

MEDIUM DENSITY HOUSING – MOTIVATIONS, ATTITUDES, AND PREFERENCES.

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ABSTRACT

The purpose of this research was to determine the motivations, attitudes and housing preferences of residents of urban medium density housing in the city of Christchurch, New Zealand. Like the other major cities in New Zealand there is a clear planning objective to increase the density of housing within current city boundaries. This housing intensification is being done in order to accommodate a significant proportion of the expected population growth within existing city boundaries rather than accommodating this growth on peripheral green-field sites. To achieve this increase in density in Christchurch the older inner suburban areas in Christchurch have been zoned for medium density housing. This zoning encourages the replacement of the original existing single level, single family housing stock with medium density terrace housing that is usually 2 or 3 stories high. In order to determine the motivations, attitudes and housing preferences of the residents of this medium density housing a total of 330 interview were undertaken of residents currently occupying medium density housing. The interview sample was taken from residents in the inner city suburb of Addington in Christchurch. This is a suburb which has been subject to significant changes and which should be ideally suited to intensification in housing. This paper summarises the responses to these interviews and draws some conclusions from those responses. Some important findings from the study were that only 20.9% of the residents were currently living in their preferred housing choice and that the appetite for apartment living was limited.

Keywords: medium density housing, intensification, resident survey

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INTRODUCTION

The purpose of this research was to determine the motivations, attitudes and housing preferences of urban residents living in medium density housing in the city of Christchurch, New Zealand. To gather this information questionnaires were administered to 330 residents in medium density housing located within the suburb of Addington.

The traditional housing typology in New Zealand has predominantly been single family detached houses on comparatively large lots of up to 1012m² (quarter acre). This low density form of development was considered to be the ideal for suburban living and gave rise to the phrase describing New Zealand as the “quarter acre paradise”. With rising land values and changes in lifestyle modern subdivisions more commonly comprise sections of between 550m² and 700 m² rather than 1012m².

The detached house still remains the dominant housing form with about 8 out of 10 houses being detached houses (Statistics NZ, 2013) as at the 2013 census. However, current planning doctrine is seeking to change this and many local councils in New Zealand are aggressively promoting medium

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density housing as a way to accommodate urban growth and provide a range of suitable housing choices.

At a national level the imperative to intensify residential development in cities was identified by the Parliamentary Commissioner for the Environment in a review of urban issues (Parliamentary Commissioner for the Environment, 1998). This report was in favour of medium density and high density development as a means to reduce urban sprawl and car dependence.

The Ministry for the Environment also promoted the desirability of increasing residential density to achieve good urban design. The Ministry for the Environment published an urban design guide (Ministry for the Environment, 2002) promoting urban intensification and in the New Zealand Urban Design Protocol (Ministry for the Environment, 2005) the benefits of intensification were promoted.

This drive for intensification through medium density housing has been seen as a way to achieve compact cities and a good way of renewing 'run down' older inner city housing areas. It is also seen as providing smaller houses that better meet the needs of smaller households and an aging population. However, there have been concerns expressed by some writers such as Carroll, Witten and Kearns (2011) that the forms of housing used to achieve intensification such as medium density housing are prejudicial in terms of families and children.

Medium density housing has also been promoted as a way of providing more affordable housing options but this is not without a number of challenges. Making medium density housing affordable has been considered by Sharem, Bryant and Alves (2015) in relation to development risks and the potential disadvantages of creating price point driven demand for medium density development are considered in the work of Higgins and Moore (2015).

The drive for medium density housing has attracted criticism from existing residents in many areas who see it as destruction of neighbourhood social and physical character. The impact of medium density development on the social character of neighbourhoods was examined by Kupke, Rossini and McGreal (2011) for Adelaide, Sydney and Melbourne. The results of their study were mixed but tended to show that to a degree the social characteristics of the neighbourhoods remained stable despite medium density development.

The poor design of many medium density complexes has also attracted criticism. The negative perception of medium density housing has been examined in a number of papers such as that by Dupois and Dixon (2002) where they stated that much of the criticism at that time was due to an ideological resistance to change but that problems with poor design and construction could result in an imbedded prejudice against medium density housing. They also identified poor body corporate management as another factor reducing the appeal of medium density housing. Problems relating to poor quality of construction materials, poor design, a homogenous blandness and mis-matches in building form and location have also been identified by other critics such as Hoque (2001).

The role of medium density housing development in achieving planning goals has been the subject of a number of papers. For example medium density housing has been examined in relation to the implementation of new urbanist ideals (Dixon & Dupuis, 2003) and diversity (Fincher & Gooder, 2007).

A review of the literature therefore shows that the development of medium density housing is a significant and topical issue in Australasia that is linked closely with the issues of housing affordability and city intensification. Although there are a number of studies relating to the main cities of Australia and Auckland there is a dearth of studies relating to Christchurch.

Planning in Christchurch has long fostered medium density housing. Even in the 1960's there was a ring of land around the central city zoned "Residential B" which was described as a "medium density

zone” (Christchurch City Council, 1967). This same ring of land comprising the inner city suburbs retains a medium density zoning today which is known as “Living 3” and includes the suburb of Addington.

Medium density housing has been defined (Ministry for the Environment, 2012) as “*Comprehensive developments including four or more dwellings with an average density of less than 350 m² per unit. It can include stand-a-lone dwellings, semi-detached (or duplex) dwellings, terraced housing or apartments within a building of four storeys or less. These can be located on either single or aggregated sites or as part of larger master planned developments*”.

This definition while useful is also quite broad and includes a range of quite different housing typologies that differ significantly in terms of the real estate ‘product’ they describe. For example a stand-a-lone dwelling on a small but separate lot is quite different from a unit in a 4 storey apartment. While there will be significant overlaps in terms of their target markets there is also likely to be significant differences relating to how the different products will appeal to potential purchasers and tenants.

For the purpose of this research the focus has been more narrowly directed to that medium density housing type commonly referred to as terraced housing. Due to the market and planning restrictions this type of housing is the predominant type in Addington. There is some variation in the number of stories for the terrace housing but one or two stories is the norm with very few three storey buildings.

For economic and social reasons however the intensification results sought by the planners in Christchurch has generally been slow, and much of the original housing still remains in the inner suburbs. New medium density development has not always been to the maximum levels of density allowed by the zoning and in general there have been concerns expressed by the public and experts alike at the quality and design of the medium density housing being built.

Regardless of these challenges to intensification this objective remains a clear focus of planning efforts within Christchurch. For example the zoning for medium density housing has now been extended to green field subdivisions on the periphery of the city and extended into previously low density areas located close to suburban shopping malls. As part of the Christchurch CBD rebuild post the earthquakes a large area of the CBD has been cleared of commercial buildings and is being developed into medium density housing. This is being done in a bid to establish a significant residential population within the CBD. Known as the East Frame Anchor Project this development is expected to house approximately 2,200 residents when completed and to act as a catalyst for other residential developments.

Medium density housing may well become more popular as the drive for more affordable housing becomes a housing imperative for those unable to afford traditional detached single family houses. The cost of land has been rising significantly faster than building costs so the need to get more intensive use out of each lot is becoming more important. Not surprisingly, research indicates that price points are a significant determination in the market demand and acceptance of medium density housing.

The research for this paper was carried out within the suburb of Addington. Addington is typical of many of the other inner suburbs of Christchurch that are zoned for medium density development. However, Addington has undergone somewhat of a renaissance over recent years which should enhance the desirability of the suburb in terms of redevelopment into medium density housing.

Traditionally Addington was a working class suburb of low socio economic status based around the employment opportunities provided by major local industries such as the NZ Railway Workshops and PDL Plastics. The Addington Prison was also located in the suburb creating stigma and housing was

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generally old and run down. Lincoln Road which is the major arterial route linking Addington with the CBD was characterised by comparatively low rent industrial businesses, car yards and local shops.

This began to change early in the new millennium. The prison was closed and converted to a boutique backpackers accommodation. The redundant railways workshop site was redeveloped into a shopping mall and many of the old factories and warehouses were demolished and replaced with office developments. The Council also tried to encourage urban renewal in Addington by investing in street improvements and neighbourhood reserves.

This transition from industrial to office/retail use was beginning to slow and the market was showing signs of potential oversupply when the 2011 February earthquake struck Christchurch and largely destroyed the CBD. This gave fresh impetus to development in Addington and led to another surge in new office building development. A number of significant hospitality and recreation uses also relocated to Addington and in 2012 the tourist guide "Lonely Planet" recommended Addington as one of the top 12 destinations in New Zealand. The 16th edition of the Lonely Planet's New Zealand Travel Guide was quoted in the Christchurch Press (Mathewson, 2012) as saying that Addington was Christchurch city's "funkiest and most exciting post-earthquake neighbourhood" and that "previously sleepy Addington is now being transformed with new cafes, restaurants, theatres and live-music venues".

These changes would be expected to make Addington a favourable location for medium density housing as there is now a good range of amenities in the locality. The area also has close linkages to the CBD and substantial new employment opportunities in the form of office employment housed in recently constructed office buildings. Due to the large numbers of medium density developments in the locality it was also considered a good location to conduct a survey. A description of how this survey was conducted is described in the following section.

METHODOLOGY

Structured questionnaire interviews were administered to the residents of medium density housing complexes located in the Addington locality. This was done to determine the motivations, attitudes and preferences of residents of urban medium density housing. The questionnaire was developed to collect a wide range of factors, both about the dwelling itself, and of the immediate and wider environment and community.

The factors were rated on their perceived importance in general using the following scale:

- 1-Unimportant
- 2-Neither unimportant or important
- 3-Somewhat important
- 4-Important
- 5-Very important.

Then, the factors were rated on how well the resident felt they were being satisfied in their current situation. The satisfaction scale consisted of:

- 1-Very dissatisfied
- 2-Dissatisfied
- 3-Neither dissatisfied nor satisfied,
- 4-Satisfied
- 5-Very satisfied.

Other demographic and attitudinal information was collected throughout the interview.

Sample

The Christchurch suburb of Addington was chosen because it has a large percentage of medium-density housing. The sample frame used was all of the medium density residences in the Addington suburb. This sample frame was gathered by physical observations of properties with at least 3 residences. This resulted in a list of 766 residences situated on 147 separate properties with an average of 5.2 residences per property. Thus the sample consisted largely of comparatively small scale developments. As a result no specific questions were asked regarding governance or body corporate issues which was a problem with larger medium density housing complexes which was identified in the literature review.

Response Rate Analysis

Each interviewer was assigned 20 residences and was required to complete 10 interviews. The 34 interviewers were given 20 residences randomly selected from the sample frame. During the course of the data collection, 290 residences refused to participate or were not available after multiple attempts. These refusals were not evenly distributed across the interviewers with some having only 3 refusals and others up to 25 refusals to complete their required 10 interviews. Those with more than 10 interviews were given additional addresses and by the end of the interviewing period, all 766 addresses had been distributed to interviewers.

Overall, 330 usable interviews were completed for a total of 620 attempts (330 completions plus 290 refusals) resulting in a response rate of 53%.

Description of the Sample

The respondents consisted of 50.6% (167) female and 49.4% (163) male, mid-thirties in age, and an average of 2.83 residents per household. The largest ethnic group was NZ European origin (60.5%) followed by Asian (14.3%), Indian Subcontinent (8.8%), European (7.6%), Nth/Sth American (3%), NZ Maori (2.7%), Pacific Island (1.5%), African (0.9%), and Middle Eastern (0.6%).

A large 72.3% (238) were renting their dwelling and 27.7% (91) were owners. The average owner had lived there for 53.9 months but the distribution was skewed toward shorter tenure with a small number of very long tenure owners. For example, 25% of the sample owned between 1 and 4 months, the next 25% between 4 and 24 months, the third quartile between 24 and 72 months, and the last quartile between 72 and 420 months.

The renters tended to have private landlords (72.9%) with 27.1% renting from the government. The renters motivation for renting included 38.5% who could not afford to buy, 32.4% were renting while saving to buy, 12.4% preferred to rent, and 12.3% had saved and were looking for a house to buy. The 41 renters who said they preferred to rent were asked why and the top 5 responses were 32.3% they were not in Christchurch for long, 19.4% found it more convenient, 16.1% found it more cost effective, and 9.7% felt it demanded less responsibility.

The dwellings were a mix of single storey (54%), 2-storey (39%), and 3-storey (7%) complexes.

The results of the survey were analysed using SPSS and the results of this analysis are presented as follows:

RESULTS

Research Question 1: What are the most important dwelling, neighbourhood, and location factors for urban medium density residents?

Table 1 Importance of Living Factors for Urban Medium Density Residents

Living Factor	Mean	Std. Deviation
Safe Neighbourhood (NL)	4.37	.859
Safety/Security Features (P)	4.21	.896
Good Privacy (P)	4.18	.856
Quiet Neighbourhood (NL)	4.14	.956
Convenience to Work (NL)	3.92	1.058
Low Maintenance (P)	3.91	.939
Convenience to Shopping (NL)	3.82	.994
Good Undercover Secure Garaging (P)	3.73	1.106
Convenience to Restaurants, Cafes (NL)	3.72	1.006
Walking/Cycling Friendliness (NL)	3.66	1.174
Spacious and Large Floor Area (P)	3.62	1.016
Public Green Spaces Nearby (NL)	3.57	1.132
Private Garden Area (P)	3.55	1.171
Access to Public Transportation (NL)	3.53	1.288
Convenience to Entertainment (NL)	3.52	1.103
Public Amenities (NL)	3.50	1.154
Attractive Views (P)	3.36	1.169
Pet-Friendliness (P)	3.26	1.375
In the Zone for Suitable Schools (NL)	3.23	1.397
Ensuite Bathroom (P)	3.16	1.243
Single Floor (P)	2.80	1.361

N/L: Neighbourhood/Location factor, P: Property factor

The most important living factors for medium density residents are a mix of Neighbourhood/Location and Property factors. The factors with a mean near and above 4 indicate that many of the respondents rated them as 4-Important or 5-Very important. It is interesting to note that within the 5 most important factors, safety and security factors are prominent.

Research Question 2: How satisfied are residents with their medium density housing?

Table 2 Satisfaction of Living Factors for Urban Medium Density Residents

Living Factor	Mean	Std. Deviation
Convenience to Work (NL)	3.82	.986
Convenience to Restaurants, Cafes (NL)	3.80	.969
Convenience to Shopping (NL)	3.78	.991
Low Maintenance (P)	3.74	.977
Access to Public Transportation (NL)	3.72	.975
Safe Neighbourhood (NL)	3.68	.997
Public Green Spaces Nearby (NL)	3.63	.986
Convenience to Entertainment (NL)	3.59	.929
Single Floor (P)	3.57	1.142
Walking/Cycling Friendliness (NL)	3.53	1.023
Quiet Neighbourhood (NL)	3.53	1.021
Good Privacy (P)	3.51	1.041
Public Amenities (NL)	3.46	.968
Safety/Security Features (P)	3.45	1.057
Zone for Suitable Schools (NL)	3.45	.970
Spacious and Large Floor Area (P)	3.38	1.004
Private Garden Area (P)	3.25	1.163
Good Undercover Secure Garaging (P)	3.25	1.212
Pet Friendliness (P)	3.23	1.182
Ensuite Bathroom (P)	3.09	1.225
Attractive Views (P)	3.04	1.066

N/L: Neighbourhood/Location factor, P: Property factor

Bolded: Five most important factors from Table 1

The average urban medium density resident seems to be just short of being satisfied (4-Satisfied) with the most favourable living factors and just above neutral (3-Neither dissatisfied or satisfied) with the least favourable factor. Even with restricted range, the more favourable factors are dominated by Neighbourhood/Location issues and most of them are related to the convenience and access that the location offers. Conversely, many of the property factors are closer to the neutral scores.

The most important issues are likely to have more impact on the residents' overall satisfaction of their living situation. For example, something that is very important to someone and they are not satisfied with that factor in their current living situation is likely to prompt a response. In this case, all of the most important living factors were near 3.5 or higher (midpoint of neutral and satisfied scores) or higher so this wouldn't suggest an imminent response either positive or negative.

Research Question 3: Is Urban Medium Density housing the first Choice of Urban Medium Density Residents?

Table 3 First Preference of Housing

	Frequency	Percent
Stand Alone House in Suburbs	91	27.9
Town House in Inner City Suburb	68	20.9
Town House in Suburbs	58	17.8
Rural Residential Lifestyle Property	52	16.0
Town House in Rebuilt Central City	39	12.0
High Rise in Rebuilt Central City	18	5.5
Total	326	100.0

Table 3 shows that only 20.9% of the urban medium density residents are living in their preferred housing choice. Some would like medium density in another location such as suburban (17.8%) or central city (12%) and another 5.5% would like to live in higher density in the central city. Together, 56.2% of the sample prefer to live in medium or higher density housing.

Research Question 4: Does the importance of living factors vary between owning residents and renting residents?

Table 4 Independent Samples T-Test between Owners and Renters

	Rent or Own	N	Mean	Sig (2 tailed)
Importance of Private Garden Area (P)	Rent	238	3.44	.003
	Own	91	3.87	
Importance of a Quiet Neighbourhood (NL)	Rent	237	4.04	.001
	Own	91	4.42	

An independent samples T-Test was performed to see whether importance scores differed between owners and renters and only 2 of the differences were significant. Owners reported that Private Garden Areas and Quiet neighbours were more important than renters. However, the fact that the other 19 were not significantly different suggests that owners and renters are quite similar in their assessment of the living factors.

Research Question 5: Does Importance of Living Factors change with Age?

To answer this question a One-Way ANOVA test was used and the results have been summarised in Table 5. It was found that only 6 of the 21 living factors were dynamic, in that they significantly changed in importance from the younger residents to older residents.

Table 5 Living Factor Changes X Age (One-Way ANOVA)

Living Factor	F	Sig.
Importance of Private Garden Area (P)	3.079	.006
Importance of Low Maintenance (P)	2.337	.032
Importance of Single Floor (P)	2.364	.030
Importance of Attractive Views (P)	1.250	.281
Importance of Good Privacy (P)	.758	.604
Importance of Good Undercover Secure Garaging (P)	.823	.553
Importance of Spacious and Large Floor Area (P)	2.219	.041
Importance of Safety/Security Features (P)	1.145	.336
Importance of Ensuite Bathroom (P)	.693	.655
Importance of Pet-Friendliness (P)	.691	.657
Importance of Access to Public Transportation (NL)	.692	.656
Importance of Public Green Spaces Nearby (NL)	.600	.731
Importance of Public Amenities (NL)	1.169	.322
Importance of In the Zone for Suitable Schools (NL)	3.616	.002
Importance of Convenience to Work (NL)	3.551	.002
Importance of Convenience to Shopping (NL)	1.083	.372
Importance of Convenience to Restaurants, Cafes (NL)	1.092	.367
Importance of Convenience to Entertainment (NL)	1.252	.279
Importance of Walking/Cycling Friendliness (NL)	.427	.861
Importance of a Safe Neighbourhood (NL)	.990	.432
Importance of a Quiet Neighbourhood (NL)	2.076	.056

Bolded: Significant at .05

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However, the change was not the same for each factor. The three dynamic factors of Private Garden, Low Maintenance, and Single Floor tended to grow in importance with age, although Private Garden became less important for the oldest group.

It appears that the younger age groups place limited importance on the amenity provided by a private garden area. This may be due to the perception that such garden areas require maintenance which is not conducive to their desired lifestyle and this is perhaps also the reason for the drop off in importance for those in their seventies at which stage of life a garden may become a burden.

Low maintenance becomes more important as the residents become older. This may be due to an inability or unwillingness of older residents to do their own maintenance thus increasing costs of maintenance. It may also be related to the tenure of the property in that maintenance will typically be the responsibility of the landlord if the property is rented. Thus if owner occupiers are common in the older age groups they are more likely to be concerned about maintenance.

The importance of being on a single floor increased with age which is to be expected if mobility becomes an issue as residents become older. It is not clear as to why importance drops off for the over 60's however whom you would expect to be most concerned with having to use stairs.

Being in a suitable school zone is most important for those in their 30's and 40's. This is not surprising as this is the age group most likely to be raising a family with school aged children. This factor is least important to those in their 70's which is understandable as they are unlikely to have school aged children. In general this factor is lower than would be expected for the general population of suburban residents where school zone has been identified as being highly significant.

The attitude to "large floor area" was similar to that of "convenience to work" which ranked highly amongst those of working age but dropped sharply for those of retirement age which is hardly surprising. "Suitable school zone", and "convenience to work" tended to be more important for the younger residents than the older residents.

Based on the results described above it was possible to draw a number of conclusions which are detailed in the next section.

SUMMARY AND CONCLUSIONS

The purpose of this research was to better understand the motivations, attitudes and preferences of a sample of inhabitants of medium density housing. Extensive research was commissioned by the Centre for Housing Research in 2011 which produced a series of working papers (Cityscope 2011a, Cityscope 2011b, Cityscope 2011c, Cityscope 2011d). This research was broad ranging in character but apart from the work of Lilley in 2006 there has been little research carried out specifically on medium density housing in an inner city suburb of Christchurch. In particular there has been little survey work done with residents of medium density housing so questionnaires were used to gather data to answer 5 research questions in order to help fill this gap. The results are discussed below:

What are the most important dwelling, neighbourhood, and location factors for urban medium density residents?

In terms of desirable features locational attributes rather than building attributes rank highly in the top 10 important living factors. There appears to be a clear focus on safety including the provision of secure garaging. A convenient location also rates high along with a desire for low maintenance. The least important living factors are mostly Property factors and may indicate that many urban medium

density residents don't have pets (Pet-Friendliness), children (Zone for Suitable Schools) or mobility (Single Floor) issues.

How satisfied are residents with their medium density housing?

Satisfaction levels of the residents tended to be only slightly above the 'neutral' score on the satisfaction scale and in general the residents tended to be more satisfied with the amenities and convenience of the location and less satisfied with specific factors relating to the property itself. This would indicate that there is room for improvement in terms of the design of the medium density housing. In order to better achieve the planning goal of increased density in NZ cities it is important to provide a medium density housing product that best satisfies the market.

Is Urban Medium Density housing the first Choice of Urban Medium Density Residents?

The results from the survey tend to support the findings of earlier research in that it indicated that medium density housing is often not a preferred choice with approximately 44% of the respondents preferring to live in low density developments (either stand alone suburban houses or rural residential).

Of note is the comparatively small percentage that wished to live in apartment buildings or a town house in the rebuilt CBD. This is a finding that does not bode well for planned central city housing developments. This is also surprising given that you would expect that a significant proportion of medium density dwellers would be a likely target market for central city apartments and town houses.

However, the findings in terms of apartments may be specific to Christchurch resulting from an earthquake induced aversion to high rise developments.

Does the importance of living factors vary between owning residents and renting residents?

Analysis of the data showed little variation between renters and owners in terms of the importance given to the various dwelling, neighbourhood and location factors. If this finding is reflected in the actual purchase decisions being made by owner occupiers then it would simplify the decision making process for developers at the feasibility and design stage. Based on the findings no differentiation of product would be required in terms of appealing to either tenants or owner occupiers.

Does the importance of living factors change with age?

The data showed some variation in terms of 6 of the variables but in general there appeared no significant differences.

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