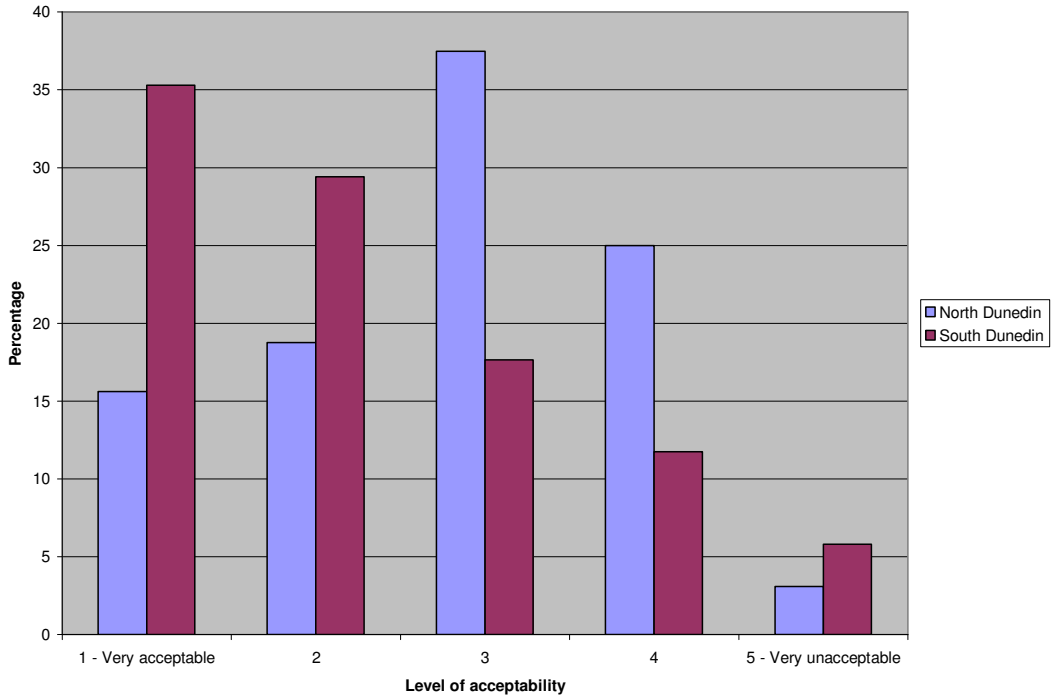

Figure 5.11: Acceptability of less on-street parking availability, North and South Dunedin.

These results illustrate that intensification has had both positive and negative impacts with regards to transportation. These results suggest that there are wider influences that need to be assessed to adequately determine the impact of intensification, particularly in North Dunedin. For example it is unknown how much of the increase in traffic congestion and less on-street parking availability is a consequence of intensification and how much is a result in changes in competing uses in North Dunedin. This indicates the importance of understanding and considering differences in local characteristics with regard to managing the intensification process.

5.4.2 Social

In South Dunedin, 52% of respondents believed that intensification had resulted in a more lively vibrant area, whereas the figure was 70% for North Dunedin. Given North Dunedin has a reputation for being lively it is not surprising that these respondents found their neighbourhood more lively and vibrant. Table 5.3 illustrates

the importance of a lively, vibrant area for respondents. It shows that it is relatively important for respondents in both case study areas. Most of those in South Dunedin are retired and said they value a lively, social area highly. Most of those in North Dunedin perceive a lively, vibrant neighbourhood to be part of the student experience and therefore, value it highly.

Table 5.3: The importance of a lively, vibrant area, North and South Dunedin

A more lively, vibrant area	**Response (%)**				
	1 (very important)	2	3	4	5 (very unimportant)
North Dunedin	17	43	23	9	8
South Dunedin	27	35	19	15	4

When asked if residential intensification resulted in more contact between neighbours, 46% of respondents in North Dunedin and 62% of respondents in South Dunedin said that it had. Survey respondents expressed both positive and negative contact with their neighbours. Figure 5.12 illustrates the acceptability of this for respondents. It shows that in both North and South Dunedin the majority of survey respondents perceive more contact with neighbours to be very acceptable. Increased contact between neighbours appears to be more acceptable in South Dunedin however. In neither area was more contact with neighbours viewed as being very unacceptable.

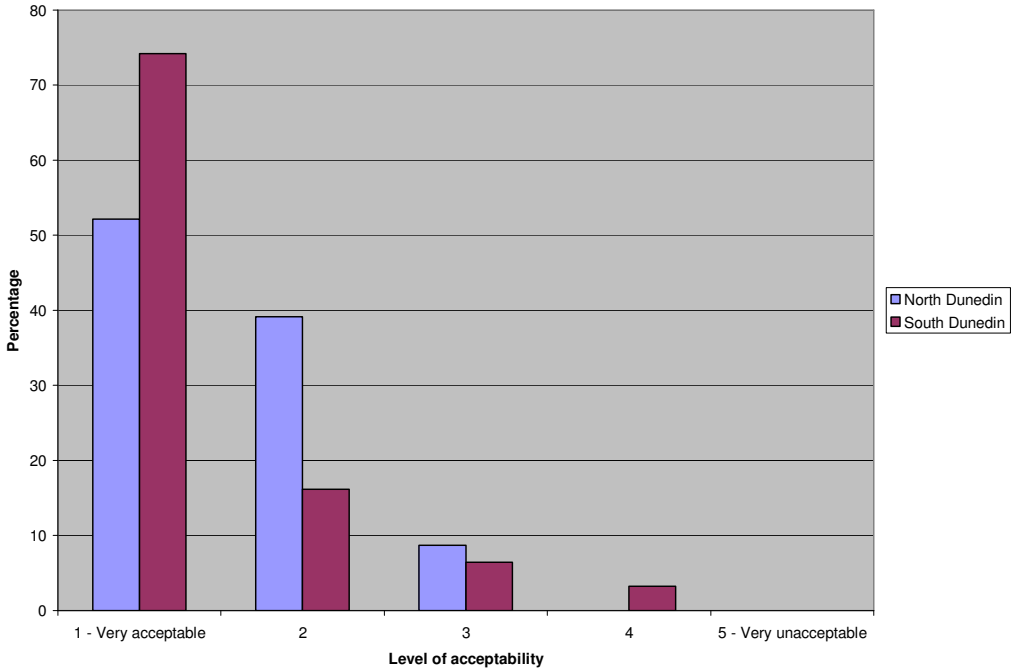

Figure 5.12: Acceptability of increased contact between neighbours, North and South Dunedin

Over 60% of respondents in both North and South Dunedin believed that intensification had resulted in a greater diversity of people in their neighbourhood. In both areas the acceptability of this was similar to that of having increased contact with neighbours, relatively acceptable in both. However, a greater diversity of people was again also more acceptable for those in South Dunedin.

These three impacts were all viewed positively by respondents; however, they are more acceptable for those in South Dunedin. This is somewhat surprising. Especially given that those in North Dunedin indicated that they valued the social aspects of the area they live in highly when identifying the positive aspects of their current neighbourhood. This indicates that North Dunedin may have reached a threshold with regard to the social aspects of intensification. It is also likely that the social environment created by intensification in North Dunedin is vastly different from that created in South Dunedin which would not be unexpected given the demographics of residents and social behaviour of students. This suggests that there has been a large increase in social activity as a result of intensification in North Dunedin.

5.4.3 Neighbourhood

When asked about the impacts of intensification, 78% of respondents in North Dunedin, and 68% of respondents in South Dunedin believe that residential intensification has had an impact on the image of the area within which they live. Respondents were then asked what type of image intensification had created. Figure 5.13 presents these results. It shows that 59% of those who thought that intensification was having an effect on the image of the area believed that it was having a very positive effect while only 3% of respondents believed that it was a negative effect. In contrast, over a quarter of survey respondents in North Dunedin who said that intensification had an effect on the image of the area believed that this was a negative effect. Overall, it appears that residents believe that intensification is having a more positive effect on the image of their neighbourhood in South Dunedin than North Dunedin. Given the recent concern about the design and quality of intensification in North Dunedin, this is not surprising. These results appear to affirm these recent concerns with many respondents identifying poorly designed and low quality buildings in their neighbourhood. However, a large proportion of respondents in North Dunedin indicated that new developments improved the image of their neighbourhood. Overall, these results demonstrate that residents believe that intensification can improve the image of an area.

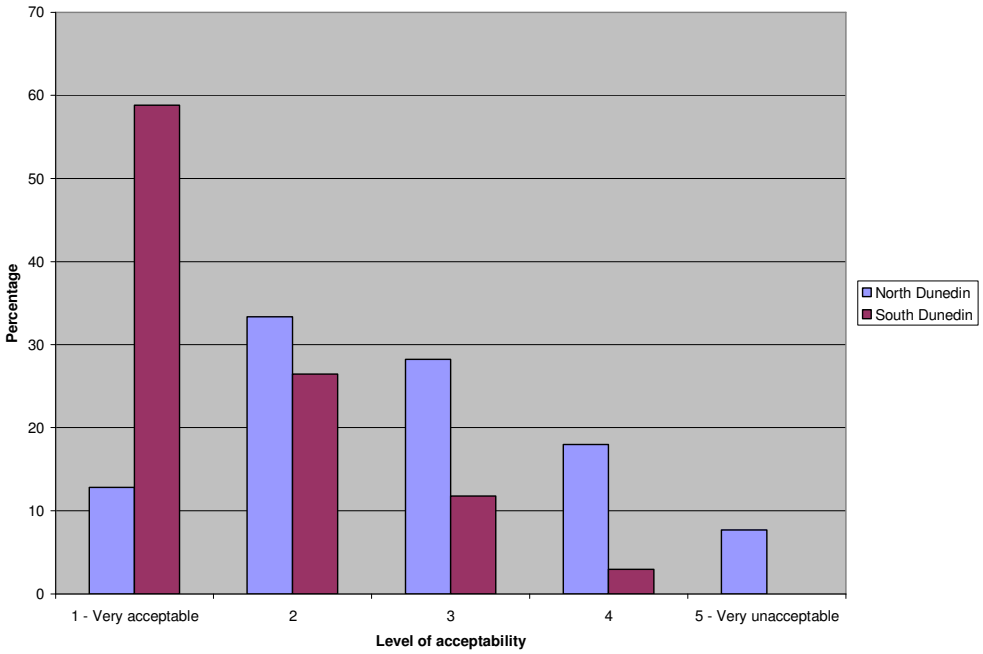

Figure 5.13: Perceived effect of intensification on the image of the neighbourhood, North and South Dunedin.

Just over half of respondents in North and South Dunedin (54% and 56% respectively) believed that intensification had resulted in a greater feeling of community. Table 5.4 illustrates the importance of living in a neighbourhood with a feeling of community. It shows that a greater feeling of community is markedly more important for those residents in South Dunedin. A number of respondents in North Dunedin dismissed the fact that a greater feeling of community might be important. Given that the majority of residents in South Dunedin are retired, it is understandable that they would value a greater feeling of community highly. This may be a consequence of their owner-occupation and a desire for acquaintanceship. It may also have life stage explanations, such as the possibility of a feeling of vulnerability at their age. The lack of concern for a feeling of community in North Dunedin may be because the wider North Dunedin area has a strong reputation of a student community and residents do not feel that individual communities within this are important for them. Furthermore, the demographic of the predominantly rental population in North Dunedin may be problematic for establishing community. Survey respondents in North Dunedin exhibited high rates of mobility which may disrupt the forming of community.

Table 5.4: The importance of a greater feeling of community, North and South Dunedin.

A feeling of community	**Response (%)**				
	1 (very important)	2	3	4	5 (very unimportant)
North Dunedin	25	28	36	11	0
South Dunedin	56	26	18	0	0

The majority of respondents, 74% in North Dunedin and 66% in South Dunedin, believed that residential intensification has resulted in the appearance of a more compact urban character. The degree of compactness is greater in North Dunedin compared with South Dunedin. This may explain why a greater proportion of respondents in North Dunedin believed that intensification had resulted in a more compact urban character. Figure 5.14 illustrates the acceptability of this impact. It shows that a compact urban character is more acceptable in South Dunedin than North Dunedin. Of the respondents in South Dunedin who said that intensification had resulted in a more compact urban character, 70% thought that this was very

acceptable while only 8% of those in North Dunedin thought that a more compact urban character was very acceptable.

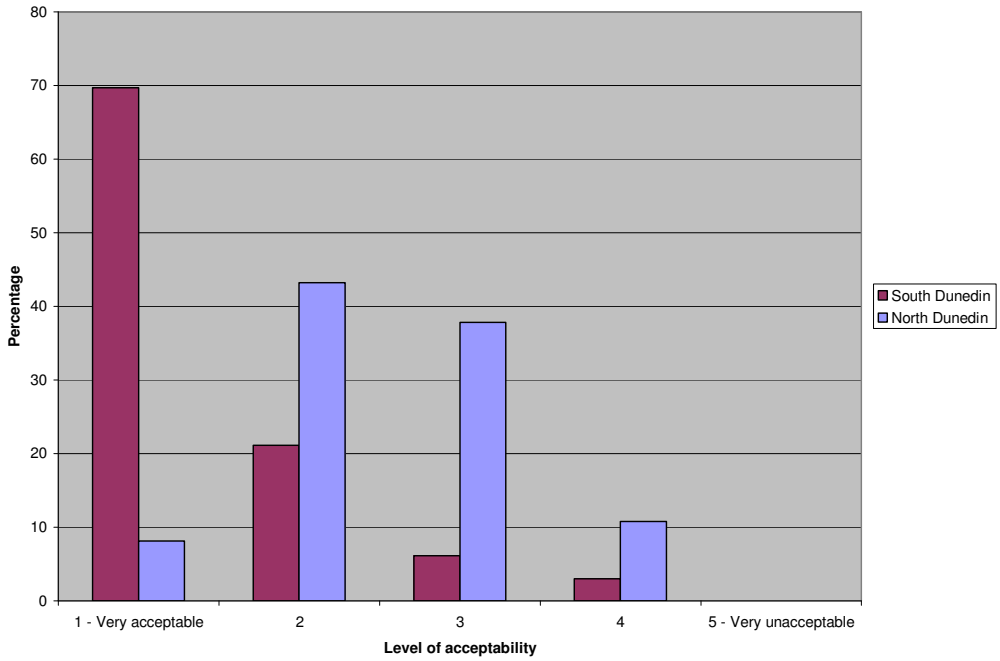

Figure 5.14: Acceptability of a compact urban character, North and South Dunedin.

The results illustrate that neighbourhood effects associated with intensification in the two case study areas have been received relatively positively by residents, however, more positively in South Dunedin. They also demonstrate that a feeling of community and a unique neighbourhood identity are more important for those in South Dunedin.

5.4.4 Activity and Safety

Respondents were asked whether intensification had resulted in a safer community. In South Dunedin, 60% of respondents believed it had, while in North Dunedin only 34% of respondents believed that their community had become safer with intensification. Personal safety concerns generally arose within the context of public space in respondents' neighbourhood. Many respondents in South Dunedin recognised that having more people in the neighbourhood increased their sense of security. This was the same for those in North Dunedin, only not to the same extent. Having a greater number of people around in North Dunedin may result in more objectionable student behaviour in the area during the evenings, thus reducing their sense of security. When asked how important a safe community is for respondents

most respondents believed that it was very important. However, a safe community appears to be a lot more important for those in South Dunedin (70%) than those in North Dunedin (53%). Given that those in South Dunedin are older and less able, relatively committed to their neighbourhood and probably have substantial personal possessions, this may explain why they value a safe community more highly than those in North Dunedin.

With regard to crime and vandalism, 40% of respondents in North Dunedin and 20% of respondents in South Dunedin believed that intensification has resulted in more crime and vandalism in their neighbourhood. Given the increasing number of people in North Dunedin are largely students, and the reputation of poor student behaviour, particularly during the evenings, this result is not surprising. Although a greater proportion of respondents in North Dunedin said that intensification had resulted in increased crime and vandalism, this impact appears to be more acceptable in this area.

The results suggest that intensification has resulted in the perception of a safer community in both North and South Dunedin. This appears to be more prominent in South Dunedin. This confirms the argument in favour of intensification that an increase in the number of people in an area increases the sense of safety and security in a community. The less optimistic results in North Dunedin may suggest that the increase in student numbers is having a negative influence on the safety and security in the area.

5.4.5 Physical

The results regarding whether respondents believed that intensification has resulted in better insulation within new buildings differ considerably between the two case study areas. Within North and South Dunedin, 58% and 84% of respondents respectively said that intensification had resulted in better insulation. Given the recent concern for poor quality buildings in North Dunedin, this is not surprising. The fact that most respondents in South Dunedin owned their home may also go a long way to explaining why new developments have resulted in better insulation. When asked about the importance of good insulation, although all respondents considered good insulation important, it appears to be more important for those living in South

Dunedin than those in North Dunedin, reflecting the relative importance of certain characteristics for different age groups.

With regard to good quality design and construction, the results also differed considerably between case study areas. While 86% of respondents in South Dunedin believed that intensification had resulted in the better quality and design of homes this figure was only 48% in North Dunedin. Again, this affirms the concerns about the quality and design of new developments in North Dunedin in recent years. Table 5.5 illustrates the importance of good quality design and construction. The results show that although most respondents believe that good quality design and construction is important with regard to intensification, it is more important for those living in South Dunedin than those in North Dunedin. Given the relative commitment and tenure choice of respondents to their neighbourhood in the two areas, this is to be expected. Furthermore, given the relative age of respondents in the two areas it may be that residents in North Dunedin are willing to live in dwellings that are not designed and constructed to as high a standard as those in South Dunedin and therefore are not ascribing these to as high a status as those in South Dunedin. Furthermore, given the numerous negative comments about the quality and design of developments in North Dunedin, this reinforces that residents in North Dunedin are looking for something different, notably location and proximity, and not because of a high standard these may or may not achieve.

Table 5.5: The importance of good quality design and construction, North and South Dunedin.

Good quality design and construction	**Response (%)**				
	1 (very important)	2	3	4	5 (very unimportant)
North Dunedin	50	33	17	0	0
South Dunedin	91	9	0	0	0

Less than half of respondents in both North Dunedin (42%) and South Dunedin (44%) thought that intensification had resulted in more compact living, that is, a reduction in the size of bedrooms and living areas. Given that many residents would have lived in

a relatively old home with big rooms previously it would be expected that their current home have smaller rooms. Furthermore, given that most respondents in South Dunedin are retired, they have chosen to live in a home with smaller rooms that requires less maintenance. Figure 5.15 illustrates the acceptability of more compact living as expressed by those respondents. It shows that more compact living is more acceptable in South Dunedin than North Dunedin. Over 45% of those who identified intensification had resulted in more compact living in South Dunedin believed that it was very acceptable. In contrast, over 45% of those who said that intensification had resulted in more compact living in North Dunedin were undecided about the acceptability of this. Again, given that the majority of those in South Dunedin have specifically chosen this characteristic in their current dwelling these results do not come as a surprise.

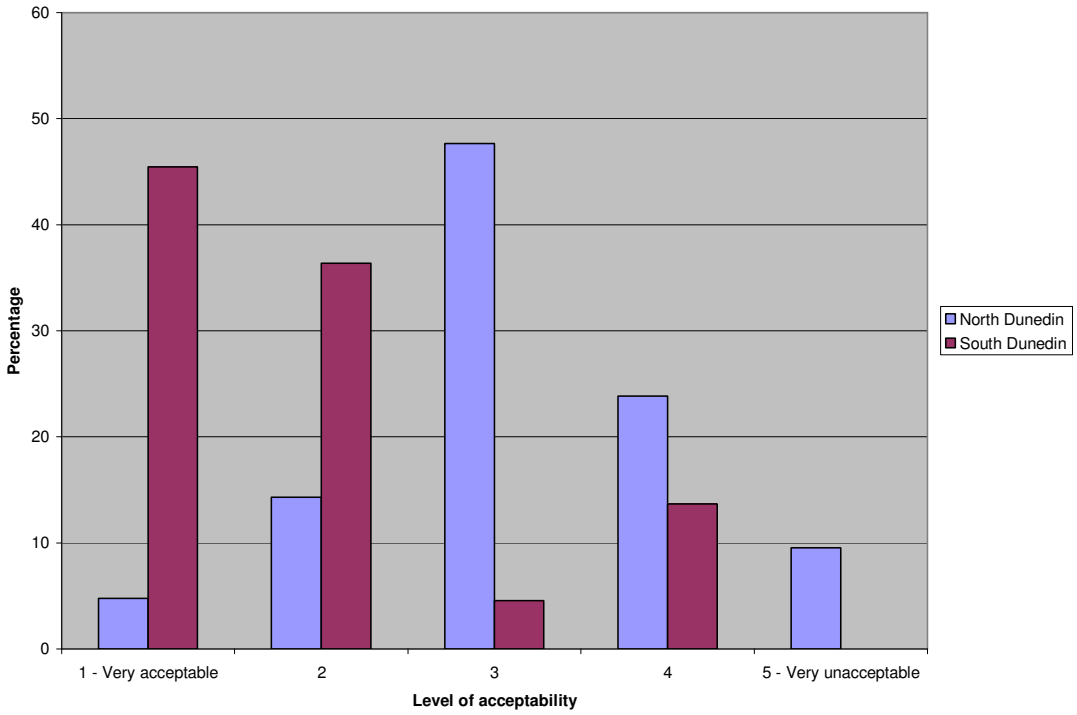

Figure 5.15: Acceptability of more compact living, North and South Dunedin.

These results show that intensification has resulted in both negative and positive impacts with regard to the physical aspects of new dwellings. They confirm the argument that more consideration needs to be taken with regard to the control of the quality and design of buildings in the North Dunedin. They also illustrate that certain aspects of intensification are relatively acceptable and desired by residents depending on their particular stage in life.

5.4.6 Environmental

The acceptability of the environmental impacts associated with intensification present some interesting findings. A significant proportion of respondents believed that intensification had resulted in a lack of privacy, 36% in North Dunedin and 22% in South Dunedin. Figure 5.16 illustrates the acceptability of a lack of privacy in the two case study areas. It shows that a lack of privacy is more acceptable in South Dunedin. However, over 44% of respondents who believed that intensification has resulted in a lack of privacy in North Dunedin were undecided about the acceptability of this. This indicates that older people may value privacy more than younger people and may be more concerned about the impact that intensification has on their privacy. Furthermore, internal noise was also an issue for respondents in North Dunedin. This could be interpreted as an acoustic invasion of privacy.

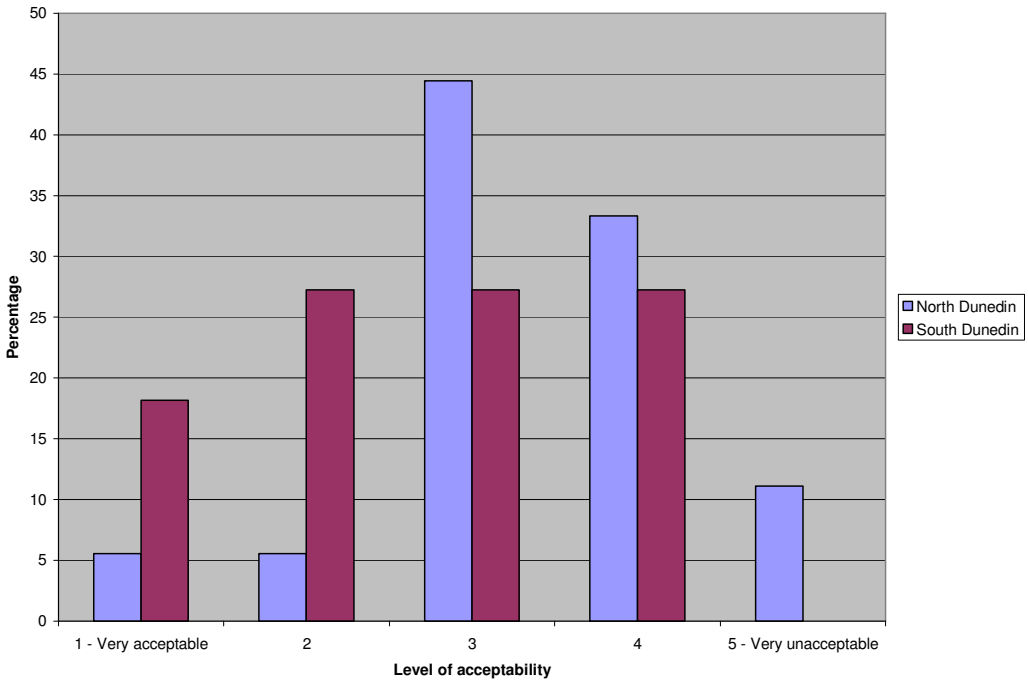

Figure 5.16: Acceptability of a lack of privacy, North and South Dunedin

With regard to sunlight, 46% of respondents in North Dunedin and 30% of respondents in South Dunedin believed that intensification had resulted in less sunlight on the property they owned or rented. This suggests that there are concerns surrounding the impact of intensification in North Dunedin, particularly the complex developments, on adjacent dwellings. Figure 5.17 illustrates the acceptability of less sunlight in the two case study areas. It shows that having less sunlight is more

acceptable in South Dunedin. Over 43% of respondents who said that intensification resulted in less sunlight in North Dunedin find this impact very unacceptable. This indicates that residents in North Dunedin may try to make more use of sunlight in their home as they generally have poorer heating relative to those in South Dunedin and therefore find a loss of sunlight unacceptable.

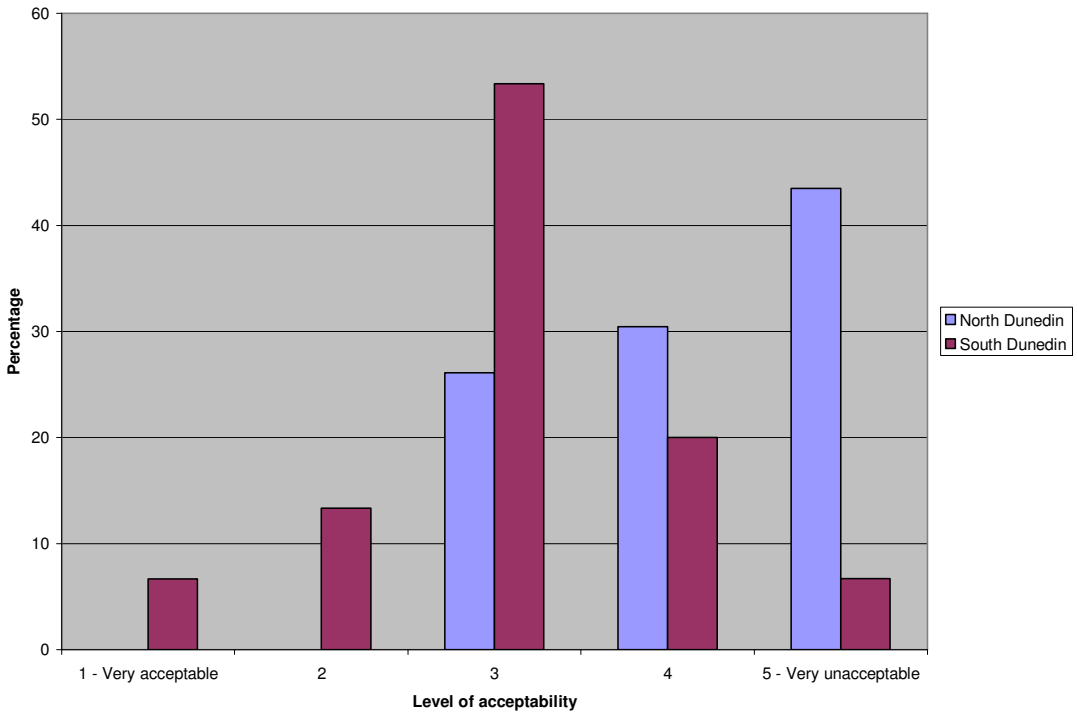

Figure 5.17: Acceptability of less sunlight, North and South Dunedin.

The majority of respondents in both North Dunedin (62%) and South Dunedin (80%) believed that intensification had resulted in less open space and green areas. Figure 5.18 illustrates the acceptability of less open space and green areas in the two case study areas. It shows that less open space and green areas is relatively acceptable for those in South Dunedin and relatively unacceptable for those in the North Dunedin. Over 70% of those who believed that intensification had resulted in less green areas and open space in South Dunedin found this very acceptable. Many residents in South Dunedin chose to buy a home with less open space and green area to reduce the amount of maintenance and upkeep that they were required to do. Over 45% of those who identified that intensification had resulted in less open space and green areas in North Dunedin found this unacceptable. This result is somewhat surprising and in contrast to the views expressed in the key informant interviews. Despite having good

access to public open space and recreation areas, it appears that younger people value on-site open space relatively highly.

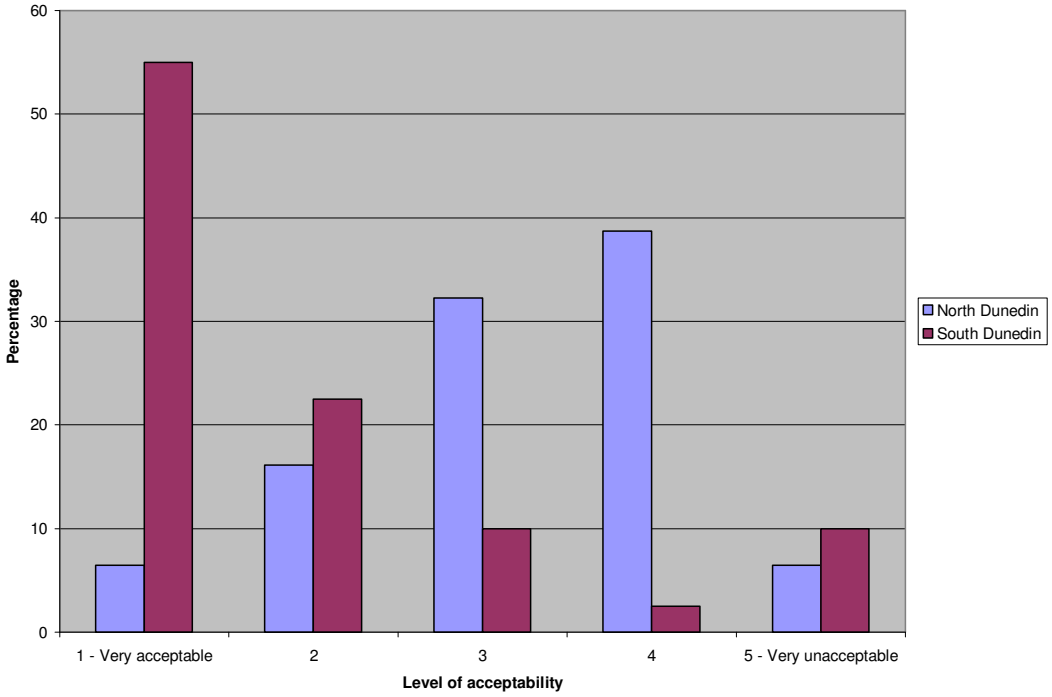

Figure 5.18: Acceptability of less open space and green areas, North and South Dunedin.

These results indicate that intensification in both North and South Dunedin has resulted in a number of negative environmental impacts. All of these were more acceptable in South Dunedin. This indicates the importance of maintaining sunlight and privacy in new developments and understanding the relative value of on-site open space, sunlight and privacy for different age groups.

5.5 Conclusion

This chapter has presented the results of the study in relation to the residential survey that was undertaken. The results show that accessibility to services, shops and facilities was regarded as both the most important factor influencing respondents' current housing choice and the most positive aspect of respondents' neighbourhood. Overall, respondents in South Dunedin appear to be more satisfied with their neighbourhood and found the impacts of intensification more acceptable than those in North Dunedin.

The results suggest that there are certain aspects that are positively, or negatively, viewed by respondents depending on the area they live in and their stage in life. This suggests that the local characteristics of a given population and the area in which they live need to be understood and taken into consideration when managing the intensification process. Doing so will reduce the negative impacts of intensification in a given area and ensure that intensification is relatively well received by the local population. The following chapter will draw on the results from the key informant interviews, the residential survey and the literature outlined in Chapter 2 to provide a discussion in relation to the research objectives.

6
Discussion

6.1 Introduction

This chapter contemplates the results of the research and addresses the three research objectives outlined in Chapter 1. It draws upon the results presented in the previous two chapters and provides an analysis of residential intensification in North and South Dunedin. In addition, broad conclusions are made which represent an overview of respondents' perceptions of the impacts and acceptability of intensification which has wider implications for the management of the intensification process in Dunedin. The discussion reflects back on the literature presented in Chapter 2 with reference to the findings of the research.

6.2 Research Objective 1

Identify the opportunities and constraints facing those wanting to undertake residential intensification and the factors that influence developers' decisions on intensification in Dunedin.

The globally recognised concept of sustainability has become a fundamental principle in planning the form of cities. Attention is warranted given the unprecedented impacts that urban areas make on the physical environment (White, 1994). Residential intensification is perceived to be a major platform for containing urban growth by academic scholars and policy makers worldwide. In this sense, residential intensification is largely considered a mechanism through which a more sustainable urban form can be achieved (Lock, 1995, Vallance *et al.,* 2005, and Jenks, 2000). In Dunedin, several key informants identified the opportunities that a greater recognition of sustainability, and the way this is filtered through legislation such as the Resource Management Act, is providing for intensive residential development. Intensification is provided for in the Dunedin City District Plan by allowing development at different densities within different zones. However, it was noted by several key informants that the Dunedin City Council has not made a concerted effort to reflect recent academic thought in terms of the relationship between sustainability and urban form within the

District Plan. Key informants argued for a reorientation of the planning rules to better facilitate a sustainable urban form.

It is argued by some that intensification will produce positive results in terms of sustainability and the quality of life of urban populations (Hillier, *et al.,* 1991, Willaims, *et al.,* 1996a). However, it is questioned by academic scholars worldwide whether these claims are made with sufficient foundations. Despite the benefits that can be gained from intensification, the results from this research do not provide enough evidence to fully validate the use of intensification to achieve a truly sustainable urban form. They do, however, highlight some of the benefits to be gained from intensification and the importance of providing for future intensification in Dunedin. If residential intensification is chosen to be utilised as a mechanism through which a sustainable urban form is achieved, those managing the process need to balance the limits of intensification against their broader, strategic aims for a sustainable urban form (Jenks, 2000).

As previously stated, Dunedin provides a context within which the opportunities for intensification are largely related to market demand rather than the consequences of a tool implemented to contain urban growth. There has been an increase in the number of people moving to smaller sections closer to the centre of town due to the aging population and desire for more urban lifestyles. Furthermore, there has been an increase in student numbers and demand for student accommodation close to the University and Polytechnic. Thus, the circumstances within which intensification in Dunedin is taking place can be attributed to this demand rather than the pursuit of moving towards a more sustainable urban form. Key informants recognised that the recent infill and medium density development that has occurred in Dunedin is largely a result of changing lifestyles, changing values and, therefore, changes in housing choice. Such development has been supported by those who have chosen to rent or buy units in medium density housing developments or infill housing. Residential intensification offers housing consumers a range of housing types to choose from and a low maintenance option with minimum or no care required for the upkeep of lawns and gardens. Dupuis and Dixon (2002) term this the ‘lifestyle option’ where residents have the freedom to pursue their interests. The ‘lifestyle option’ appears to be evident in Dunedin. Patterns of family formation and attitudes towards home ownership are

changing and people are opting for more urban lifestyles. Furthermore, the current population in Dunedin, like the rest of the country, is aging and consequently, there is a greater demand for smaller sections that are close to services and facilities and require low or no maintenance. Such changes in lifestyles could go some way to explaining the recent demand for more medium density housing, particularly in South Dunedin.

A number of studies have questioned whether success of intensification is possible given cultural housing preferences and market behaviour. Vallance *et al.* (2005) note that most New Zealanders are still deeply immersed in a culture that values low density suburban living. For them, the importance of a detached house on its own section is so ingrained within the New Zealand ethos and identity that any other form of housing is perceived as almost an aberration (Dupuis and Dixon, 2002). A number of key informants to the present research argued that although Dunedin does not have any high density residential areas by global standards, societal expectations mean that people find it difficult to accept higher density development. The residential survey suggests, however, that people have found intensification relatively acceptable in Dunedin. Despite this, intensification does compete with the qualities of suburban living. The residential survey suggests that residents might be more willing to live in a medium density housing development if it could mimic some of the features of suburban living. The results from this research highlight that to be more acceptable, the form and design of intensification must bring together the qualities and atmosphere of the city and provide private outdoor space, more rooms with direct access to daylight and aural and visual privacy that are the qualities of the suburbs.

Despite the demand for more medium density housing, key informants suggest that there are various constraints to development that must be overcome. One such constraint is the adverse reaction of residents to intensive residential development in Dunedin. The research findings suggest that this is particularly relevant to North Dunedin. The reason for this adverse reaction is due to the prevalence of poor examples of intensive development, particularly with regard to the quality and design of dwellings. Given that housing is central to people's lives, the quality and design of the residential environment are most important. Thus, the acceptability of intensification is dependent on the quality of housing produced and its integration

into the existing physical environment. This research found that greater attention must be directed to the quality and design of developments. Carmona, *et al.* (2002) suggest that there are both short-term and long-term benefits to be gained by developers from good urban design. Several developers in this study noted that they have particular regard for good design. Developers recognise the value good design can have in terms of gaining a higher return on properties and in terms of being more attractive to potential buyers or tenants over other properties. However, this is the minority. It seems difficult to encourage developers to embrace good design.

The resource consent process was considered a constraint to effective developer participation in the initial stages of the intensification process by several key informants. Current planning policy does not appear to be working to the best advantage of the development of North and South Dunedin. The interests of developers and the council often coincide and compete where, for example, the council wants to ensure that a range of good quality housing is offered while at the same time developers need to ensure profitability (Dupuis and Dixon, 2002). The Dunedin City Council wants to ensure that new development fits in with the character of an area and are built to a reasonably high standard. The planning framework, based on the application of rules, is causing developers to shy away from negotiating better developments because they perceive the resource consent process to be inflexible and time consuming. Often this means greater expenses for developers and therefore, reduced profit margins. Both developers and the Dunedin City Council must be open to finding some middle ground if good quality and well designed homes are to be promoted. Ultimately, the extent to which developers and the council are satisfied with the quality and design outcomes of a particular development hinges on the compromises reached between the council and developers as the development progresses (Dupuis and Dixon, 2002).

However, most developers interviewed noted that the pre-application meetings held by the Dunedin City Council is a positive process and often do allow for compromise between the council and developers, particularly with regard to the design aspects of a proposed development. The positive response to the pre-application meetings suggests that this is something that the Council should attempt to encourage and

enhance. This would allow compromise between the council and developers to occur and the best possible outcomes be achieved.

Good design of higher density development is important (Carmona *et al.,* 2002). Elsewhere in New Zealand, local authorities are starting to take action on the need for an improvement in urban design and have developed non-mandatory guidelines to assist the intensification process (Dixon and Dupuis, 2003). It has been identified by the Dunedin City Council that a lack of consideration for good design has had negative impacts on amenity and character, particularly in North Dunedin. This is impeding the success of intensification. It is critical that the council address issues such as the design of developments, site layout, and the quality of construction materials adequately. Several key informants and survey respondents believed that design guidelines would improve developments and provide developers with some degree of certainty when undertaking new development. Given the recent increase in medium density housing and infill development, design guidelines for intensive development would be appropriate for facilitating the intensification process.

Furthermore, since a large proportion of the negative impacts of intensification which have been identified are design related, other mechanisms for facilitating good design need to be considered. Suggestions include the formation of a design panel where developers can take their initial development plans. This would provide an opportunity for developers to discuss with council officers, urban designers and architects specifically the design of their development and how it could be improved. A further proposal was the development of an overall Campus Plan which any development in North Dunedin would be designed and completed in accordance with. It seems that developers in North Dunedin seek some sort of direction from council as to the development of the area. This would provide a plan for the future development of North Dunedin by coordinating the goals of the various tertiary institutions and the Dunedin City Council. Developers considered they would benefit from a long-term vision as to the character and identity of North Dunedin to be enhanced and safeguarded. Furthermore, as one key informant suggested informing residents of good design is important. In order to promote good design it could be useful educating developers and the market as to what ‘good’ development is, or can look like.

Dupuis and Dixon (2002) note that a major constraint to intensification relates to the impact of medium density housing and infill development on infrastructure, such as traffic congestion and pressure on sewerage and storm water systems. Several key informants noted that the age and capacity of Dunedin infrastructure would become a significant constraint to further intensification. Most survey respondents however, suggest that intensification has had a minimal effect on traffic congestion, although the parking effects have been substantial in North Dunedin. The pressures on parking facilities are due to the competing uses in the area such as the University, Polytechnic and Dunedin Hospital. Furthermore, there are likely to be more vehicles in households occupied by students than households occupied by families or retired people. These research findings highlight the importance of identifying the capacity of the city's infrastructure to cope with increased density. Intensification should be promoted in areas which have the infrastructural capacity to cope with increased population density.

It was anticipated by most key informants that there will continue to be a demand for medium density housing in Dunedin due to changing lifestyles, an aging population, and increasing student numbers. This will continue to provide developers with the opportunity to undertake more intensive development within Dunedin. However, this will mean that the Dunedin City Council will need to look at new initiatives and further areas to accommodate such development. This may involve, as Alker and McDonald (2002) propose, adopting a systematic approach to assessing the development potential of sites, buildings and the sequence of development. Several council officers acknowledged that the Dunedin City Council needs to look at expanding the Residential 2 Zone in South Dunedin to allow for more residential intensification. Several key informants also proposed providing financial incentives to developers to encourage the redevelopment of some residential sites. Neither of these initiatives have been formally recognised by the Dunedin City Council however. Whatever approach the Council decides to take it should pay close attention to the overall neighbourhood and wider urban form, taking into account things such as roading, parking, and the provision of open space. This will ensure that the negative impacts associated with intensification are minimised and that the requirements of residents are recognised.

The research findings have shown that developers have a range of perspectives and outlooks and all of those interviewed perceive land development in a way that relates to their own particular circumstances and personal interests, as Adams and May (1991) suggest. These developers undertake residential intensification to make a living and, therefore, are primarily profit oriented. It appears that those who develop rental properties are less conscious about providing good quality and well designed homes. Many key informants argued that developers who intend to sell a property are only likely to do so if it is well designed and constructed. Furthermore, those who buy a property are making a relatively long-term commitment to a dwelling and are more conscious of quality and design aspects. Whereas, the demand for rental properties in North Dunedin has been so great over recent years that developers have not needed to meet high standards in order to attract tenants. Key informants also argued, that tenants are making a relatively short-term commitment to a dwelling and are probably less concerned about the design and quality of it.

Key informant interviews and survey results affirm Fisher's (2005) statement that development is clearly a response to signals from property markets. In recent years, there has been a greater appreciation of good quality design and construction amongst developers due to changes in the market demand. The increase in student numbers has slowed and therefore, there is not as much competition between tenants for a flat. Developers increasingly have to compete for tenants and have started to develop better quality dwellings. As Fisher (2005) suggests, there is an influence of long-term trends on decision making in the development process. This may include, for example, changes in population, household structure and leisure. This has occurred in the Dunedin context where changes in preferences has meant that there is a greater demand for studio-type developments and smaller rental properties in North Dunedin. Equally, changes in lifestyles and an aging population has resulted in an increase in the demand for medium density housing in South Dunedin. Within the Dunedin context the market has had a significant influence on property developers' decision making and if the market demand changes developers will build to meet this demand.

This section has illustrated how planning rules and policy, increasing student numbers and the need to accommodate changing lifestyles have converged in

particular ways to influence new forms of housing in Dunedin. The opportunities for intensification in Dunedin generally relate to market demand. Although the context within which intensification is occurring in Dunedin is relatively different to other urban areas in New Zealand, the constraints to an effective intensification process appear to be similar. Developers suggest there are several local constraints to development that must be overcome. These include increasing the capacity of infrastructure, negative response from residents and difficulties with the planning process. This section has also illustrated that the appropriateness of current design must be examined and changes made to create the environment people desire. This often relates to making the transition to higher density development easier by translating features of a stand alone suburban home into new developments.

6.3 Research Objective 2

Identify the impacts of residential intensification in Dunedin and the local acceptability of these.

The research findings indicate that intensification has had significant impacts on North and South Dunedin. Key informants noted that some of the negative impacts associated with intensification are more noticeable than the positive aspects. Elsewhere in New Zealand findings indicate that it is often the negative impacts of increased density, and infill development in particular, that are more evident (Vallance *et al.* 2005, Dupuis and Dixon, 2002, 2003). However, in contrast to the key informant interviews and previous research, the residential survey indicated the contrary. The positive impacts of intensification in Dunedin appear to be more evident than the negative impacts. Respondents in both North and South Dunedin were either satisfied or very satisfied with their neighbourhood. Intensification and its associated impacts have been relatively well received. It appears that the social capacity of intensification in North and South Dunedin has not yet been reached. Jenks (2000) refers to social capacity as a measure of the limits to intensification in terms of local acceptance. However, issues have emerged during the course of this research which demonstrate differences in regard to the impacts and acceptability of intensification in Dunedin. These are addressed below.

Survey respondents were generally satisfied with most aspects of their neighbourhood. However, respondents in South Dunedin were more satisfied with their neighbourhood and find the impacts of intensification more acceptable than those in North Dunedin. This demonstrates that the acceptability of intensification in the residential environment varies as a result of people's perceptions and experiences of the process and its impacts. Furthermore, the results demonstrate the need for policy and design guidelines to be dynamic and responsive to reconcile residents' needs and demands.

Respondents in South Dunedin commented that they enjoyed living in their neighbourhood because living in a flat area suited their stage in life as they are physically less able. Their location means that they are in close proximity to shops, facilities, and services and socially they find it enjoyable because they live in an area with a good mix of people and compatible neighbours. Respondents also identified having a small section that requires little maintenance, safety and security, sunlight, privacy and access to public transport as further positive aspects of their neighbourhood in South Dunedin. Similarly, respondents in North Dunedin commented that they particularly liked living in their neighbourhood because of its close proximity to the University and the centre of town, the neighbourhood's social environment and student atmosphere. Respondents also identified the quality and design of new buildings, affordability and accessibility to recreation areas as further positive aspects of their neighbourhood in North Dunedin. Overall, respondents in North Dunedin found it easier to identify negative aspects of their current neighbourhood than those in the South Dunedin. These negative aspects include noise, litter, vandalism, a lack of sunlight and poor insulation.

Respondents identified the most significant impacts of intensification as high quality design and construction of new buildings, better insulation, an effect on the image of the area, a compact urban character and a more lively vibrant area. These impacts were all viewed positively by respondents. The strongest negative response from respondents related to intensification resulting in more traffic congestion, less on-street parking availability and less sunlight. Mention was also made of a lack of privacy and increased crime and vandalism. Interestingly, less open space and green

areas were viewed negatively by those in North Dunedin and positively by those in South Dunedin.

Although, many of the negative impacts are not as evident as the positive aspects, some of these negative impacts appear to be more prominent in North Dunedin. A lack of privacy, increased crime and vandalism and less sunlight are more evident in North Dunedin. Furthermore, those in North Dunedin considered a lack of privacy and less sunlight less acceptable. One of the most pervasive strands running through the key informant interviews was the belief that intensification in North Dunedin was substandard in terms of materials and design. This is consistent with the findings of studies undertaken by Vallance *et al.* (2005) and Dupuis and Dixon (2002). Jenks *et al.* (1996) argue that the success of intensification hinges largely on its quality and design. This seems to be the case in Dunedin where the well designed developments in South Dunedin have been well received whereas those properties in North Dunedin that are poorly designed and constructed have been criticised by residents.

All key informants and many survey respondents argued that intensification was having a significant impact on parking provisions, particularly in North Dunedin. The issues identified were related to parking requirements having a negative impact on the allocation of open amenity space and the general amenity and character of the area. The provision of parking space on private sections has meant that garden and lawn areas have been compromised and have impacted adversely on the area by obscuring character buildings that define the neighbourhood. Furthermore, survey respondents considered the loss of on-street parking to be relatively unacceptable. The availability of car parking is an ongoing issue in North Dunedin and there is evidently a low level of satisfaction with car parking provisions in the area. However, it was noted by key informants that the parking issues cannot be attributable simply to intensification. Other uses in the area, notably the University, Polytechnic and the Dunedin Hospital are putting pressure on parking provisions. In contrast, less on-street parking availability was considered relatively acceptable for those in South Dunedin. It was noted that although there may be less parking availability, this has not affected residents greatly because either it is still easy to find a parking space or car parking is provided for on-site. This illustrates the importance of understanding and responding to local differences when determining the potential of a site for intensification as

argued by Alker and McDonald (2003). The potential for North and South Dunedin to undergo further intensification requires an assessment of local differences in infrastructure capacity and facilities such as the competing uses for car parking provisions.

With regard to less open-space and green areas, most key informants argued that this is acceptable for those living in North Dunedin because, although the area is garden poor, residents have very good access to public open space and green areas near by. North Dunedin is surrounded by a number of green areas including the Botanic Gardens, Woodhaugh Gardens, the Leith River, the town belt and several sports grounds. This open-space presents a recreational facility and contributes to an overall sense of amenity in the area for residents. The situation, however, is worse on the southern part of North Dunedin where green space is non-existent. The survey results show that less open space and green areas is relatively unacceptable for those in North Dunedin. Although a number of respondents in North Dunedin said they were willing to trade off open space to be in closer proximity to the University and the centre of town, it appears that on-site open space and green areas is still valued highly by residents. In contrast, those in South Dunedin find less open-space and green areas very acceptable because they have chosen to live in a home with low or minimum maintenance and care for the upkeep of their property. Therefore, their stage in life means that residents do not require or want large areas of on-site open and green space.

It has been suggested that intensification can lead to more social cohesion and community spirit (Hillier *et al.,* 1991, and Williams *et al.,* 1996). The research findings suggest that this is true. Key informants and survey respondents believed that intensification has created a positive social environment and a sense of community in their neighbourhood. This was said to be due to an increase in the number of people in their neighbourhood. This contrasts with the findings from a study in Christchurch where it was found that infill housing had resulted in a decrease in social interaction (Vallance *et al.,* 2005). In Dunedin survey respondents noted that the social environment was one of the most positive aspects of their neighbourhood and most valued the community spirit in their area of residence. However, as Jenks *et al*. (1996) suggest, intensification can result in negative neighbourhood effects where conflicts

have developed between those with different lifestyles. Recently, there has been conflict in Dunedin between those developing on the boundary of the student area and those non-student households who live adjacent to the student area. Non-student residents, particularly those with families, have been concerned about the relative proximity of students and the behaviour associated with the student community.

The impacts of intensification on transportation present some interesting results. Over 60 percent of respondents in both case study areas noted that intensification had resulted in reduced travel times to work, town, facilities and services and most found this very beneficial. This affirms the argument that intensification reduces travel times, thus, promoting energy efficient modes of transport (Williams *et al.,* 1996). Very few respondents, however, identified proximity to public transport, as being an important influence in their current housing choice and although many respondents acknowledged that they value living close to public transport most said they do not use it. The counter argument to reduced travel times is that intensification results in more traffic congestion. The results show that between 30 and 40 percent of respondents believe that this is in fact true; however, those that believed intensification had resulted in more traffic congestion found it relatively acceptable.

Jenks (2000) suggests that the type of intensification can influence the way in which it is received. Although this research did not specifically look at different types of intensification, the results affirm this argument. Small-scale, incremental intensification is acceptable (Jenks, 2000). Although intensification in Dunedin has resulted in negative impacts, overall the results show that intensification has been relatively acceptable, largely because developments in the two case study areas have been either individual dwellings or relatively small multiple storey buildings. Furthermore, in comparison to other centres in New Zealand, intensification has occurred relatively slowly. Key informants also noted that the type of intensification that is taking place in North Dunedin is more acceptable for those in the existing neighbourhood or those who boundary the student area. The research results suggest that studio room development tends to attract a type of tenant that is quiet, sensible and studious which is acceptable for non-students living adjacent to the student area. However, there is not enough evidence from this research to fully confirm this argument.

Jenks (2000) suggests that younger people who rent rather than own their dwelling tend to have more positive views of intensification. The findings of this research indicate the opposite. Residents in both case study areas had relatively positive views on the subject. In North Dunedin, Jenks' argument may account for the general lack of concern regarding intensification and its effects on the area. All but one of the respondents were students, 29 years old or under and rented their current property. Most students are at University or Polytechnic for several years and, therefore, are only likely to reside in North Dunedin for a short period of time. Jenks (2000) also notes that older people are likely to hold the most negative views about the impacts of intensification. The findings from this research would indicate that in Dunedin this in not necessarily true, in fact, this research indicates the contrary. Intensification was considered relatively acceptable for the older residents in South Dunedin, more so than those residents in North Dunedin who are considerably younger.

Furthermore, Jenks (2000) suggests that the way intensification is received is influenced by the type of area. Jenks suggests that people in rundown and central urban areas have less to lose from intensification and, therefore, it is often well received. This research affirms this statement. Neither North or South Dunedin are established high status areas and both appear to have a lot to benefit from intensification. However, as this study was only based on intensification in these two areas, there is no evidence here to show that intensification in a high status area in Dunedin would not be as well received as intensification in North and South Dunedin.

Overall, intensification in the case study areas has been well received by residents. Although many key informants identified the more negative aspects of intensification, it appears that residents view the process more positively than key informants. The relatively high levels of acceptability can be accounted for by several factors. Intensification within Dunedin has been relatively small scale and incremental and intensification in South Dunedin has been well designed and constructed. Medium density living suits residents' stage in their life, either as a student or a retired resident and residents do not want to look after a large house and garden on a section. Furthermore, residents value being within close proximity to town, facilities and

services, and many residents, particularly in North Dunedin, have lived in a similar medium density neighbourhood previously.

However, despite these positive results a number of negative impacts with policy implications were identified. These results have demonstrated that it is important to consider and understand the local context within which intensification is taking place. It is also helpful to understand more about why people live in intensified areas, what the consequences of intensification are to the environment and community, and the qualities of these areas that must be considered or enhanced when managing any adverse effects of development.

6.4 Research Objective 3

Develop criteria and recommendations to guide future intensification in Dunedin.

The Dunedin City Council currently has a disjointed approach to allowing for and managing residential intensification in Dunedin. Current intensification is managed through the District Plan rules. It appears that the objective of allowing for residential intensification through the District Plan is to meet the housing demands of residents. Therefore, intensification policy and rules should recognise the opportunity and demand for general suburban infill development and redevelopment. However, with the widely acknowledged need to move towards a more sustainable urban form, intensification should be considered as a mechanism through which Dunedin could move towards achieving this. This research has demonstrated that there are benefits to be gained from residential intensification. However, evidence is required to validate intensification as a means of moving towards a truly sustainable urban form for Dunedin. Blanket intensification in particular localities, as it has occurred in North and South Dunedin, would not be the approach to take to achieve this. Ideally, intensification would be encouraged around a multitude of activity hubs. The prospect of this for Dunedin requires further investigation.

Meeting the demands of residents for more intensive development requires a management approach that minimises the negative impacts of intensification and

results in development that is well received by the local population. Intensification readily results in negative impacts and is often contentious. If intensification becomes too problematic, the character, amenity and function of the city could be threatened. This calls for a systematic approach to the management of the process. Several key informants recommended some contextual direction for intensification in Dunedin. This would provide the Dunedin City Council and developers with some guidelines and provide a standard by which future development could be measured to prevent a decline in the amenity and character of the city.

To address the first component of research objective 3, a number of criteria were developed to guide further intensification in Dunedin. The following broad criteria relate to the development and implementation of an overall strategy for future intensification within the city. These criteria have been derived from the research findings and an examination of the structure of guides for intensive development elsewhere in New Zealand, notably Auckland. These criteria apply specifically to the issues identified in the Dunedin context in this research. The first set of criteria relate to the development and overall strategy for future intensification within the city. Secondly, a series of criteria are outlined that could be applied when formulating policy and methods within the Dunedin City District Plan or as supporting guidelines for residential intensification. These criteria aim to ensure that intensification is integrated with the overall character of the surrounding area regarding scale and type of development, infrastructure capacity, streetscape, amenity, and providing a sense of community. Furthermore, to ensure the successful implementation of intensification it is necessary to monitor the main changes as a result of and in the form of this development including quality, location, scale, type, density, amenity and transportation. These criteria are displayed in Table 6.1 below:

Table 6.1: Possible criteria for the management of intensification and its impacts in Dunedin.

Develop an overall strategy for intensification
Provide a statement on the nature and extent of any intensification permitted within the District Plan objectives and policies for the Residential Zones.
Work with the local community to establish the intensification vision and to identify the areas for future intensification.
Identify the development objectives and sequencing for intensification in the context of wider strategies for sustainable development.
Have provisions for infill intensification and redevelopment in the existing District Plan that provide more certainty about future intensification location while at the same time being more flexible about permitted density and more stringent about improving amenity and design controls.
Specify which techniques and strategies will be employed to facilitate implementation of the intensification strategy such as design guidelines, direct involvement in projects or financial incentives for developers.
Work with developers at the early stages of the application process to ensure implementation of the local vision for intensification.
Managing the impacts of intensification
Locate intensification taking into account local factors such as street layout, adjacent land uses, heritage, public open space and orientation to the sun.
Locate intensification to maximise the local attributes and infrastructure including good access to high quality recreation areas, community facilities, shopping areas and public transport.
All intensification to be located and developed in a manner that maintains residential character.
Intensification to be well integrated into the neighbourhood and contribute to the valued character of the area including the enhancement of a sense of community and the public environment.
Intensification to be designed to promote a variety of dwelling types and good design features while minimising the loss of amenity to adjacent residents.
Intensification to be designed to provide physical and social infrastructure to accommodate the increase in density be it through capitalising on available infrastructure or through new upgraded or retrofit measures.
Intensification to be designed to support or facilitate passenger transport systems in the locality.
Intensification to be integrated into the neighbourhood regarding physical and visual accessibility and quality and safety of the pedestrian environment.
Monitoring changes as a result of intensification
Ongoing monitoring of the impacts of increased intensification to: - Local infrastructure capacities. - Local transport patterns and car parking provisions. - Local community facilities and public open space.
A regular survey (every 5-10 years) of communities in selected areas that have undergone intensification for feedback on changes to local amenity and general liveability.
A regular survey (5-10 years) of a sample of new intensive developments to assess if they comply with local urban design and associated planning rules.
Assess local guidelines regularly (5-10 years) to ensure they are a sufficient tool to maintain or enhance urban amenity.

The research findings illustrate that recent intensification has resulted in a number of negative impacts, which are having a detrimental effect on the area, particularly with regard to poorly designed and low quality dwellings, and the character and amenity of the city. These impacts affect the way in which intensification is received by residents. To facilitate and guide future intensification in Dunedin a series of criteria have been developed. These criteria will assist the management of the intensification process to ensure that the negative impacts are minimised, and to ensure that intensification continues to be acceptable for the local population.

6.5 Conclusion

These findings suggest that intensification has been well received by residents in North and South Dunedin. The appeal of North and South Dunedin will become increasingly important as housing densities increase and demand for more intensive living continues to increase. However, concern about the quality and design of developments and the loss of amenity, particularly in North Dunedin, suggests insufficient attention has been paid to these issues. Consideration must be focussed on the cumulative effects of intensification in North and South Dunedin for the long-term sustainability of the area. Both developers and occupiers of medium density developments in the study areas interpreted the same division in the quality and design of developments and the amenity in North and South Dunedin. Development has produced lower levels of residential amenity and quality and design of dwellings in North Dunedin. If development continues in its current guise in North Dunedin, inevitably the area is likely to decline further. These issues have wider implications for the city generally. This suggests that the current strategy for the management of the intensification process could be enhanced to include a systematic approach and specific provisions for facilitating future intensification in Dunedin. The discussion of these results provides a basis upon which to draw conclusions and make recommendations for facilitating and managing future intensification in Dunedin.

7

Conclusions and Recommendations

7.1 Introduction

Urban form is increasingly managed on the basis that sprawling suburban development is compromising the sustainability of human settlements. Given this fundamental issue, the relationship between urban form and sustainability has come to the forefront of international debate. Residential intensification has been proposed as one mechanism through which a more sustainable urban form might be achieved. It is widely argued that intensification will produce positive results for environmental, economic and social sustainability. However, the debates about the validity of these positive claims are on-going and sceptics have put forward a range of counter-arguments. Residential intensification readily results in its own negative impacts and is often contentious. Whether intensification is to be used as a tool for moving towards a more sustainable urban form or not, intensification must be managed in a way that minimises the negative impacts and is acceptable for the local population.

The aim of this thesis was to assess the impacts associated with residential intensification in Dunedin and to identify the local acceptability of these and the feasibility of using intensification as a tool for moving towards a more sustainable urban form. The research objectives developed for this study sought to identify the opportunities and constraints facing those wanting to undertake intensification and the factors that influence property developers' decisions on intensification in Dunedin; to identify the impacts of intensification in Dunedin and the local acceptability of these; and to develop criteria and recommendations to guide future intensification in Dunedin.

The previous chapters have presented and discussed the results of the research. This chapter first identifies the key findings of the research and provides a synthesis of the study in terms of the research objectives. Secondly, it presents a series of recommendations designed to attend to the key findings of the study and to address

the third research objective. Thirdly, relevant avenues for further research in the field are identified, before making concluding remarks regarding residential intensification in Dunedin.

7.2 Key Findings

The research objectives have been addressed through questionnaire surveys with residents of intensive development in the study areas and through key informant interviews with primary stakeholders associated with residential intensification in Dunedin. The key findings are recapitulated in the following sections in terms of the research objectives.

7.2.1 Opportunities for and Constraints to intensification

The primary factors providing for intensification in Dunedin are market demand and planning rules and policy which allow for a higher density of development than currently exists. The increasing number of students wanting to live in close proximity to the tertiary institutions and the centre of the city has fuelled the development of infill housing and medium density blocks of flats in North Dunedin. The aging population and changes in lifestyles has led to infill development and the establishment of medium density town houses in South Dunedin. The research has identified that these trends have important implications in terms of planning for residential development in Dunedin. More intensive housing may be required in the future with the aging population and as student numbers continue to increase. As the research shows, current infill housing and redevelopment has often resulted in negative impacts, particularly in North Dunedin. It is important that the negative impacts of future intensification be minimised to ensure the sustainable development of Dunedin. This may require greater direction from the Dunedin City Council.

The recognition of a need to move towards a more sustainable urban form also provides an opportunity to undertake intensification. However this has not been formally recognised by the Dunedin City Council. While a consolidated urban form is favoured in much of the literature (Neuman, 2005, Jabareen, 2006, Burton, 2000) this in some ways challenges the dominant orthodoxy that continues to produce detached

houses on large sections further from the city. These findings suggest, however, that intensification is suited for and acceptable to at least some groups of residents. These findings thus challenge planners to examine current planning policy with the view to facilitating a more sustainable urban form. While the study provided some support for a compact urban form, it requires further research to determine the areas where intensification might be concentrated and approaches to be taken to ensure that a multitude of benefits can be gained.

The findings of this research suggest that there are a number of constraints to intensification which, when viewed in light of the demand for more intensive living, have ramifications for the success and continuation of intensification in Dunedin. As developers are driven primarily by short-term profit, this has often resulted in the poor design and quality of dwellings. Residents have reacted adversely to such development. This suggests that the acceptability of intensification is closely related to the quality and design of buildings and greater attention needs to be focused on addressing the issue. This is consistent with that literature discussed in Chapter Two regarding the link between urban good design and the acceptability of intensification (Carmona, *et al.,* 2002, Dupuis and Dixon, 2002, and Jenks, 2000). Developers have tended to under-provide the benefits of urban design, particularly in North Dunedin.

The process for gaining consent for intensive development can cause developers to sway away from negotiating with the Dunedin City Council for better development. Such a decision commonly results in intensification that is to the detriment of the character and amenity in the area, resulting in adverse reaction and a low level of acceptability by residents. This suggests that the current approach to managing intensification and its impacts could be improved to better facilitate intensive development. This is consistent with much of the literature regarding the importance of compromises reached between Council and developers as a development progresses (Dupuis and Dixon, 2002). Improving the management of the intensification process may include encouraging pre-application meetings, establishing design guidelines for intensive development and providing financial incentives. The infrastructural capacity of areas considered for intensive development need to be assessed and further areas suitable to accommodate intensification should be identified if intensification is to continue to meet the demands of residents.

Ultimately, the extent to which developers and a council are satisfied with the outcomes of a particular development hinges on addressing these constraints.

7.2.2 The impacts and Acceptability of Intensification

The research has demonstrated that intensification in Dunedin has resulted in both positive and negative impacts. Contrary to other studies (Valance *et al.,* 2005, Dupuis and Dixon, 2002) the positive impacts are more prominent than the negative impacts. These findings have significant ramifications for the acceptability of intensification in the case study areas. It seems that the significance of the positive aspects of intensification has meant that intensification has been well received by residents. Despite this, intensification has resulted in less sunlight, privacy, more traffic congestion and less on-street parking in the present case study areas. This is consistent with Williams, *et al*. (1996a) and Hillier, *et al.* (1991) findings discussed in Chapter 2.

The research findings suggest that there are certain impacts that are both well received and positively viewed by residents. Impacts that are often view negatively in the literature were found to be unproblematic for residents in this study. These include a greater feeling of community, a compact urban character, an effect on the image of the area, and increased contact with neighbours. To be most acceptable, it seems that the form and design of intensification must bring together the qualities and atmosphere of the city with the qualities of the suburbs. This includes providing private outdoor space, more rooms with direct daylight and aural and visual privacy. These findings are consistent with those of Jenks (2000) Dixon and Dupius (2003) and Vallance *et al*. (2005) discussed in Chapter 2.

The present research found that survey respondents were highly satisfied with their neighbourhood and declared accessibility to be the most important advantage of their current residence. This result was consistent across the case study areas. Moreover, most respondents would choose to live in a similar medium density neighbourhood if they were to move in the future. Thus, while the qualities and features of the stand-alone suburban home, such as more access to direct daylight, privacy and open space,

are valued highly, these results may indicate evidence of preference, at least among some groups, for medium density living.

Ultimately, however, it is about balancing the housing needs and desires of residents' with the economic interests of developers so that intensification is acceptable for the local population. This research suggests that there are disparities in the acceptability of intensification depending on people's perceptions and experiences of the process and its impacts. Despite the positive response from residents, intensification is viewed more positively by those in South Dunedin than those in North Dunedin. Residents in North Dunedin are very rarely part of the decision-making process and the negative impacts of intensification are more prominent in North Dunedin. The research indicated that many of the negative effects associated with intensification are related to the quality and design of dwellings. Issues of quality and design emerged frequently in the research, particularly in North Dunedin. This inevitably has implications for the wider city and, therefore, should be addressed.

Time and resource constraints meant that only a very small number of those residents who are neighbours to intensification could be surveyed. Thus, while the results indicate that intensification has been well received by residents, the experiences and opinions of neighbouring residents were largely not included in these findings.

7.2.3 Criteria to Guide Future Intensification

As previously stated, it is the housing needs and desires of residents' that is motivating intensification in Dunedin. Contextual direction is needed for future intensification in Dunedin. This would provide the Dunedin City Council and developers with a vision and provide a standard by which future development could be measured to prevent a decline in the amenity and character of the city. This finding is consistent with arguments put forward by Alker and McDonald (2002), Shaw and Houghton (1991), and Dixon and Dupuis (2003) regarding the management of the intensification process. The potential of any site for intensification needs to be established against site based and contextual characteristics. The Dunedin City Council needs to pay greater attention to local factors such as amenity and residential character when considering areas for and managing intensification.

A set of criteria were developed as part of the research process, with the aim of assisting the Dunedin City Council in ensuring that intensification is integrated with the overall character of the surrounding area. The criteria reflect the scale and type of development, infrastructure capacity, streetscape, amenity, and providing a sense of community. Furthermore, to ensure the successful implementation of intensification it is necessary to monitor the main changes as a result of and in the form of this development including quality, location, scale, type, density, amenity and transportation. However, given that this research focused on two areas in Dunedin the criteria may not be as applicable to other areas within the city. Further investigation is required to develop a full set of criteria for the entire city. The following section provides recommendations that, along with the criteria to guide further intensification, address the third research objective.

7.3 Recommendations

The key findings of the research presented above raise a number of issues associated with residential intensification in Dunedin. In response, a series of recommendations aimed at improving the management of intensification and its associated impacts to ensure positive and sustainable outcomes of future intensification in Dunedin are suggested below. These recommendations thereby contribute to addressing the third research objective of this study to: *'develop criteria and recommendations to guide future intensification in Dunedin.'* These recommendations have been designed to strengthen and address deficiencies with the management of intensification in Dunedin.

7.3.1 Design Guidelines for Intensive Development.

Design guidelines specifically for intensive development should be produced. These should be created for developers with specific measures to address the issues associated with intensive development. The guidelines could be formulated by a team comprising urban designers, local architects, the Otago property Investors Association, and council officers. The guidelines should apply to the whole of Dunedin City and include sections for specific areas such as nodal centres, suburban infill and mixed use areas. Criteria for intensive development within each of these

areas should be developed to guide intensification. This should also include examples of good intensification practice. The guidelines for intensive development would benefit developers and the Dunedin City Council alike by providing direction on the design and form that development should take. This should result in better and more acceptable development and fewer issues during the resource consent process.

7.3.2 Allow for higher density development in the Dunedin City District Plan.

Given the demand for more intensive living it is necessary to look at ways to allow for higher density development. This should include identifying further areas for intensive development in areas where the benefits will be maximised. This may include, for example, areas around activity nodes, or extending zone provisions where the demand for higher density development is greatest, such as the Residential 2 Zone in South Dunedin. An assessment of the current planning policy and rules should also be undertaken and, where necessary, rewritten to provide further provisions for intensification. These should provide more certainty about future intensification location while at the same time being more flexible about permitted density. These measures will ensure that the needs and desires of residents are better met.

7.3.3 Address the car parking issues in North Dunedin.

There is no easy solution to the parking issues in North Dunedin. However, a collaborative approach between the Council, landlords, the Dunedin Hospital and the tertiary institutions should be adopted. Given that there is adequate parking for residents in North Dunedin after 5pm and during the weekend it is recommended that the tertiary institutions take significant responsibility for addressing this issue. Such an approach should include providing non-car alternatives to and from the tertiary institutions. Better facilities and infrastructure to promote walking and cycling should also be provided. Further investigation as to the possibilities for addressing car parking issues in North Dunedin is required however. It is necessary to sustain North Dunedin as an area where students can live close to their place of study and to maintain the amenity and character of the area that the car parking issues be addressed.

7.3.4 Assess the capacity of Dunedin's current infrastructure for increasing density.

Further intensification in Dunedin will not be possible if the current infrastructure cannot cope with increased density. An assessment of Dunedin's transport, stormwater, sewerage and community infrastructure is recommended. This will provide evidence as to where intensification can occur while having minimal effect on the infrastructure of a particular area. Furthermore, this will provide the Dunedin City Council with the priorities for upgrading or providing new infrastructure in areas where they choose to accommodate future intensification. Doing so will reduce the negative impacts of intensification by preventing intensification in an area that does not have the infrastructural capacity to supports it increased density.

The above recommendations provide some guidance for strengthening the management of the intensification process and its impacts. There are, however, various other opportunities for further research into intensification that could also provide valid suggestions for improving the management process. Those avenues that were identified in this research are outlined below.

7.4 Avenues for further Research

The key findings of this research have identified a number of issues relating to the impacts and acceptability of intensification worthy of further research. More detailed analysis of residents perceptions of intensification would be of value, particularly the impacts and acceptability of intensification as perceived by residents and neighbours of infill housing and redevelopment who have lived in an area for a considerable period of time. Further research should also be undertaken focussing on the benefits and costs of intensification and therefore, in moving towards a more sustainable urban form. This will assist in identifying areas to accommodate intensification to maximise the benefits in terms of moving towards a more sustainable urban form. Further research should be undertaken focusing on how planning management approaches can engender in developers a sense of responsibility for the quality and design of properties, particularly rental properties.

The recommendations developed in response to the key findings of this study also require further study and development to ensure they are implemented effectively. Further research is particularly needed to assess the effectiveness of already established guidelines for intensive development. This would provide a foundation from which guidelines could be developed for Dunedin. Research into possible solutions for the car parking problems in North Dunedin would also be beneficial. This may include looking at how other cities have accommodated car parking in areas of dense activity and effective ways to reduce automobile dependence. Such information would enable policy makers to make an informed decision about the best possible solution to challenges facing North Dunedin, and other areas with similar issues, with regard to car parking.

7.5 Concluding Remarks

This research has successfully shown that there is a link between intensification and its associated impacts and the degree to which this is accepted by the local population as identified in much of the literature. This research informs and contributes to the existing body of knowledge relating to the relationship between intensification and local acceptability. Although the research was conducted as a comparative study of two residential areas, the findings of this research are such that they may be relevant to other residential areas in New Zealand, particularly those that exhibit a similar context to either of the areas studied in this research.

Housing is central to people's lives. Intensification brings change, the acceptability of which is dependent on the quality and design of housing produced and its integration into the existing environment. The acceptability of intensification varies as a result of people's perception and experiences of the process and its impacts. Recognising the benefits of and providing for intensification is important. It is equally important to develop and improve the management of intensification and its impacts. Only through better understanding will future intensification meet the desires and needs or residents and maintain and improve the residential environment of Dunedin.

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Appendices

Appendix A: Research Survey

RESIDENTIAL INTENSIFICATION IN DUNEDIN
Residential Survey

Part A: Characteristics of residential intensification

1. Do you rent or own (partly or fully) this property?
□ Own
□ Rent
□ Other (please specify) _____

2. How many bedrooms does your home or flat have?
_____
_____

3. How many people (including yourself) live in your home or flat?
_____
_____

4. How long have you lived at this address?
Month(s)_____
Year(s) _____

5. How much longer do you plan on living at this address?
□ Less than 1 year
□ 1 – 2 years
□ 3 -5 years
□ 6 – 10 years
□ 11 + years
□ Don't know

6. What type of neighbourhood did you live in before shifting here?
□ Hall of residence
□ Predominantly suburban single dwelling on a site
□ Medium density neighbourhood with predominantly town houses and terrace houses
□ High density neighbourhood with predominantly low and high rise apartments
□ Predominantly lifestyle blocks
□ Other, please specify _____

7. What influenced your decision to live in this home or flat?

	Most Important	Very Important	Moderately Important	Not Very Important	Not at all Important
Affordability					
Proximity to shops and facilities					
Proximity to services *(e.g. educational, medical and social)*					
Safety and security					
Good investment					
Quality and design of building					
Environmental considerations *(e.g. parks, lack of traffic)*					
Close-knit community					
Life style choice					
Good environment to bring up children					
Proximity to public transport					

Other, please specify _____
_____
_____
_____

8. For you, has living in this neighbourhood while its development has intensified resulted in the following?
Or How does living in this neighbourhood compare to the neighbourhood where you lived previously?

1. Decreased travel times to work, town and facilities and services?
□ Yes
□ No

If yes, is this Very Beneficial 1 2 3 4 5 Very Unbeneficial

2. More traffic congestion?
□ Yes
□ No

If yes, is this Very Beneficial 1 2 3 4 5 Very Unbeneficial

3. Less on-street parking availability?

□ Yes
□ No

If yes, is this	Very Beneficial	1	2	3	4	5 Very Unbeneficial

4. An effect on the image of the area?

□ Yes
□ No

If yes, is this	Very Beneficial	1	2	3	4	5 Very Unbeneficial

5. A more lively, vibrant area?

□ Yes
□ No

If yes, is this	Very Beneficial	1	2	3	4	5 Very Unbeneficial

6. A greater feeling of community?

□ Yes
□ No

If yes, is this	Very Beneficial	1	2	3	4	5 Very Unbeneficial

7. A unique neighbourhood identity?

□ Yes
□ No

If yes, is this	Very Beneficial	1	2	3	4	5 Very Unbeneficial

8. A safer community?

□ Yes
□ No

If yes, is this	Very Beneficial	1	2	3	4	5 Very Unbeneficial

9. More contact between neighbours?

□ Yes
□ No

If yes, is this	Very Beneficial	1	2	3	4	5 Very Unbeneficial

10. A diversity of people living in the area?

□ Yes
□ No

If yes, is this Very Beneficial 1 2 3 4 5 Very Unbeneficial

11. A lack of privacy?

□ Yes
□ No

If yes, is this Very Beneficial 1 2 3 4 5 Very Unbeneficial

12. More crime and vandalism?

□ Yes
□ No

If yes, is this Very Beneficial 1 2 3 4 5 Very Unbeneficial

13. Less sunlight?

□ Yes
□ No

If yes, is this Very 1 2 3 4 5 Very Unbeneficial beneficial

14. Less open space and green areas?

□ Yes
□ No

If yes, is this Very Beneficial 1 2 3 4 5 Very Unbeneficial

15. More cramped living?

□ Yes
□ No

If yes, is this Very Beneficial 1 2 3 4 5 Very Unbeneficial

16. A compact urban character?

□ Yes
□ No

If yes, is this Very Beneficial 1 2 3 4 5 Very Unbeneficial

17. Better insulation?

□ Yes
□ No

If yes, is this Very Beneficial 1 2 3 4 5 Very Unbeneficial

18. High quality construction and design?

□ Yes
□ No

If yes, is this Very Beneficial 1 2 3 4 5 Very Unbeneficial

19. The loss of historic buildings?

□ Yes
□ No

If yes, is this Very Beneficial 1 2 3 4 5 Very Unbeneficial

9. What are the 3 most **positive aspects** of living in this neighbourhood?

_____
_____
_____
_____
_____

10. What are the 3 most **negative aspects** of living in this neighbourhood?

_____
_____
_____
_____
_____

11. Overall, how satisfied are you with your neighbourhood?

Very Satisfied	Satisfied	Undecided	Unsatisfied	Very Unsatisfied

12. If you move in the future, would you be likely to live in a similar kind of medium density neighbourhood?
□ Yes
□ No
□ Not sure

Please state why or why not _____
_____
_____
_____
_____

13. What things should property developers consider when making decisions about residential intensification?
_____
_____
_____
_____
_____

14. What should the Dunedin City Council do to reduce or eliminate the negative impacts of residential intensification?
_____
_____
_____
_____
_____

Part B: Demographic Information

15. Are you:

□ Male
□ Female

16. What is your age?
□ 16-19
□ 20-24
□ 25-29
□ 30-34
□ 35-39
□ 40-44
□ 45-49
□ 50-54
□ 55-59
□ 60+
□ Don't want to answer

17. Which of these best describes your current employment status?
□ Self employed
□ Full-time paid employee
□ Part-time paid employee
□ Student
□ Currently unemployed
□ Retired
□ Full-time home-maker
□ Other, please specify _____

18. Which ethnic group do you belong to?
□ New Zealand European
□ Maori
□ Samoan
□ Cook Island Maori
□ Tongan
□ Niuean
□ Chinese
□ Indian
□ Other, please state _____

19. What is your estimated current income (including all sources e.g. wages, salary, student allowances and government benefits, before tax or anything was taken out of it)?
□ $1 - $5000
□ $5001 - $10 000
□ $10 001 - $20 000
□ $20 001 - $30 000
□ $30 001 - $40 000
□ $40 001 - $50 000
□ $50 001 - $70 000
□ $70 001 - $100 000
□ $100 001 or more
□ don't want to answer

20. What further comments would you like to make about residential intensification? _
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Appendix B: Semi-structured Interview Guide

Developer Key Informant Questions

The management of the intensification process

1. Can you describe the residential intensification process as you have experienced it?
    - In your experience what form has residential intensification taken in Dunedin?
    - What is your role in the residential intensification process in Dunedin?
    - What are you trying to achieve when you make intensification decisions? Is it simply profit driven decision making?

2. How does the Dunedin City Council allow for residential intensification within its district plan?
    - What is your relationship with the Dunedin City Council in regard to residential intensification developments?
    - How could this relationship be improved?
    - Incentives to facilitate intensification
    - What is the council trying to achieve in the management of such development?
    - Success of intensification policy, does intensification policy deliver the environmental benefits supposed?

3. What are the main opportunities and constraints to effective developer participation in the residential intensification process?
    - How can these constraints be overcome?
    - How could local authorities encourage future residential intensification?

The impacts of intensification

4. What are the positive impacts of residential intensification?

5. What are the negative impacts of residential intensification?
    - How do you attempt to minimise the negative impacts of residential intensification?
    - Cumulative impacts
    - Loss of historic buildings

The local acceptability of intensification

6. What aspects of residential intensification do the local population find more acceptable than others i.e what are they more concerned about?
    - How does this differ between the residential 2 and residential 3 zones?
    - How are the impacts of intensification accepted by people in different stages in their life?

Developer behaviour

7. Do you consult with residents in the area when making residential intensification decisions?
   - If so, how does this occur?
   - What is the response you get from residents?
   - How do these responses differ between the Residential 2 and 3 Zones?

8. Could you identify the factors and considerations that influence your decisions on intensification?
   - What about the form that intensification will take?
   - How do the social characteristics (age, length of occupancy, occupation etc) of the local population influence your decisions to undertake intensification activity and the form it will take?
   - Do you have a systematic approach to assessing the development potential of sites?

9. What qualities do you try and provide for when undertaking residential intensification? (Green space, sunlight, insulation, maintaining historic character, parking etc)

Examples of intensification

10. Could you identify some good and bad examples of residential intensification in Dunedin and explain why you think its good?

Sustainability and residential intensification

11. What is your understanding of the relationship between sustainability and residential intensification?

Dunedin City Council Key Informant Questions

Residential intensification in Dunedin

1. What form of residential intensification are the residential 2 and 3 Zones experiencing at the moment?
   - How have these trends changed over recent years and how are they expected to change in the future?
   - Does the Dunedin City Council want to encourage more residential intensification and if so why?
   - What are the main issues surrounding residential intensification in Dunedin?

2. Can you identify some recent good and bad examples of residential intensification in Dunedin and explain why you think its good?
   - What are the elements that make a residential intensification development good and why?

The impacts of residential intensification

3. What are the positive impacts of residential intensification in the Residential 2 and 3 Zones?

5. What are the negative impacts of residential intensification?
   - How do these differ between the Residential 2 and Residential 3 Zones?
   - How do you attempt to minimise the negative impacts of residential intensification?
   - Cumulative impacts
   - Loss of historic buildings
   - How can these be overcome through good management and community input?
   - What is the Dunedin City Council doing to manage the negative impacts of residential intensification?

Local acceptability of residential intensification

6. What aspects of residential intensification are the local population more concerned about?
   - How does this differ between the Residential 2 and Residential 3 Zones?
   - How are the impacts of intensification accepted by people in different stages in their life?

7. What priority is the council giving to ensure that residential intensification is acceptable to the local population?
   - How does the council involve the community with regard to residential intensification developments?

- What issues does the Council consider to be important when analysing housing need and policy formulation with regard to residential intensification activity?

Developer behaviour

8. How is developer behaviour a constraint to successful intensification?
   - What factors should be taken into account when developers are making decisions on intensification?
   - Are there any developers who make a particular effort to make residential intensification acceptable for those living in and near it?

The Council's role in the management of the intensification process

9. How does the Dunedin City Council manage the residential intensification process?
   - Is there a systematic approach to assessing the development potential of sites?
   - How does the district plan allow for residential intensification activity?
   - Does the council have guidelines for intensification activity? Why or why not?
   - How effective are the regulatory and non-regulatory measures used by the Council to control residential intensification in Dunedin and the negative impacts associated with such development?
   - In your view, how could the Dunedin City Council best manage the residential intensification process.
   - What policy initiatives do you think the Dunedin City Council should take to guide future residential intensification?

10. What are the goals, or what is the council trying to achieve, by allowing intensification in the Residential 2 and 3 Zones?
   - How are these goals important?
   - What are the Councils visions for residential intensification in Dunedin in the future?

11. What is your understanding of the relationship between sustainability and residential intensification? Is this communicated through your policy associated with intensification?

Architect Key Informant Interview Questions

Residential intensification in Dunedin

1. What is your understanding of the residential intensification process as it has occurred and is occurring in the Residential 2 and Residential 3 Zones?

2. What involvement have you had in the residential intensification process in Dunedin?

Developer behaviour

3. What factors should developers consider and take into account when making intensification decisions?
   - Design and construction
   - Layout
   - Socio-economic characteristics of the area

4. Are there any developers who make a particular effort to make residential intensification acceptable for those living in and near it? How do they achieve this?

The management of the residential intensification process

5. What policy initiatives do you think the Dunedin City Council should take to guide future residential intensification?

6. How does the council involve the community with regard to residential intensification developments?

The impacts of residential intensification

7. What are the positive impacts of intensification in the Residential 2 ad 3 Zones?

8. What are the negative impacts of intensification in the Residential 2 and 3 Zone?
   - How do these differ between the zones?
   - Cumulative impacts
   - Loss of historic buildings
   - What effect has residential intensification had on the quality and character of the area?
   - How can these be overcome through good management and community input?
   - What is the Dunedin City Council doing to manage the negative impacts of residential intensification? What could they do to better manage these impacts?
   - What issues are there with regard to the design and quality of these buildings

The local acceptability of residential intensification

9. What is the perception and response of those who live in areas that have undergone residential intensification?

10. How has the local response to residential intensification differed between the Residential 2 and Residential 3 Zones?

Examples of intensification

11. Can you give some good and bad examples of residential intensification in the Residential 2 and 3 Zones?

- In your opinion what elements make for good residential intensification and why?

Appendix C: Ethics Requirements

Form devised May 1995; updated May 1997; June 1998; May 1999, Dec 2000, June 2002

ETHICAL APPROVAL AT DEPARTMENTAL LEVEL OF A PROPOSAL INVOLVING HUMAN PARTICIPANTS (CATEGORY B)

PLEASE read the important notes appended to this form before completing the sections below

NAME OF DEPARTMENT: Geography

TITLE OF PROJECT: 'Urban residential intensification in Dunedin: Impacts and Acceptability'

PROJECTED START DATE OF PROJECT: Monday 18th June

STAFF MEMBER RESPONSIBLE FOR PROJECT: Michelle Thompson-Fawcett

NAMES OF OTHER INVESTIGATORS OR INSTRUCTORS:
Kirsty van Reenen – Master of Planning

BRIEF DESCRIPTION OF THE PROJECT:
The aim of this research is to assess urban residential intensification, through urban infill and redevelopment, in Dunedin City. This research will investigate three aspects of the residential intensification process; the local population's perceptions of residential intensification, the property developers' role in the intensification process and policy to guide future residential intensification. To this end, the impacts of residential intensification and the acceptability of these impacts will be explored through North and South Dunedin case studies. The opportunities and constraints for those wanting to undertake residential intensification and the factors which influence decisions on intensification will also be examined. Consequently, the goals of urban residential intensification and the criteria which should guide policy formulation and initiatives relating the residential intensification will be identified. Between the 18th of June 2007 and the 6th of July I am proposing to conduct key informant interviews with planning professionals and property developers. This will include planning professionals from the Dunedin City Council and property developers who have undertaken residential intensification through urban infill or redevelopment. During this time I also propose to conduct a questionnaire survey with those who reside in areas that have undergone urban intensification through infill housing or redevelopment. Residents in North and South Dunedin over the age of 16 will be part

of the questionnaire survey. The age range of 16 and over was selected for this study as I wish to be able to talk to those, particularly students, who are responsible for renting a property.

DETAILS OF ETHICAL ISSUES INVOLVED:

- Respect towards participants in terms of their rights of confidentiality and privacy. This will be achieved by informing participants that their complete confidentiality and privacy will be maintained. Where key informant interviews are used, participants will be asked to agree to their organisation and role in that organisation being identified.
- Informed consent will be gained from participants, given freely and without force before any questioning is undertaken. This will be done by allowing participants to read through the information sheet and consent form, and ensuring that they fully understand what is involved in their participation. I will insure that written agreement to participate is gained before any questioning is undertaken.
- Minimisation of the risk of harm to participants. Those who participate or decline to participate have the right at anytime to withdraw consent.
- Adequate and qualified supervision. I will ensure that my supervisor is at all times fully informed about my actions and permission is given by her for these to occur.
- Respect for different cultures, values and interests of participants. I will allow participants to voice any particular views they have. I will notify participants that all views are of interest to us and that we respect and value different cultural perspectives.
- Freedom to publish the results of research, while maintaining the anonymity of individuals. This will be done by informing the participants, before any questions are asked, that the results may be published but that any data included will in no way be linked to any specific participant.

ACTION TAKEN

□ Approved by Head of Department □ Approved by Departmental Committee

□ Referred to University of Otago Human Ethics Committee□ Referred to another Ethics Committee
Please specify:

.....

DATE OF CONSIDERATION: .....

Signed (Head of Department): .....

Please attach copies of any Information Sheet and/or Consent Form

URBAN RESIDENTIAL INTENSIFICATION IN DUNEDIN
INFORMATION SHEET FOR PARTICIPANTS

Thank you for showing an interest in this project. Please read this information sheet carefully before deciding whether or not to participate. If you decide to participate we thank you. If you decide not to take part there will be no disadvantage to you of any kind and we thank you for considering our request.

What is the Aim of the Project?

This research is being conducted by a student undertaking a thesis as a requirement for her Master of Planning degree at the University of Otago. The research is being supervised by a member of the Geography Department at the university.

This project aims to assess urban intensification, through infill housing and redevelopment, in North and South Dunedin. I seek to do this by identifying the impacts of residential intensification and the local acceptability of these impacts, the opportunities and constraints for those wanting to undertake residential intensification and the factors which influence decisions on intensification. I will also identify the goals of urban residential intensification and the criteria which should guide policy formulation and initiatives relating the residential intensification.

What Type of Participants are being sought?

I am looking for participants, who are either male or female and over the age of sixteen, that reside in or are affected by urban residential intensification in Dunedin City. I am also looking for participants who hold positions of authority in this field or who have particular knowledge about residential intensification in Dunedin. These participants will act as either key informants or questionnaire respondents in my research.

What will Participants be Asked to Do?

Should you agree to take part in this project, you will be asked to answer questions about your views on urban residential intensification in Dunedin. You may also be asked about your knowledge of urban intensification in Dunedin and your role within the intensification process.

Please be aware that you may decide not to take part in the project without any disadvantage to yourself of any kind.

Can Participants Change their Mind and Withdraw from the Project?

You may withdraw from participation in the project at any time and without any disadvantage to yourself of any kind.

What Data or Information will be Collected and What Use will be Made of it?

Information will be collected on your knowledge and perception of urban residential intensification in Dunedin and your role within this process.

This project involves an open-questioning technique where the precise nature of the questions which will be asked has not been determined in advance, but will depend on the way in which the interview develops. Consequently, although the Department of Geography is aware of the general areas to be explored in the interview, the Department has not been able to review the precise questions to be used.

In the event that the line of questioning develops in such a way that you feel hesitant or uncomfortable you are reminded of your right to decline to answer any particular question(s) and also that you may withdraw from the project at any stage without any disadvantage to yourself of any kind.

The results of the project may be published and will be available in the University of Otago library but every attempt will be made to preserve my anonymity. You are most welcome to request a copy of the results of the project should you wish.

The data collected will be securely stored in such a way that only those mentioned above will be able to gain access to it. At the end of the research any personal information will be destroyed immediately except that, as required by the University's research policy, any raw data on which the results of the project depend will be retained in secure storage for five years, after which it will be destroyed.

Reasonable precautions will be taken to protect and destroy data gathered by email. However, the security of electronically transmitted information cannot be guaranteed. Caution is advised in the electronic transmission of sensitive material.

What if Participants have any Questions?

If you have any questions about our project, either now or in the future, please feel free to contact either:-

Kirsty van Reenen or Dr Michelle Thompson-Fawcett

Department of Geography
University Telephone Number: (03) 479 5769 (03) 479 8762

This project has been reviewed and approved by the Department of Geography

URBAN RESIDENTIAL INTENSIFICATION IN DUNEDIN

CONSENT FORM FOR PARTICIPANTS

I have read the Information Sheet concerning this project and understand what it is about. All my questions have been answered to my satisfaction. I understand that I am free to request further information at any stage.
I know that:-

1. my participation in the project is entirely voluntary;

2. I am free to withdraw from the project at any time without any disadvantage;

3. the data will be destroyed at the conclusion of the project but any raw data on which the results of the project depend will be retained in secure storage for five years, after which it will be destroyed;

4. this project involves an open-questioning technique where the precise nature of the questions which will be asked has not been determined in advance, but will depend on the way in which the interview develops and that in the event that the line of questioning develops in such a way that I feel hesitant or uncomfortable I may decline to answer any particular question(s) and/or may withdraw from the project without any disadvantage of any kind.

5. the results of the project may be published and available in the University of Otago library but every attempt will be made to preserve my anonymity.

6. I understand that reasonable precautions have been taken to protect data transmitted by email but that the security of the information cannot be guaranteed.

I agree to take part in this project.

.....

.....
(Signature of participant)
(Date)

This project has been reviewed and approved by the Department of Geography